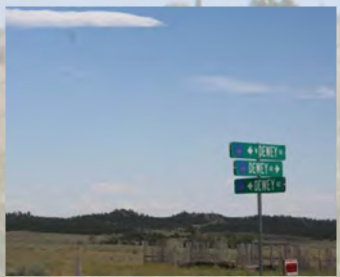
APP-015-V



POWERTECH (USA) INC.

Dewey-Burdock Project
Application for NRC Uranium Recovery License Fall River and Custer Counties, South Dakota Technical Report

Appendices
Volume V
Appendix 3.1-B – 7.3-D

December 2013

Prepared for
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United States Nuclear Regulatory Commission Official Hearing Exhibit
In the Matter of: POWERTECH USA, INC.
(Dewey-Burdock In Situ Uranium Recovery Facility)
ASLBP #: 10-898-02-MLA-BD01
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POWERTECH (USA) INC.

Dewey-Burdock Project
Application for NRC
Uranium Recovery License
Fall River and Custer Counties
South Dakota
Technical Report

LIST OF APPENDICES - VOLUME V

APPENDIX 3.1-B

Pond Construction Specifications, Testing and QA/QC Procedures

Knight Piésold
CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 1 – Earthworks

July 2010

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KP Project No. DV102.00279.09

Rev. No.	Date	Description	Knight Piésold	Client
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Knight Piésold CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 1 – Earthworks

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Knight Piésold CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 1 – Earthworks

Section 1.0 - General

1.1 Introduction

This Specification stipulates materials and construction requirements for earthworks related to the construction of the Ponds and Land Application Systems at Powertech's Dewey-Burdock project.

1.2 Limitations and Disclaimer

This Specification titled Dewey-Burdock Project Pond and Land Application Technical Specifications and QA/QC Plan Part 1 - Earthworks has been prepared by Knight Piésold and Co. (Knight Piésold) for the exclusive use of Powertech (USA) Inc. (Client). No other party is an intended beneficiary of this Specification or the information, opinions, and conclusions contained herein. Any use by any party other than the Client of any of the information, opinions, or conclusions is the sole responsibility of said party. The use of this Specification shall be at the sole risk of the user regardless of any fault or negligence of the Client or Knight Piésold.

The information contained herein have been completed to a level of detail commensurate with the objectives of the assignment and in light of the information made available to Knight Piésold at the time of preparation. This specification and its supporting documentation have been reviewed and/or checked for conformance with industry-accepted norms and applicable government regulations. To the best of the information and belief of Knight Piésold, the information presented in this Specification is accurate to within the limitations specified herein.

This Specification is Knight Piésold pdf file: Dewey-Burdock Pond and Land Application Technical Specifications and QA/QC Plan Part 1 - Earthworks Rev 0.pdf. Any reproductions or modifications of this Specification are uncontrolled and may not be the most recent revision.

Knight Piésold
CONSULTING

1.3 Contributors and Approvals

This specification was prepared, reviewed, and approved by the undersigned.

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Senior Vice President

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Section 2.0 - Scope and General Description of the Work

This Specification stipulates material and construction requirements for the earthworks related to the construction of the Ponds and Land Application Systems at Powertech's Dewey-Burdock project. Should the Contractor wish to deviate from these Specifications, he shall notify the Engineer in writing, providing a description of the deviation. The description shall include data indicating the magnitude of the deviation, justification for the deviation, and any possible short or long-term impacts of the deviation on the project. Deviations to these Specifications shall be subject to the approval of the Engineer and Owner.

2.1 Definition of Terms

"Owner" is defined as an authorized representative of Powertech.

"Engineer" is defined as representative appointed and authorized by the Owner. The Engineer shall be a Registered Professional Engineer, or a designated site representative under the supervision of a Registered Professional Engineer.

"Contractor" is defined as the party that has executed a contract agreement for the specified Work with the Owner.

"Technical Specifications" is defined as this document, prepared by Knight Piésold and Co. and all supplemental addenda.

"Drawings" is defined as the Drawings, in conjunction with these Technical Specifications, prepared by Knight Piésold and Co. for the ponds and land application system at Powertech's Dewey-Burdock Project.

"Work" is defined as the entire completed construction, or the various separately identifiable parts thereof, as shown on the Drawings, and required to be furnished under the Contract Documents.

"Site" is defined as the project area where the work is to be performed.

"Contract Documents" are defined as the Agreement, Addenda, Contractor's Bid (when attached as an Exhibit to the Agreement), Bonds, General Conditions, Special Conditions, Technical Specifications, Drawings and all modifications issued after execution of the Agreement.

"Modifications" are defined as changes made to the Technical Specifications or the Drawings, that are approved by the Owner and Engineer, in writing, after the Technical Specifications and Drawings have been finalized.

All slopes are defined as horizontal to vertical distances.

2.2 General Technical Requirements

The general technical requirements specified herein shall apply to all activities and operations relating to carrying out the Work or as required by the Engineer or Owner for the earthworks associated with the construction of the ponds and land application system at Powertech's Dewey-Burdock Project, South Dakota.

In the event of an inconsistency in the Technical Specifications and Drawings, the Contractor shall refer all questions to the Engineer for final decision. Work that concerns the inconsistency shall not be performed until the contradiction is remedied or explained by the Engineer. In all events, the decision of the Engineer is final.

2.2.1 General Specifications

The contractor will be required to submit to the Engineer or Owner, at a minimum, the following plans and comply with training requirements associated with their project tasks, as may be applicable:

- Occupational Safety and Health Administration (OSHA)
  - Healthy and Safety Plan in accordance with 29 CFR Part 1910 – Occupational Safety and Health Standards
  - Hazardous Communication Plan in accordance with 29 CFR Part 1910.1200 – Toxic and Hazardous Substances
  - Material Safety Data Sheets (MSDS) for all chemicals in accordance with 29 CFR 1910.1200 (g)
- Spill Prevention, Control and Countermeasure (SPCC) Plan in accordance with 40 CFR Part 112.3 – Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan
- Training
  - Mine Safety and Health Administration – 24-hour class plus 8-hour refresher course in accordance with 30 CFR
  - HAZWOPER – 40-hour class plus 8-hour refresher course in accordance with 29 CFR 1910.120

2.3 Scope of Work

The Work to be carried out shall include supplying all supervision, labor, plant and materials required to complete the Work as shown on the Drawings, as described in these Technical Specifications, and as required by the Owner and Engineer.

Section 3.0 - Mobilization and Demobilization

3.1 Scope

The Work covered by this section consists of the Contractor's mobilization to the Site of all the equipment and temporary facilities required for the successful completion of the Work, and shall include, but not necessarily be limited to, the following:

- Establish the Contractor's maintenance facilities, temporary workshops, temporary office accommodation and sanitary facilities.
- Maintain equipment and temporary facilities for the duration of the Work.
- All items required to be moved onto the Site for execution of the Work.
- On completion of the Work, remove all equipment and temporary facilities from the Site, and clean up the Site to the satisfaction of the Owner and the Engineer.

3.2 Mobilization

The Contractor shall mobilize to the Site sufficient labor, materials, and equipment to allow commencement of the Work. The Contractor shall bring on to the Site, as and when necessary, any additional equipment, labor and materials which may be required to complete the remainder of the Work in the time specified in the General Terms and Conditions.

3.3 Contractor's Workshops, Stores, and Offices

The Contractor shall erect, in the area designated by the Owner and Engineer, adequate workshops, offices and other buildings and structures for the completion of the Work as designated in the Contract Documents. Such workshops, offices and etc., shall be maintained in a neat and tidy condition throughout the duration of the Work to the satisfaction of the Engineer and Owner.

3.4 Sanitation

The Contractor shall provide and maintain adequate sanitary facilities for the personnel at the Site, including the Contractor's offices and Engineer's offices, in compliance with local health regulations and to the satisfaction of the Engineer and Owner.

3.5 Construction Roads

All temporary construction roads, which the Contractor may require to complete the Work shall be constructed at the Contractor's expense.

The location of any temporary roads, or portions thereof, on the Site shall be subject to the Owner's and Engineer's approval prior to construction. Any roadways that are not wide enough to accommodate 2-way traffic shall be clearly marked to indicate the direction of travel, or shall be closed to traffic by suitable barriers that have been approved by the Engineer.

Unless otherwise approved by the Owner, all temporary roads shall be reclaimed at the Contractor's expense upon completion of the Work.

3.6 Drainage

Adequate drainage facilities in the form of ditches, culverts or other conduits shall be installed as necessary to protect the Work and to maintain temporary construction or access roads. These temporary drainage facilities shall be constructed to the satisfaction of the Engineer and Owner.

3.7 Demobilization

On completion of the Work, the Contractor shall remove all of the Contractor's equipment, temporary facilities and materials from the Site. The Site shall be left in a clean and tidy state, to the satisfaction of the Engineer and Owner. All waste and refuse shall be disposed of in a legal manner acceptable to the Owner.

Section 4.0 - Earthwork – General

4.1 Survey

The Contractor shall provide all surveying services required for the initial staking of the Work and for staking during construction.

The Contractor shall provide sufficient surveying to control excavation and fill placement, to ensure that the Work is constructed to the lines and grades set forth in the Drawings, and to demonstrate that the work is completed to the required lines and grades.

The Owner will provide survey control for the project, and will provide periodic surveys as required to verify the Contractor's quantities for pay estimates. The Owner will provide the final as-built survey of the project.

The Contractor, in scheduling his Work, shall allow sufficient time in his construction schedule for the completion of such surveys and for the Owner's and Engineer's proper consideration thereof, prior to his authorization to proceed with the Work in the area.

4.2 Clearing, Stripping, Grubbing and Stockpiling

The natural ground surface shall be cleared and stripped and/or grubbed of all organic and objectionable materials by the Contractor to the limits shown on the Drawings or as required by the Owner. The limits of stripping shall generally be 10.0 feet outside of the work activity areas as shown on the Drawings. All usable topsoil, as determined by the Owner, shall be properly stockpiled in locations shown on the Drawings or as designated by the Owner.

Clearing and grubbing shall mean removal of vegetation and roots. Clearing and grubbing may generally be conducted as a single operation together with stripping.

Stripping shall mean the removal of topsoil, which shall be defined as soil of any gradation or degree of plasticity which contains significant quantities of visually identifiable vegetable matter, sod, roots or humus, as determined by the Engineer. In general, this is expected to have an approximate depth of between 0.3 to 1.5 feet. Varying depths will be determined by the Engineer, based on the character and thickness of material encountered.

Prior to stripping, the topsoil shall be moisture conditioned to the satisfaction of the Engineer in order to prevent the loss of fines and maintain dust control. The Contractor shall allow sufficient time after pre-wetting for the moisture to be evenly distributed throughout the soil layer prior to removal. The topsoil may need to be ripped prior to moisture conditioning to allow the moisture to be evenly distributed throughout the topsoil layer. The decision of how often and when to rip the topsoil for purposes of moisture conditioning, will be determined by the Engineer. Additional moisture conditioning may be required on stockpiled materials as determined by the Engineer.

Any stripping beyond the limits shown on the Drawings, or as required by the Owner, shall be subject to the approval of the Owner. Unapproved stripping will be subject to remediation at the sole expense of the Contractor.

Stripping will be carried out using whatever method is deemed necessary, providing it is consistent with producing an acceptable end result as determined by the Owner.

After stripping of the required area, the surface shall be treated as specified on the Drawings or in these Technical Specifications. This activity can involve trimming and shaping the surface, scarifying, moisture conditioning, and compacting borrow material. Prior to any surface treatment on a stripped area, the Engineer shall be notified to inspect the stripped area and designate the method of treatment.

4.3 Excavation

Excavation shall consist of excavating to the lines and grades shown on the Drawings and hauling materials to designated fill or stockpile areas. Excavation methods, techniques and procedures shall be developed by the Contractor with due consideration of the nature of the materials to be excavated and shall include all precautions that are necessary to preserve, in an undisturbed condition, all areas outside the lines and grades shown on the Drawings or required by the Owner. The work shall be carried out by whatever method is considered most suitable, providing it is consistent with producing an acceptable end result as determined by the Engineer.

No excavation beyond the lines and grades shown on the Drawings, or as required by the Engineer, shall be done without the prior written approval of the Owner. If such additional excavation is done without the prior written approval of the Owner and, in the opinion of the Engineer, requires backfilling in order to satisfactorily complete the Work, such backfilling shall be completed at the Contractor's cost. All such backfilling will be subject to approval by the Engineer.

Pockets of unsuitable materials within the limits of an excavation shall be removed and disposed of as directed by the Owner and Engineer. Unsuitable materials may include, but not be limited to, ash, boulder or gravel zones, soft saturated zones, highly organic zones, drilling mud pits and other deleterious material.

The Contractor shall protect and maintain all excavations until all work is completed and approved.

Any damage resulting from the Contractor's operations during site preparation or excavation, including damage to foundations and excavated surfaces, shall be repaired at the expense of the Contractor, and to the satisfaction of the Engineer.

Waste and topsoil piles shall be leveled, trimmed and shaped as required by the Owner to prevent the occurrence of ponding or concentrations of surface runoff, and to provide a neat appearance. Finished slopes of the topsoil stockpiles shall be graded to 3.0:1 (horizontal:vertical) for interim reclamation. All surface water runoff shall either be directed to surface water diversion structures, or to existing streams downstream of the ponds.

4.4 Anchor Trenches

The Contractor shall excavate and backfill all anchor trenches required for the installation of all geosynthetics. Anchor trenches shall be backfilled with the material that was excavated from them, as described in Section 5.3. The excavations shall be to the lines and grades shown on the Drawings, or as directed by the Engineer.

4.5 Fill Placement

The intent of this specification is to use material excavated from the ponds for the construction of embankments and the soil liner, in a manner that satisfies the technical requirements and minimizes construction costs. Material that is excavated from the ponds will be used as fill in various locations, depending on the nature of the material and the discretion of the Engineer.

All material used for fill shall be loaded and hauled to the placement site, dumped, spread and leveled to the specified layer thickness, moisture conditioned, if required, and compacted to form a dense integral fill, per the Technical Specifications, and to the approval of the Owner and the Engineer. Care shall be taken at all times to avoid segregating the material being placed.

Under most conditions, the fill shall be constructed in near horizontal layers with each layer being completed over the full length and breadth of the zone before placement of subsequent layers. Each zone shall be constructed with materials meeting the specified requirements, and shall be free from lenses, pockets and layers of materials, which are substantially different in gradation from the surrounding material in the same zone, as determined by the Engineer. All fill placed shall be free from organic debris, frozen soil, ice, or other unsuitable materials. All over-sized material shall be removed from the fill material either prior to it being placed, or after it is dumped and spread but prior to compaction.

All particles that have dimensions that will interfere with compaction in the specified layer thickness, as determined by the Engineer, shall be removed from the zone in which they were placed, either prior to or during compaction.

Moisture conditioning is the operation required to increase or decrease the moisture content of material to within the specified limits. If moisture conditioning is necessary, it may be carried out by whatever method the Contractor deems is suitable, provided it produces the moisture content specified in these Technical Specifications or designated by the Engineer. The moisture shall be distributed uniformly throughout each layer of material being placed, immediately prior to compaction. Measures shall be adopted as necessary to ensure that the designated moisture content is preserved after compaction, and until the succeeding layer is placed.

Under no circumstances shall fill be placed in water. During construction, the surface of the fill shall be maintained with a crown or cross-slope that will ensure effective drainage to the extent possible. Adequate drainage facilities in the form of ditches or culverts shall be installed to direct surface flow away from the fill zone.

Should the surface of the fill become rutted or uneven subsequent to compaction, it shall be regraded and recompacted before the next layer of fill is placed.

To permit suitable bonding with the subsequent layer, the surface material shall be loosened by scarifying or disk harrowing, as approved by the Engineer, and if necessary, it shall be moisture conditioned before an additional lift is placed.

Fill shall not be placed on frozen soil or when air temperatures drop below 32º F, unless otherwise approved by the Engineer.

All areas with completed surfaces are to be protected from detrimental effects of weather using methods that have been approved by the Engineer. Any areas that are damaged by adverse weather conditions as determined by the Engineer shall be removed and replaced, reconditioned or reshaped, and recompacted to the requirements of the Specifications at the Contractor’s expense.

Areas that become unstable due to excessive moisture shall be reworked, brought to the required moisture content, and recompacted to the required density before subsequent fill placement. This includes the repair of any underlying materials damaged as a result of pumping.

4.6 Compaction Equipment

Sufficient compaction equipment, of the types and sizes specified herein, shall be provided as necessary for compaction of the various fill materials. If alternative equipment is to be used, a submittal shall be made to the Engineer for approval of the equipment, and the submittal shall give complete details of such equipment and the methods proposed for its use. The Engineer’s approval of the use of alternative equipment will be dependent upon completion of suitable test fills, to the satisfaction of the Engineer, to confirm that the alternative equipment will compact the fill materials to the specified density.

Compaction of each layer of fill shall proceed in a systematic, orderly and continuous manner that has been approved by the Engineer, to ensure that each layer receives the compaction specified.

Compaction equipment shall be routed parallel to the embankment axis or the long axis of the fill zone, and overlap between roll patterns shall be a minimum of 12 inches.

The rolling pattern for compaction of all zone boundaries or construction joints shall be such that the full number of roller passes required in one of the adjacent zones, or on one side of the construction joint, extends completely across the boundary or joint.

Compaction equipment shall be maintained in good working condition at all times to ensure that the amount of compacted effort obtained is a maximum for the equipment.

Before commencing Work with the proposed compaction equipment the Owner and the Engineer shall be provided with a list of each piece of equipment to be used together with the Manufacturer's specification.

4.6.1 Smooth Drum Vibratory Roller

Smooth drum vibratory rollers shall be equipped with a suitable cleaning device to prevent the accumulation of material on the drum during rolling. Each roller shall have a total static weight of not less than 10 ton at the drum when the roller is standing on level ground. The drum shall be not less than 5.0 feet in diameter and 6.5 feet in width. The vibration frequency of the roller drum during operation shall be between 1,100 and 1,500 vibrations per minute, and the centrifugal force developed by the roller, at 1,250 vibrations per minute, shall not be less than 38,250 pounds. The power of the motor driving the vibrator shall be sufficient to maintain the specified frequency and centrifugal force under the most adverse conditions, which may be encountered during the compaction of the fill.

4.6.2 Sheepsfoot Roller

On fine-grained cohesive soils the Contractor will be required to compact the fill with a sheepsfoot roller. The soil liner will require compaction with a sheepsfoot roller, and it is expected that much of the random fill will also consist of fine-grained cohesive soils. Placement of these materials will not be allowed without a sheepsfoot roller working the area of placement prior to the placement of the next lift.

The sheepsfoot roller shall be a self-propelled, fully ballasted standard sheepsfoot design developing 6,000 lbs. in weight per linear foot of width at rest on level ground, or equivalent as approved by the Engineer. The sheepsfoot roller shall be equipped with an hour meter to indicate actual roller operating time.

Following compaction with a sheepsfoot roller, the finish grade surface shall be bladed smooth and the proof-rolled with a smooth drum compactor until the surface is relatively smooth, firm and free from projections.

4.6.3 Special Compactors

Special compactors shall be used to compact materials that, in the opinion of the Engineer, cannot be compacted properly by the specified roller because of location or accessibility.

Special compaction measures shall be adopted such as hand-held vibratory compactors or other methods approved by the Engineer to compact fill in trenches, around structures and in other confined areas that are not accessible to the larger vibratory roller or tamping foot roller. Such compaction shall be to the specified density.

4.7 Compaction and Moisture Content

All material, after placing, spreading and leveling to the appropriate layer thickness shall be uniformly compacted in accordance with the requirements for each type of fill as indicated in the following table:

Table 3.1 - Compaction Requirements

Material	Compaction Specification	Moisture Content
Prepared Subgrade	92% of Maximum Dry Density by ASTM D1557	+/- 3% of Optimum
Random Fill	92% of Maximum Dry Density by ASTM D1557	+/- 3% of Optimum
Soil Liner	92% of Maximum Dry Density by ASTM D1557	0 to +5% of Optimum

Section 5.0 - Earthwork Preparation and Placement

5.1 Subgrade Preparation

After grubbing and stripping, the exposed surface shall be inspected and approved by the Engineer prior to subgrade preparation. Subgrade preparation methods will depend on the location and the materials that will be placed over the subgrade.

5.1.1 Areas to Receive Random Fill

Areas to be covered with random fill shall be scarified to a depth of 0.5 feet, moisture conditioned (if necessary) and recompacted to a minimum of 92 percent of maximum dry density as determined by the modified Proctor test (ASTM D1557).

5.1.2 Prepared Subgrade

The prepared subgrade areas shall be prepared in the same manner as subgrade under random fill as described in Section 5.1.1.

All areas to receive geomembrane shall be prepared to the satisfaction of the Engineer. The exposed surface shall be moistened and proof rolled to ensure that the surface is firm and smooth. Proof rolling should be done using a smooth drum roller or another piece of equipment as approved by the Engineer. Areas to be lined with geosynthetics shall have no sudden, sharp or abrupt changes in grade. The surface shall be prepared such that it is smooth, compacted, and free of protruding rocks, vegetation or any other materials or objects deemed unsuitable by the Engineer. In areas were rocks larger than 3/8 inches are protruding, the rocks shall be removed and replaced with sand or other fine-grained material. Sanding may also be used in other areas to produce a relative smooth surface suitable for installation of High Density Polyethylene (HDPE) liner. Any areas not acceptable to the Engineer shall be repaired to his satisfaction at the expense of the Contractor.

5.2 Fill Placement

The intent of these Specifications is to promote the use of “on-site” materials to construct the facility, and to minimize the importation of offsite materials. It is anticipated that most of the embankment construction material, as well as the soil liner material, will be obtained form the material excavated from the ponds. It may however be necessary to develop borrow areas to source specific kinds of materials. The origin of any material in no way guarantees it’s suitability as fill material. Designation and approval of a stockpile or borrow area does not guarantee that all material from that source is suitable for construction. Unsuitable materials shall be stockpiled in areas designated by the Engineer. The Engineer will conduct testing to establish suitability of all fill materials used on the project.

The Contractor shall not place any fill material in an area until the Engineer has inspected and approved the foundation or in-place lift.

All fill materials shall be placed to the lines and grades shown on the Drawings and in accordance with Section 4.0 of the Technical Specifications.

5.2.1 Random Fill

Random fill shall consist of inorganic soil and rock materials obtained by excavating the ponds or from borrow areas approved by the Engineer. Random fill material may have a wide range of Unified Soil Classifications, and may have significant variation in index and compaction properties. There are no gradation limitations on the random fill, other than the maximum particle size, which shall not exceed 2/3 of the specified lift thickness. However, the contractor shall take necessary care when placing to coarse rock to ensure that boulders do not become nested to the point that large voids can result. Coarse fill shall be placed in such a manner that boulders are surrounded by finer grained material.

Materials with less than 30 percent (by weight) rock materials larger than 3/4 inches and 8 inches maximum rock size shall be conditioned to within 2 percent of optimum moisture content, placed in lifts not exceeding 1.0 feet and compacted to 92 percent of maximum dry density as determined by ASTM D1557 (modified Proctor).

Random fill containing more than 30 percent rock materials larger than 3/4 inches (rock fill) shall be conditioned, placed and compacted using procedures based on the results of a test fill. The type of compaction equipment, number of passes and maximum rock size and loose lift thickness will be approved by the Engineer in writing based on the acceptable test fill performance. The Contractor shall outline his proposed procedures for moisture conditioning and fill placement and submit them to the Engineer for review and approval.

For rock fills, the Contractor shall construct a test fill to verify the adequacy of the compaction equipment for achieving the required density. The test fill may be located so that it is incorporated within the limits of the compacted fill area. The test fill shall be constructed and monitored as per U.S. Army Corps of Engineer's guidelines for test fill construction (USACE EM 1110-2-2301).

The data to be collected during construction of the test fill shall include the following:

- Lift thickness of 1.0, 2.0, and 4.0 feet (three test fills to establish optimum lift thickness).
- Amount of settlement after every 2 passes of compactor, to a maximum of 25 passes.
- Gradation and moisture content of in-place material.
- In-place fill density at completion of the test by nuclear gauge or other methods approved by the Engineer.

A curve showing change in settlement versus number of passes shall be produced from the data. The minimum number of passes to achieve acceptable compaction will be the number required to achieve 80 percent of the total settlement obtained after no fewer than 10 complete passes of the compaction equipment. The lift thickness and minimum number of passes with compaction equipment shall be approved by the Engineer after review of test fill data. A compaction of 92 percent of maximum dry density as determined by ASTM D1557 (modified Proctor) must be achieved.

Random fill is to have a minimum effective angle of friction of 27 degrees. Maximum rock size for rock fills shall be two-thirds of the compacted lift thickness, unless otherwise approved by the Engineer. Oversized materials shall be removed from the fill. No additional payment will be made to remove oversized materials.

5.2.2 Clay Liner

Clay liner shall consist of inorganic fine grained silt and clay or sandy and gravelly silt and clay obtained from the pond excavations, or approved borrow areas. The clay liner shall be placed in lifts not exceeding 6-inches, moisture conditioned to between 0 and +7 percent of optimum and compacted to 92 percent of maximum dry density, as determined by ASTM D1557. The clay liner is to conform to the following specifications:

- Maximum particle size: 3 inches
- Minimum passing No. 200 sieve: 50%
- Minimum plasticity index: 20

- Maximum coefficient of permeability at 92% of Modified Proctor Density (ASTM D1557): $1x10^{-7}$ cm/sec

The Contractor shall provide the equipment and labor necessary to load the soil liner material, haul, place and spread the material within the pond limits, moisture condition and compact it, and prepare the soil liner surface for the placement of the HDPE liner.

Material placed too wet for adequate compaction shall be left to dry or shall be aerated and dried by a means that has been approved by the Engineer until the moisture content is uniform throughout the lift and within the specified limits, or has been approved by the Engineer. Material placed too dry shall be moisture conditioned with water. The lift shall then be mixed until the moisture content is uniform throughout the lift and within the specified limits, or approved by the Engineer. At his discretion, the Engineer may allow the use of material that has a moisture content above the specified limits, provided that the required compaction can be achieved, and that the permeability of the material meets the specified requirements.

Moisture conditioning shall be completed using equipment properly equipped with pressure spray bars and valves to give a uniform application of water.

Areas to receive a geomembrane liner are to be prepared as detailed in Section 5.1.2.

5.3 Backfilling of Anchor Trenches

The Contractor shall backfill all anchor trenches following the installation of the geomembrane liners after the Engineer has given his approval. The backfill shall consist of random fill material excavated from the trenches, and which has had all sharp rocks and rocks larger than 3-inches in diameter removed. Where the material excavated from the trenches is not suitable for backfill of the trenches, the Contractor may remove the excavated material to a stockpile that has been designated by the Engineer, and backfill the trenches with suitable material from a source that has been approved by the Engineer.

The moisture content and compaction of the anchor trench backfill shall meet the requirements of random fill material.

No backfill shall be placed in water, and it shall be the Contractor’s responsibility to remove any water from the trench prior to placement of backfill material.

Any damage to the geosynthetics caused by the Contractor’s excavation or backfill operation shall be repaired at the Contractor’s expense, including any costs that may be incurred for retesting the geosynthetic liner.

5.4 Filter Sand

Filter sand shall consist of a medium sand with few fines meeting the size graduation given below:

Table 4.1 – Filter Sand – Particle Size Distribution

Sieve No.	Percent Passing	
	Minimum	Maximum
No. 4	95	100
No. 8	70	100
No. 16	40	90
No. 30	25	75
No. 50	2	25
No. 100	0	4
No. 200	0	2

5.5 Riprap

Riprap will be used for lining a number of the stormwater diversion channels, as shown on the Drawings. Stone used for riprap shall be hard, durable, angular in shape, resistant to weathering and to water action and free of shale and organic material and generally conform to the recommended gradation guidelines. Generally riprap should be well graded with the D_{100} twice the size of the D_{50}, and the D50 twice the size of the D_{20}. The riprap gradations shall be in accordance with the following tables:

Table 4.2 – Riprap Particle Size Distribution – D_{50} = 12"

Particle Size (inch)	Percent Passing	
	Minimum	Maximum
24	100	100
12	30	70
6	10	40

Table 4.3 – Riprap Particle Size Distribution – D_{50} = 9"

Particle Size (inch)	Percent Passing	
	Minimum	Maximum
18	100	100
9	30	70
5	10	40

Table 4.4 – Riprap Particle Size Distribution – D_{50} = 6"

Particle Size (inch)	Percent Passing	
	Minimum	Maximum
18	100	100
9	30	70
5	10	40

Stone for riprap shall be placed on the prepared surface in a manned that will produce a reasonably well-graded mass of stone with the minimum practicable percentage of voids. The entire mass of stone shall be placed so as to be in reasonable conformance with the lines and grades shown on the Drawings or required by the Engineer. The thickness of the riprap layer shall be a minimum of twice the specified D_{50} or the equal of the largest particle, whichever is greater. In no circumstance shall the layer be thinner than as indicated on the drawings. Riprap shall be placed to its full course thickness in one operation and in such a manner as to avoid damaging or displacing the underlying material.

The larger stones shall be well distributed and the material shall be placed and distributed such that there will be no large accumulations of either the large or smaller sizes of stone. Hand placing or rearranging of individual stones by mechanical equipment may be required to the extent necessary to achieve the specified results.

5.6 Pipe Bedding Material

Pipe bedding material shall consist of natural sand, a mixture of sand with gravel, crushed gravel or stone, or other broken of fragmented material. In addition, the material shall have a plasticity index of 5 or less. The pipe bedding material shall meet the following grading requirements:

Table 4.5 – Pipe Bedding Material – Particle Size Distribution

Sieve No.	Percent Passing	
	Minimum	Maximum
1 inch	100	100
⅜ inch	65	100
No. 4	35	100
No. 200	0	15

Section 6.0 - Quality Control Construction Tolerances

The Contractor shall construct the various zones to the lines and grades shown on the Drawings, or as required by the Engineer, within the following tolerances:

1. All drainage zones shall be constructed such that the dimensions at any location within the zone shall not be less than those shown.
2. Finished grades shall slope uniformly between given spot and contour elevations. All grades shall provide for natural runoff of water without low spots or pockets.
3. Excavations shall not exceed a vertical tolerance of plus or minus 0.1 feet, and a horizontal tolerance of 0.5 feet. Should over-excavation occur resulting in the vertical tolerance of 0.1 feet being exceeded, the excavation is to be backfilled using random fill and compacted to obtain a tolerance of 0.1 feet.
4. Fill and backfill shall be placed within a vertical tolerance of plus or minus 0.1 feet, and a horizontal tolerance of 0.5 feet, unless otherwise approved by the Engineer.

Section 7.0 - Quality Assurance/Quality Control (QA/QC)

The Engineer will be responsible for testing construction materials to assess whether materials and methods comply with the Specifications. All testing performed by the Engineer will be performed in accordance with procedures outlined in the Specifications, and will be conducted on samples collected from the field as well as test performed on the compacted fill. The results of the tests carried out by the Engineer will be final and conclusive in determining compliance with the Technical Specifications.

Each lift of fill will require approval by the Engineer prior to placement of next lift. Sufficient time shall be allowed by the Contractor for the Engineer to carry out the required test work and interpretation of the test results in order to decide upon the acceptability of each lift. Cooperation shall be given by the Contractor, to the Owner and the Engineer, for taking samples or making tests, and such assistance shall be rendered as is necessary to enable sampling and testing to be carried out expeditiously. The making of such tests or the time taken to interpret their results shall not constitute grounds for a claim by the Contractor for additional compensation or extension of time.

Tests carried out by the Engineer will be performed in accordance with the latest principles and methods prescribed by the American Society for Testing and Materials (ASTM) and other such recognized authorities.

The Engineer's staff will consist of a Field Engineer who will be assisted by Laboratory or Field Technicians as required. The Field Engineer will have overall responsibility for the site work and will report directly to the Owner's representative. The Field Engineer will be responsible for all inspection and testing, and interpretation of the results.

7.1 Earthworks Quality Control

Inspection of earthworks will involve testing and on-the-spot examination of all materials being used for construction to establish compliance with the material requirements, moisture conditioning, spreading procedures, layer thicknesses, and compaction requirements.

7.2 Testing Requirements

The ensure that satisfactory quality control is maintained and that the design objectives are achieved, specific testing requirements will be implemented for all materials placed within the Work area. Tests to be carried out will be divided into two categories:

- Control tests
- Record tests

Control tests will be used to verify whether the materials comply with the Specifications prior to placement. During placement and after completion of the Work, record tests will be carried out to assess whether the work and materials meet the requirements of the Specifications.

7.2.1 Control Tests

The following control tests will be performed before material has been compacted:

- Particle size distribution for fill materials, soil liner, filter sand and riprap. Samples for these tests will be obtained from the material source, and also from material that has been placed and spread, but not yet compacted.

- Moisture content of fill materials and the soil liner. Samples for these tests will be obtained from the material source, and also from material that has been placed and spread, but not yet compacted.
- Modified Proctor compaction tests (ASTM D1557) of fill materials and the soil liner. Samples for these tests will be obtained from the material source, and also from material that has been placed and spread, but not yet compacted.
- Atterberg limits of fill materials and the soil liner. Samples for these tests will be obtained from the material source, and also from material that has been placed and spread, but not yet compacted.
- Other tests, where applicable, will be made by the Engineer on samples of fill materials taken from borrow areas and on the fill, at frequencies sufficient to assess whether the fill material is in compliance with the Technical Specifications.

7.2.2 Record Tests

The following record tests will be performed on material that has been placed and compacted:

- Particle size distribution for fill materials, soil liner and filter sand.
- Field density test on fill materials and the soil liner.
- Moisture content of the fill materials and soil liner.
- Laboratory compaction and particle size distribution of materials recovered from select field density test locations.
- In-situ laboratory permeability tests on fill materials and the soil liner.
- Atterberg limit tests on fill materials and the soil liner.
- Other tests on the fill compacted in place, and on samples of the compacted fill for related laboratory testing at such frequency as the Engineer considers necessary to assess whether the compacted fill is in full compliance with the Technical Specifications.

7.3 Testing Frequencies

The Engineer will carry out geotechnical tests to establish compliance of the Work with the Technical Specifications. Standard procedures will be used for all activities and in general these will be adopted by recognized organizations, such as the American Society of Testing and Materials (ASTM). The following tables outline the minimum testing requirements for the project.

Table 6.1 - Test Methods

Test Designation	Type of Test	Test Method (ASTM)
C1, R1	Atterberg Limits	D4318
R2a C2, R2b	Nuclear Method Moisture Content Laboratory Moisture Content	D6938 D2216
C3, R3	Particle Size Distribution	D422(3)
C4, R4	Laboratory Compaction	D1557
R5a R5b R5c	Nuclear Method Field Density Sand Cone Field Density Water Replacement Field Density	D6938 D1556 D5030
C6, R6	Laboratory Permeability Test	D5084
C7, R7	Riprap Particle Size Distribution	Pebble Count

Notes:

1. C – Denotes Control Tests
2. R – Denotes Record Tests

3. Hydrometer tests down to the 2-micron size will be carried out as directed by the Engineer but will generally not be required. All samples are to be wash graded over a #200 sieve.

Table 6.2 - Test Frequency - Prepared Subgrade

Test Designation	Type of Test	Frequency (1 per)
R1	Atterberg Limits	2,000 yd^2
C2, R2a, R2b	Moisture Content	1,000 yd^2
C3, R3	Particle Size Distribution	2,000 yd^2
C4, R4	Laboratory Compaction	2,000 yd^2
R5a	Nuclear Density	1,00 yd^2
R5b	Sand Cone Field Density	5,000 yd^2

Table 6.3 - Test Frequency - Random Fill

Test Designation	Type of Test	Frequency (1 per)
R1	Atterberg Limits	5,000 yd^3
C2, R2a, R2b	Moisture Content	2,500 yd^3
C3, R3	Particle Size Distribution	5,000 yd^3
C4, R4	Laboratory Compaction (Modified Proctor)	5,000 yd^3
R5a	Nuclear Density	1,000 yd^3
R5b	Sand Cone Field Density	10,000 yd^3
C6, R6	Laboratory Permeability Test	5,000 yd^3

Table 6.4 - Test Frequency – Soil Liner

Test Designation	Type of Test	Frequency (1 per)
R1	Atterberg Limits	1,000 yd^3
C2, R2a, R2b	Moisture Content	500 yd^3
C3, R3	Particle Size Distribution	1,000 yd^3
C4a, R4a	Laboratory Compaction (Modified Proctor)	1,000 yd^3
R5a	Nuclear Density	1,000 yd^3
R5b	Sand Cone Field Density	2,500 yd^3
C6, R6	Laboratory Permeability Test	1,000 yd^3

Table 6.5 - Test Frequency – Filter Sand

Test Designation	Type of Test	Frequency (1 per)
C3, R3	Particle Size Distribution	250 yd^3

Table 6.5 - Test Frequency – Riprap

Test Designation	Type of Test	Frequency (1 per)
C7, R7	Riprap Particle Size Distribution	1,000 yd^3

7.4 Reporting

The Engineer will prepare daily progress reports throughout the period of construction. The reports will summarize pertinent construction activities, the results of testing completed over that period, and highlight any difficulties that were encountered.

7.5 Test Records

The Engineer will maintain a record of all tests. The tests will be recorded on a form applicable to the test being performed. The location of all tests will be recorded and accurately described. A plan indicating the location of the tests will be maintained.

7.6 Construction Report

On completion of the Work, the Engineer will prepare a construction report that will include a summary of the results from all tests carried out as part of the quality assurance program. It will also include construction record Drawings.

Section 8.0 - As-Built Requirements

To assist in the production of adequate as-built Drawings and documentation, the Contractor will be required to provide one set of 22 inch by 34 inch red-lined Drawings with construction modifications, as well as the electronic formatted version of the Drawings to the Owner.

Section 9.0 - References

ASTM International, 2007, *ASTM D422 - 63 Standard Test Method for Particle-Size Analysis of Soils*, ASTM International.

ASTM International, 2007, *ASTM D1556 - 07 Standard Test Method for Density and unit Weight of Soil in Place by the Sand-Cone Method*, ASTM International.

ASTM International, 2009, *ASTM D1557 - 09 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft^3 (2,700 kN-m/m^3))*, ASTM International.

ASTM International, 2005, *ASTM D2216 - 05 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass*, ASTM International.

ASTM International, 2005, *ASTM D4318 - 05 Standard Test Methods for Liquid Limit, Plastic limit, and Plasticity Index of Soils*, ASTM International.

ASTM International, 2009, *ASTM D5030 - 04 Standard Test Method for Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit*, ASTM International.

ASTM D5030 - 04 Standard Test Method for Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit

ASTM International, 2003, *ASTM D5084 - 03 Standard Test Methods for Measurements of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter*, ASTM International.

ASTM International, 2008, *ASTM D6938 – 08a Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear methods (Shallow Depth)*, ASTM International.

USACE 1110-2-2301, 1994, Engineering and Design – Test Quarries and Test Fills, United States Army Core of Engineers.

Drawings

DEWEY-BURDOCK PROJECT
LAND APPLICATION AND IRRIGATION

JULY 2010

Prepared for
POWERTECH URANIUM CORPORATION
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1580 Lincoln Street, Suite 1000
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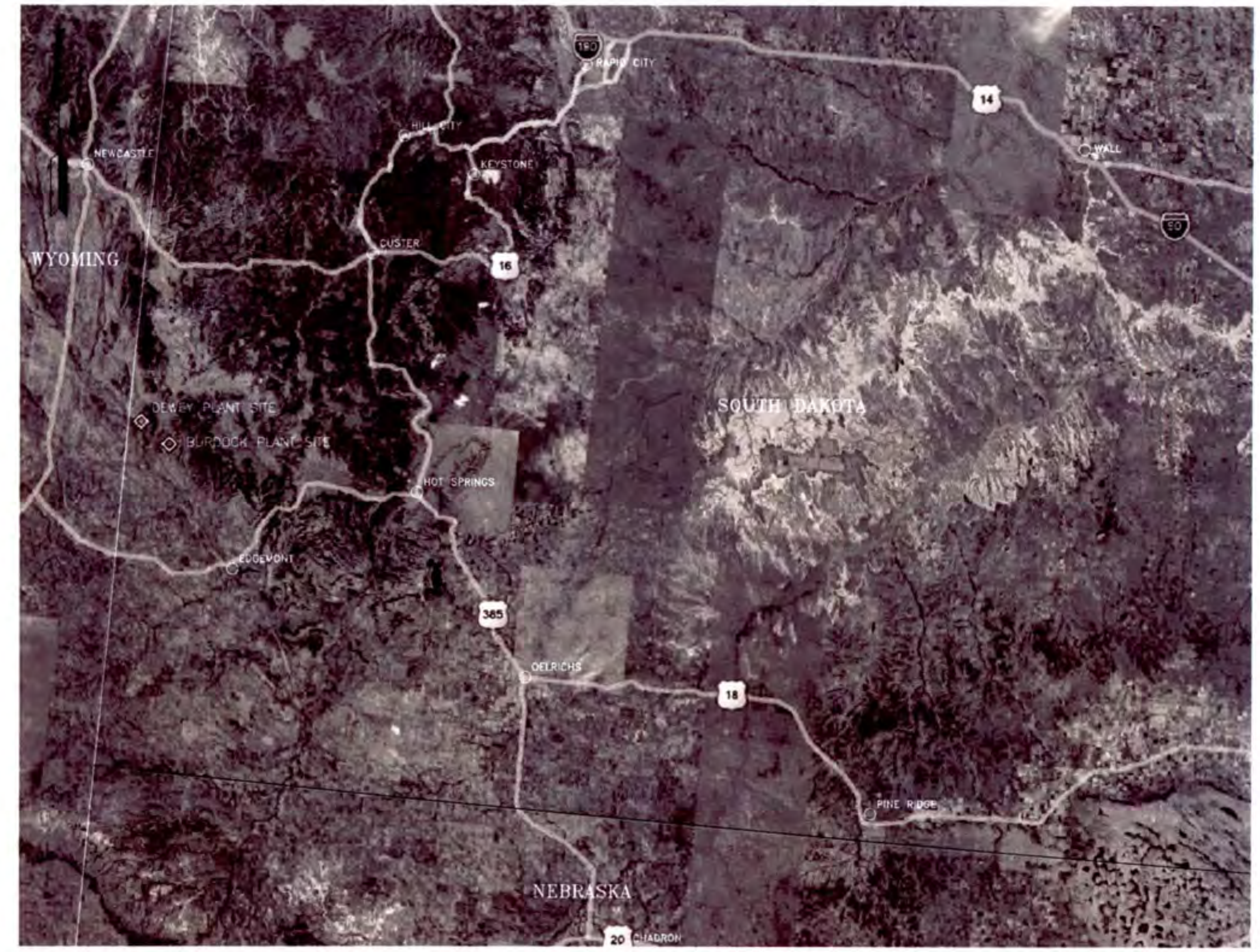
INDEX OF DRAWINGS



LOCATION MAP

COMMON ABBREVIATIONS

℄	CENTER LINE
DIA	DIAMETER
EL	ELEVATION
NTS	NOT TO SCALE
REQ'D	REQUIRED
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
(TYP)	TYPICAL
FT	FEET

SYMBOLS AND DESCRIPTIONS

3:1	3 (HORIZONTAL) TO 1 (VERTICAL) SLOPE
E 371000	EASTING COORDINATE
N 364500	NORTHING COORDINATE
1 / 100	DETAIL IDENTIFICATION DRAWING REFERENCE NUMBER
A / 100	PROFILE OR CROSS SECTION IDENTIFICATION DRAWING REFERENCE NUMBER
	DIRECTION OF FLOW
	EXISTING GROUND SURFACE OR BOTTOM OF EXCAVATION
6525	EXISTING GROUND SURFACE AND EL, FEET
	SLOPE INDICATOR
	TOP OF ROCK OR ROCK SURFACE
	WATER LEVEL

SYMBOLS AND DESCRIPTIONS

A / 100	SECTION CALLOUT WITH LOCATION REFERENCE
	DETAIL OR DIMENSION BREAK
	FENCE LINE
1 / 2	SLOPE INDICATOR (DETAIL)

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY–BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION INDEX, GENERAL SITE LOCATION MAP AND SYMBOLS

REV	DATE	DESCRIPTION	APP'D / CADD
A	09/15/09	ISSUED FOR CLIENT REVIEW	ST / RJB

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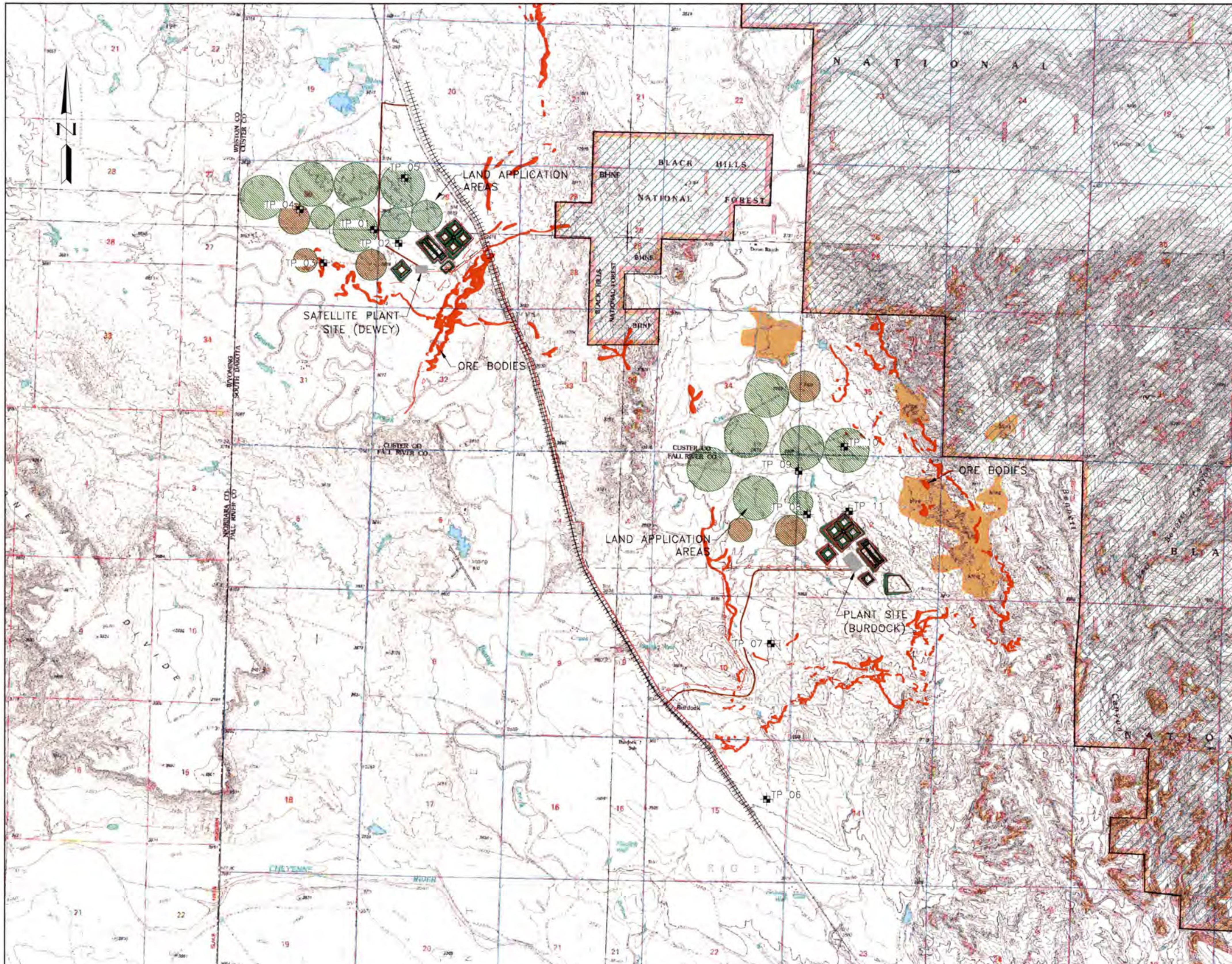

LEGEND:

REGRADED CONTOURS

NEW ROADS

RAILROAD

POWER LINE

PIPELINE

ORE BODIES

LAND APPLICATION AREAS

NATIONAL FOREST

BLM AREAS

TP 05 TEST PIT

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

PLAN

2000 0 2000 4000 FEET

1" = 2000' AT FULL SIZE (ANSI D)
1" = 4000' AT HALF SIZE (ANSI B)

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION SITE INVESTIGATION – TEST PIT LOCATIONS

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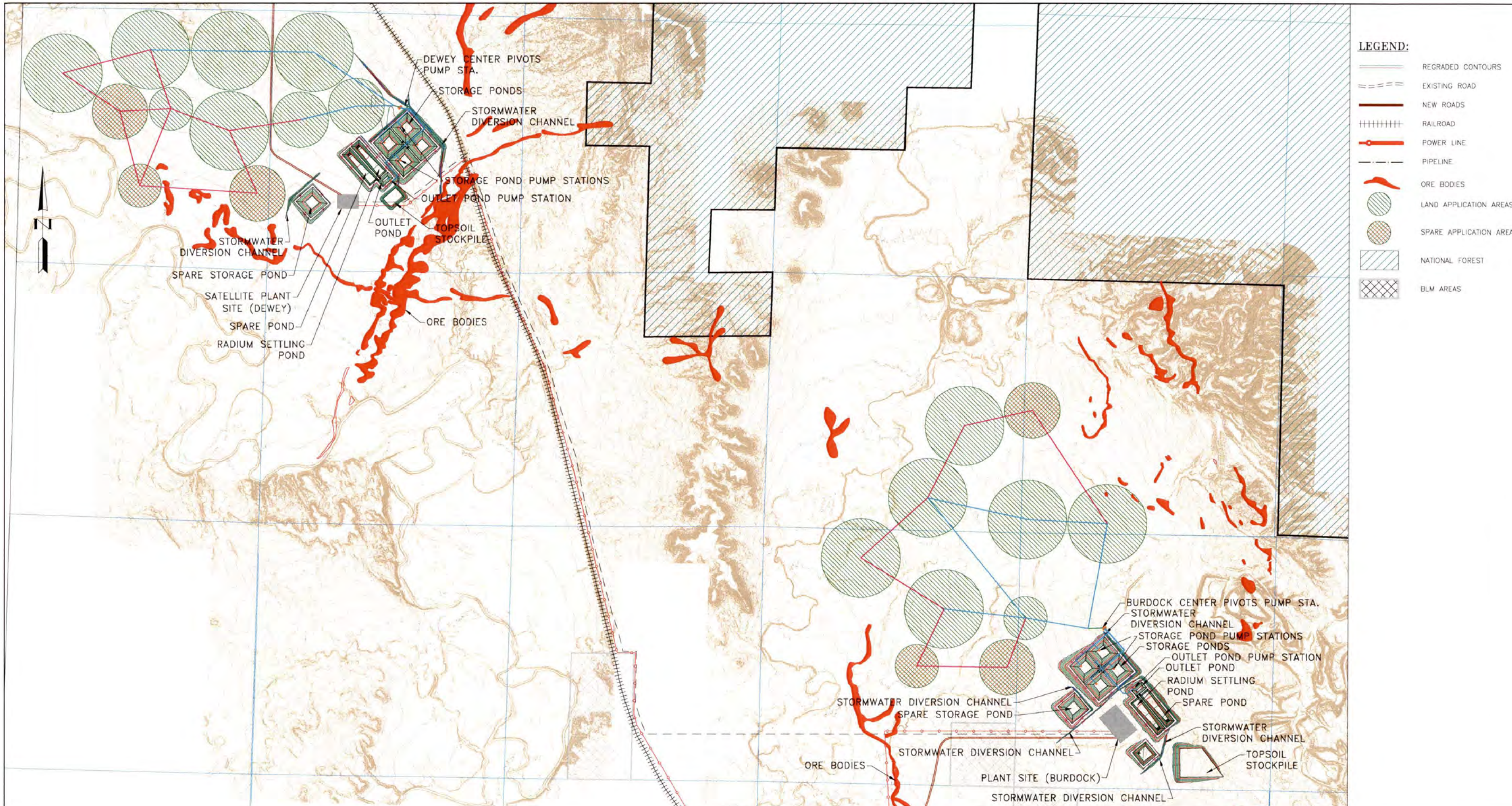

PLAN

1000 0 1000 2000 FEET

1" = 1000' AT FULL SIZE (ANSI D)
1" = 2000' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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CLIENT
POWERTECH (USA) Inc.

PROJECT
DEWEY-BURDOCK PROJECT

TITLE
LAND APPLICATION AND IRRIGATION SITE PLAN

Knight Piésold CONSULTING

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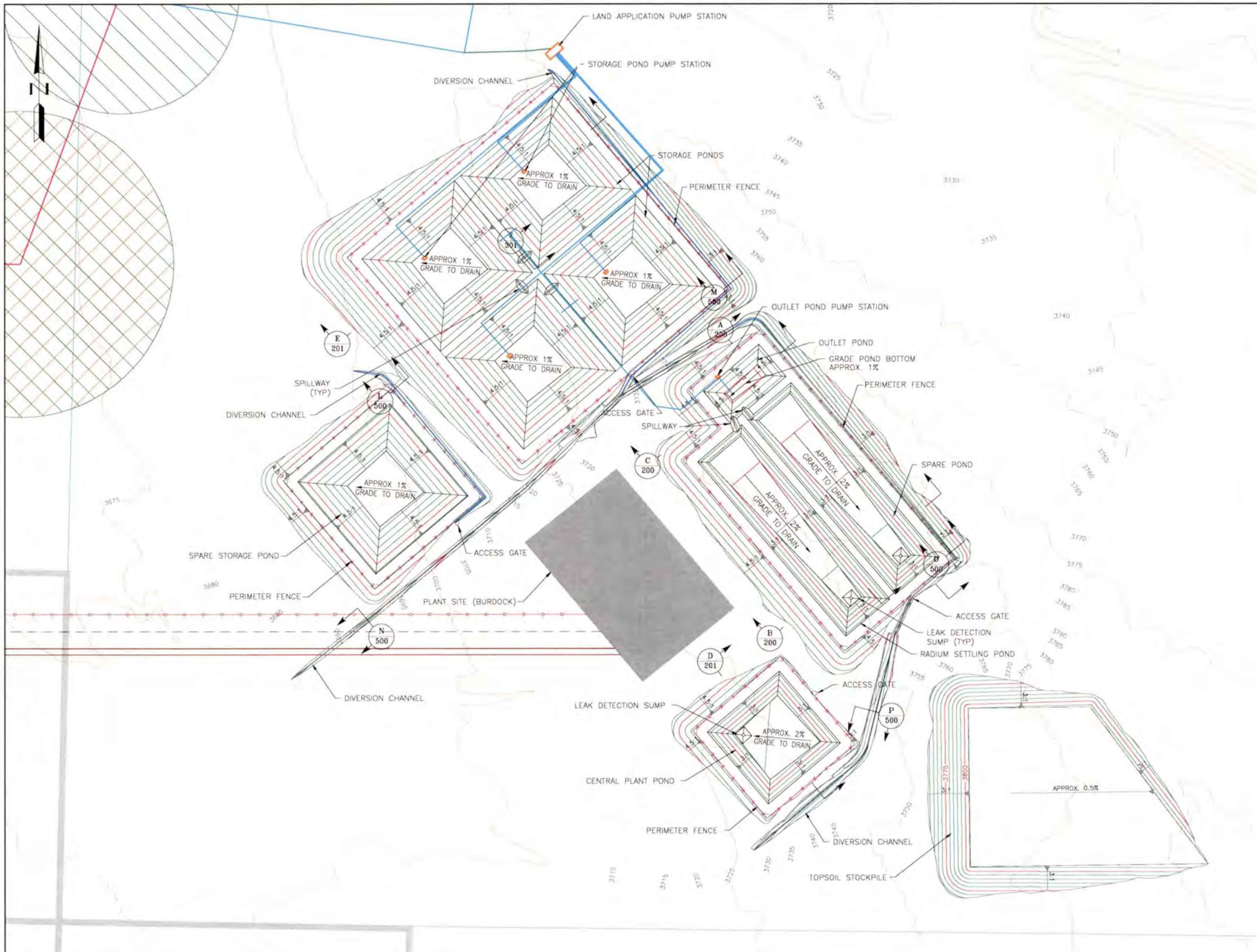

LEGEND:

- EXISTING CONTOURS
- REGRADED CONTOURS
- EMBANKMENT ROAD
- NEW ROADS
- PERIMETER FENCE
- POWER LINE
- PIPELINE
- LAND APPLICATION AREAS
- BLM AREAS

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

PLAN – BURDOCK PLANT SITE

200 0 200 400 FEET

1" = 200' AT FULL SIZE (ANSI D)
1" = 400' AT HALF SIZE (ANSI B)

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION BURDOCK PLANT SITE PLAN

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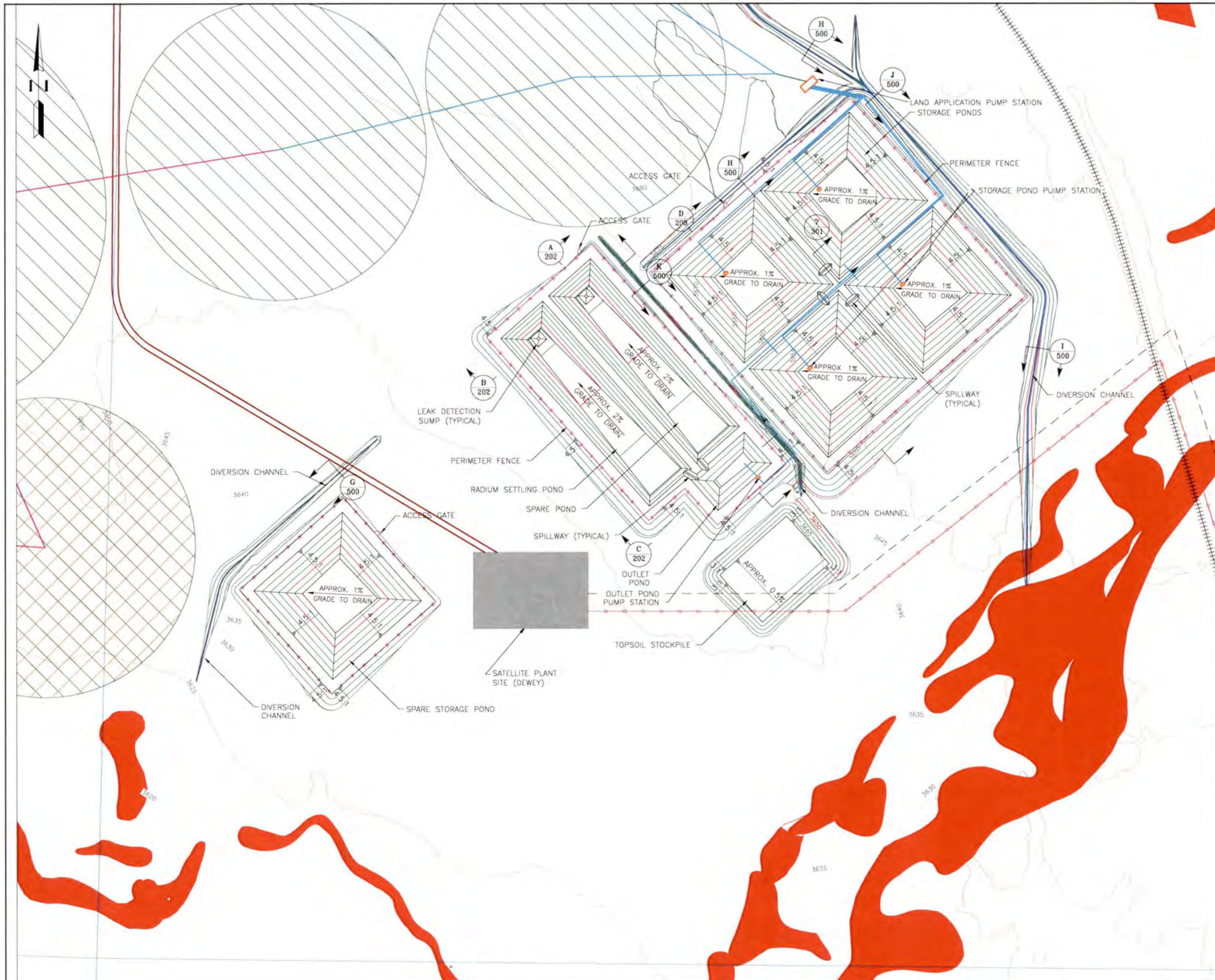

PLAN – DEWEY SATELLITE PLANT SITE

200 0 200 400 FEET
1" = 200' AT FULL SIZE (ANSI D)
1" = 400' AT HALF SIZE (ANSI B)

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LEGEND:

- EXISTING CONTOURS
- REGRADED CONTOURS
- EMBANKMENT ROAD
- RAILROAD
- PERIMETER FENCE
- PIPELINE
- POWER LINE
- LAND APPLICATION AREAS
- ORE BODIES

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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PROJECT: DEWEY–BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION DEWEY PLANT SITE PLAN

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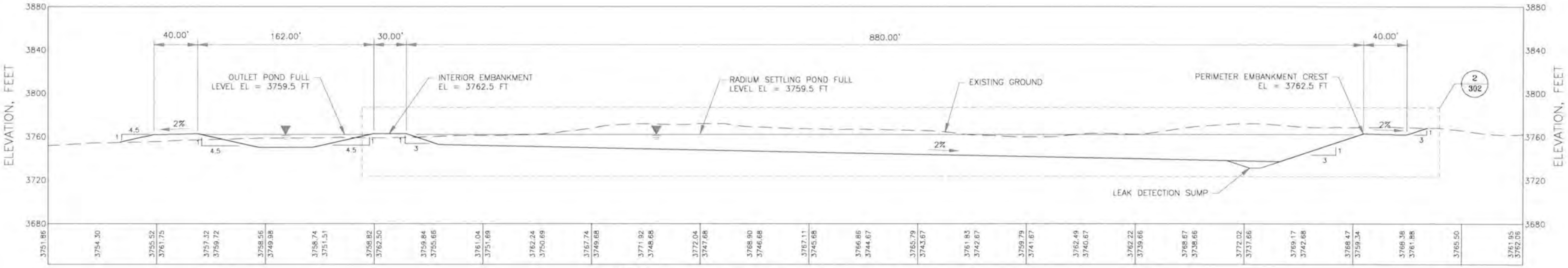
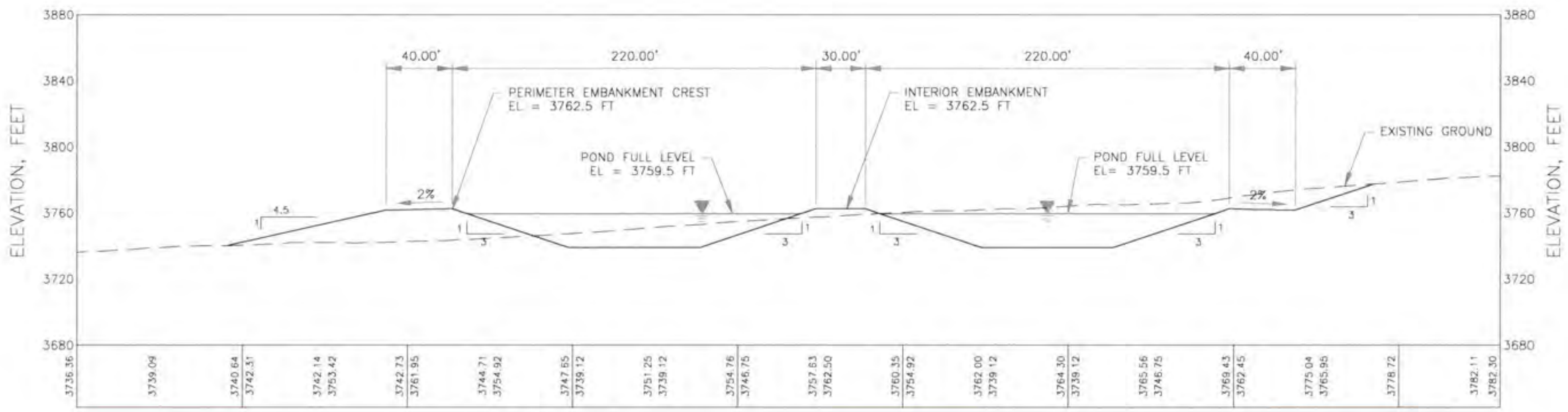


A
101
BURDOCK RADIUM SETTLING AND OUTLET PONDS
SECTION



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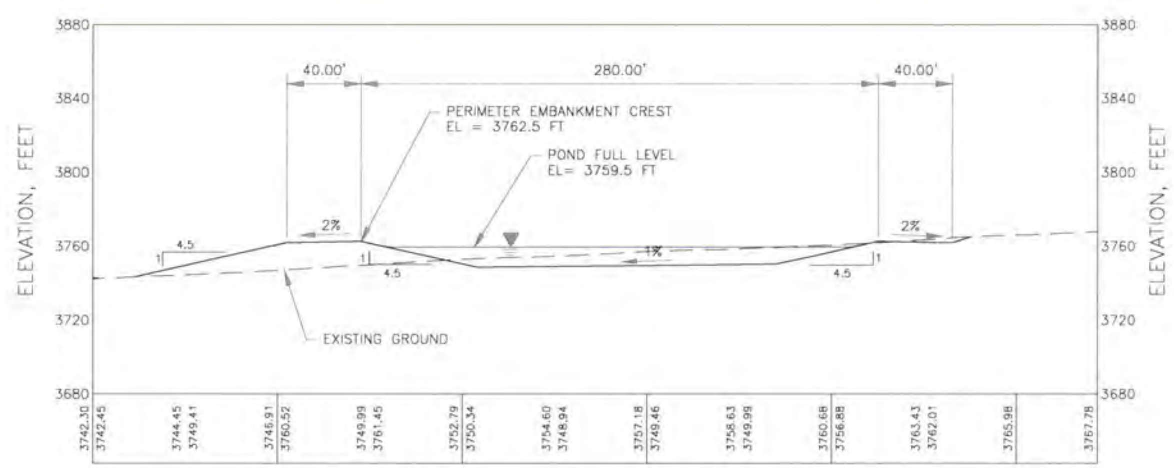
SECTION



C
101
BURDOCK OUTLET POND
SECTION

50 0 50 100 FEET
HORIZONTAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

50 0 50 100 FEET
VERTICAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICAITON AND IRRIGATION
BURDOCK POND SECTIONS
SHEET 1 OF 2

Knight Piésold CONSULTING

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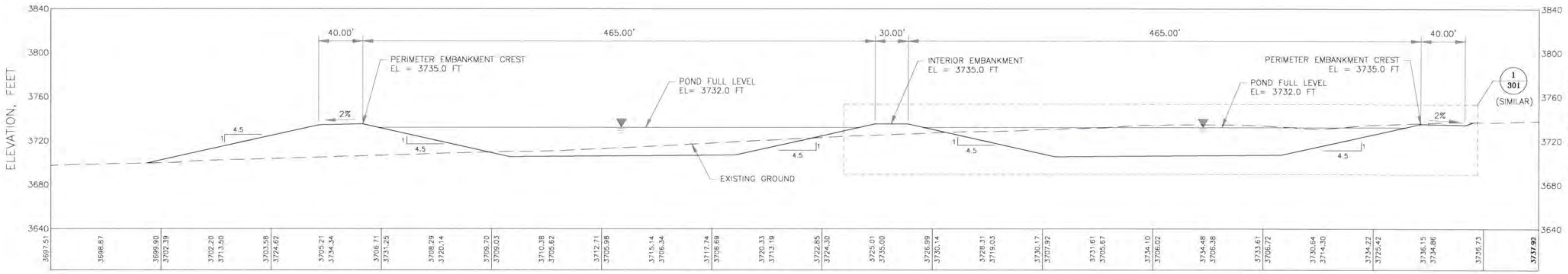
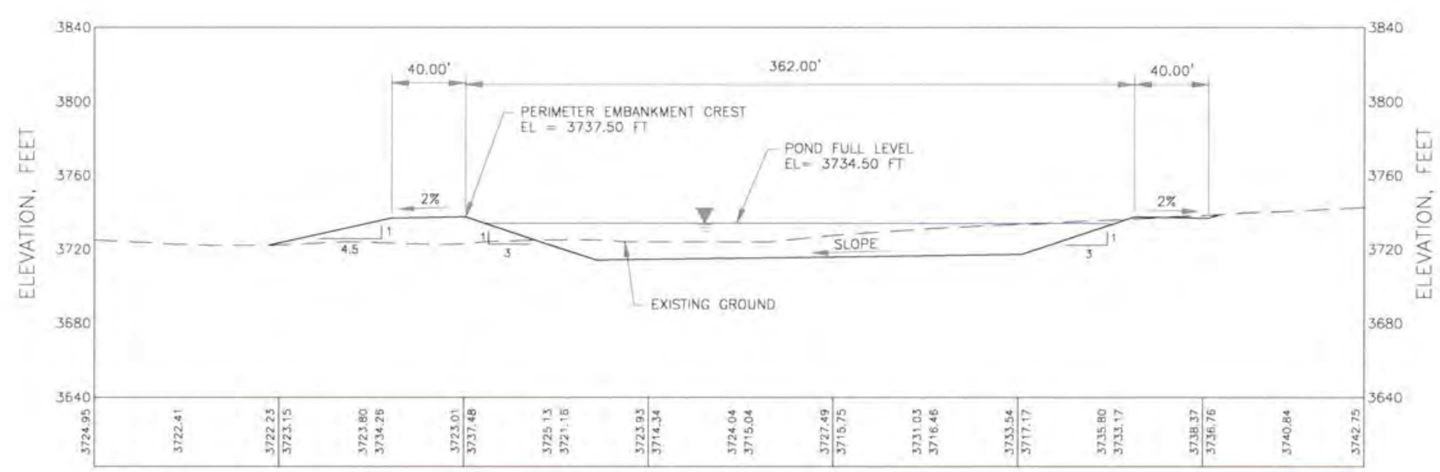


E
101
BURDOCK STORAGE PONDS
SECTION



D
101
CENTRAL PLANT POND
SECTION

50 0 50 100 FEET
HORIZONTAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

50 0 50 100 FEET
VERTICAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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PROJECT: DEWEY–BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION BURDOCK POND SECTIONS SHEET 2 OF 2

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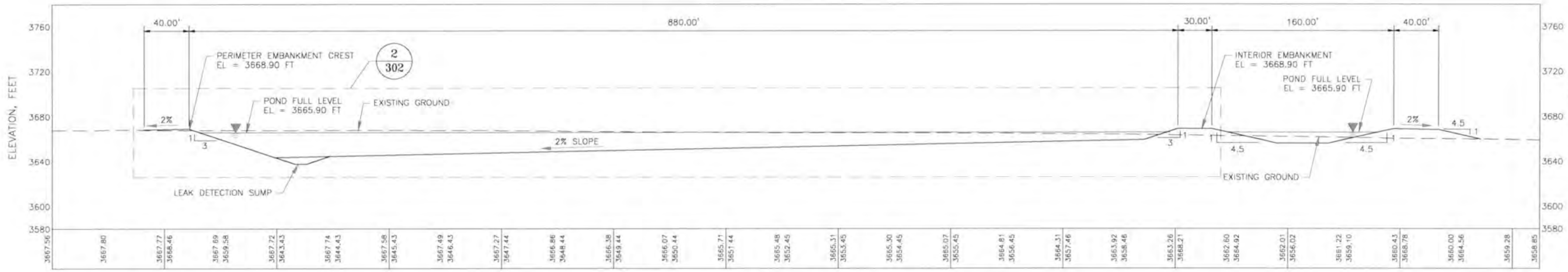
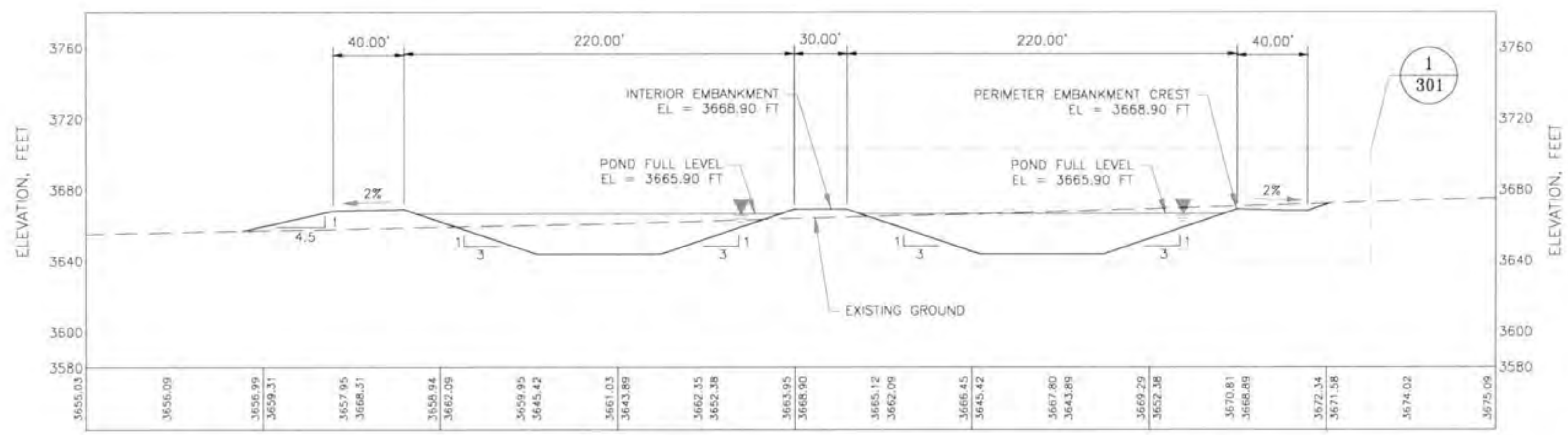


A
102
DEWEY RADIUM SETTLING AND OUTLET PONDS
SECTION



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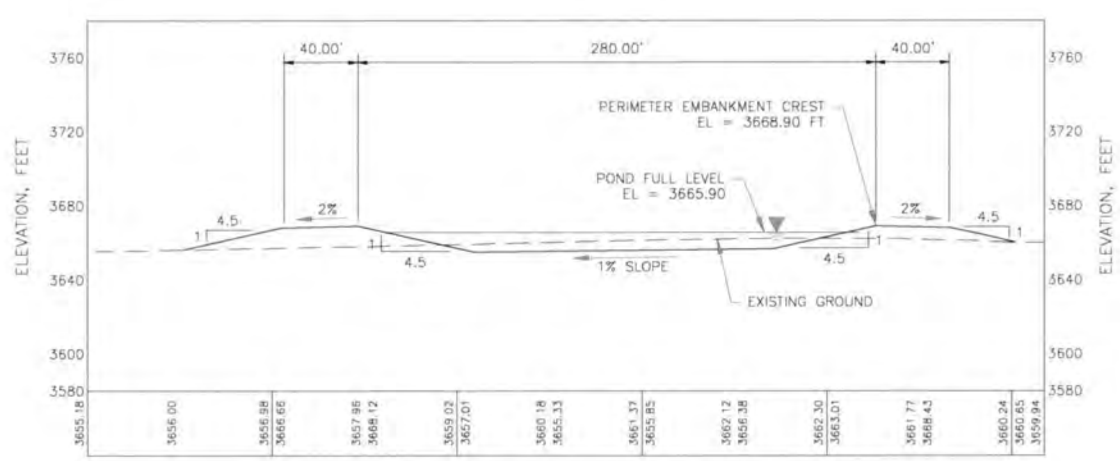
102
DEWEY RADIUM SETTLING PONDS
SECTION



C
102
DEWEY OUTLET POND
SECTION

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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A	09/15/09	ISSUED FOR CLIENT REVIEW	

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION
DEWEY POND SECTIONS
SHEET 1 OF 2

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DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
DRAWN BY	RJB	102	279.02	202	A
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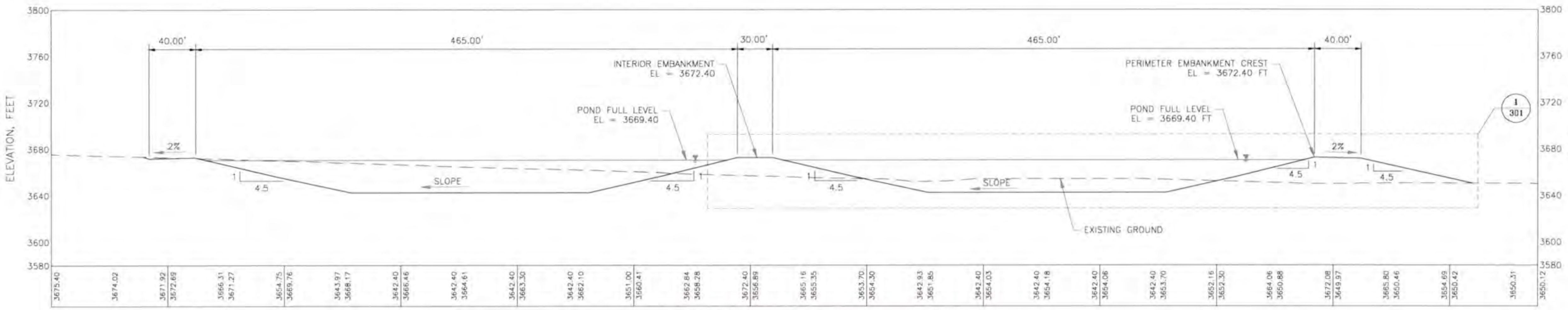

D 102 DEWEY STORAGE PONDS SECTION

HORIZONTAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

VERTICAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION DEWEY POND SECTIONS SHEET 2 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
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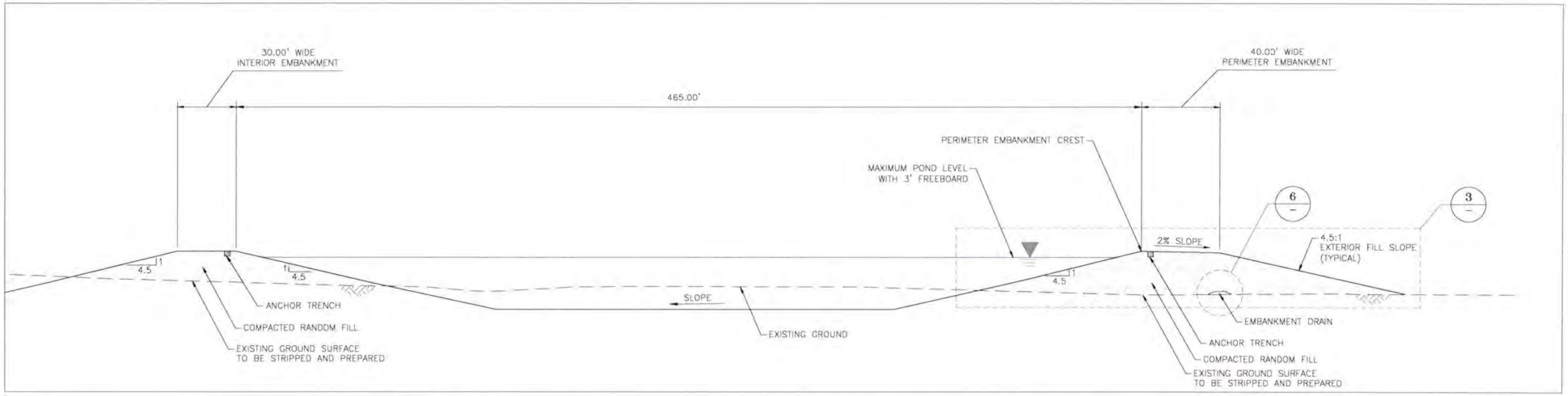
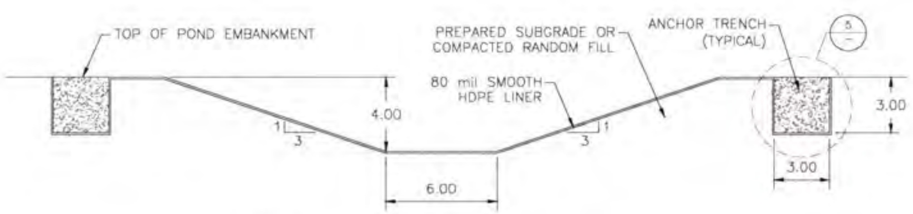


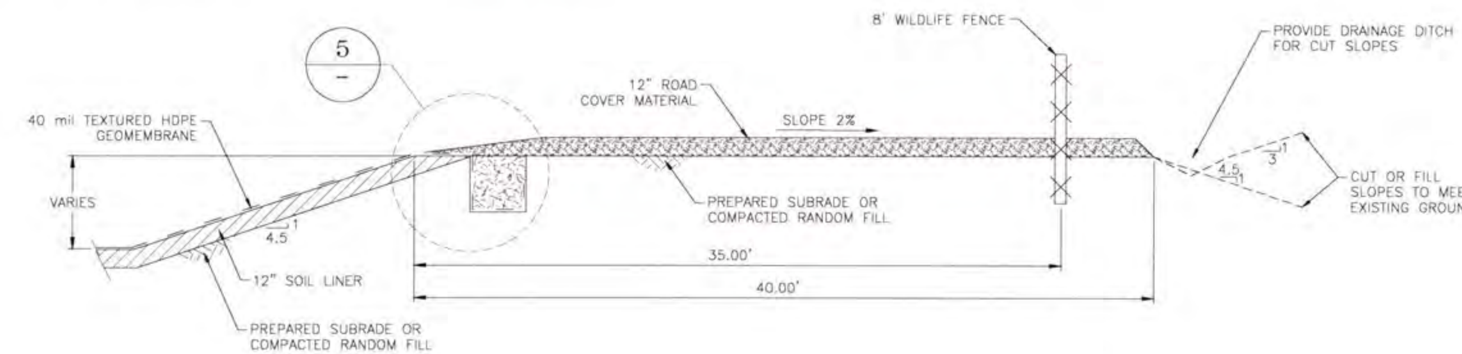
1/201 1/203 STORAGE POND DETAIL
TYPICAL OF SINGLE LINED PONDS

HORIZONTAL SCALE 1" = 30' AT FULL SIZE (ANSI D) 1" = 60' AT HALF SIZE (ANSI B)
VERTICAL SCALE 1" = 30' AT FULL SIZE (ANSI D) 1" = 60' AT HALF SIZE (ANSI B)



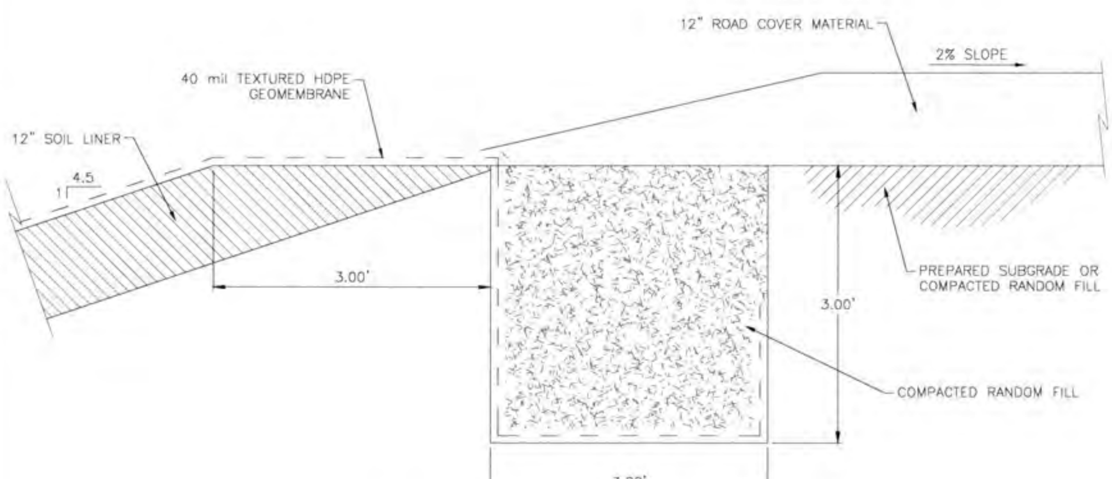
7/101 7/102 SPILLWAY DETAIL

1" = 5' AT FULL SIZE (ANSI D) 1" = 10' AT HALF SIZE (ANSI B)



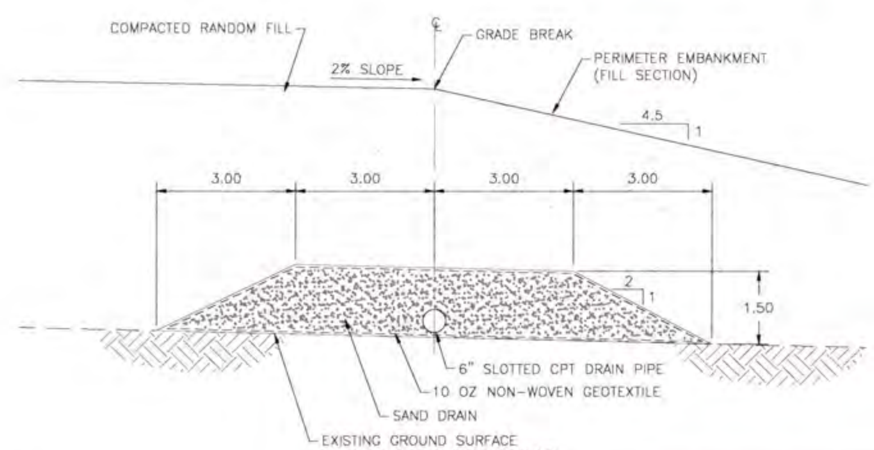
3 POND EMBANKMENT DETAIL
FOR SINGLE LINED PONDS

1" = 5' AT FULL SIZE (ANSI D) 1" = 10' AT HALF SIZE (ANSI B)



5 LINER ANCHOR TRENCH DETAIL
FOR SINGLE LINED PONDS

1" = 1' AT FULL SIZE (ANSI D) 1" = 2' AT HALF SIZE (ANSI B)



6 EMBANKMENT DRAIN DETAIL

1" = 2' AT FULL SIZE (ANSI D) 1" = 4' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).
2. EMBANKMENT DRAINS TO BE CONSTRUCTED BENEATH ALL FILL EMBANKMENTS.

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION TYPICAL POND SECTIONS AND DETAILS SHEET 1 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
DRAWN BY	RJB	102	279.02	301	A
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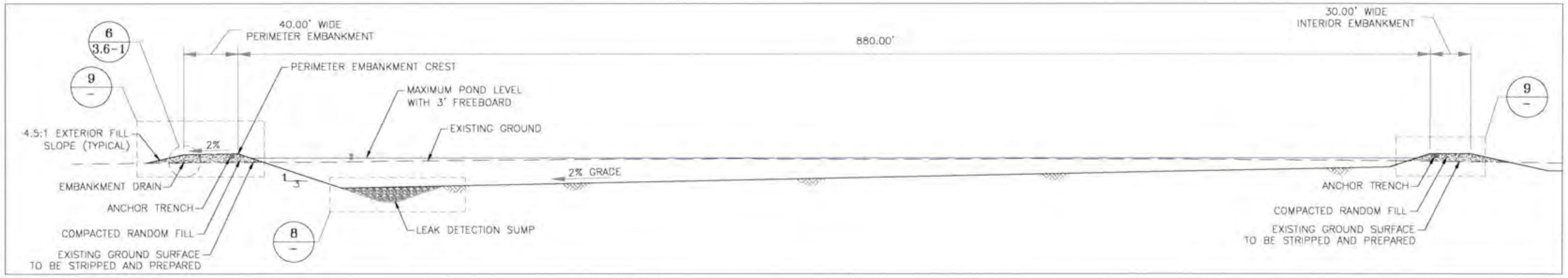
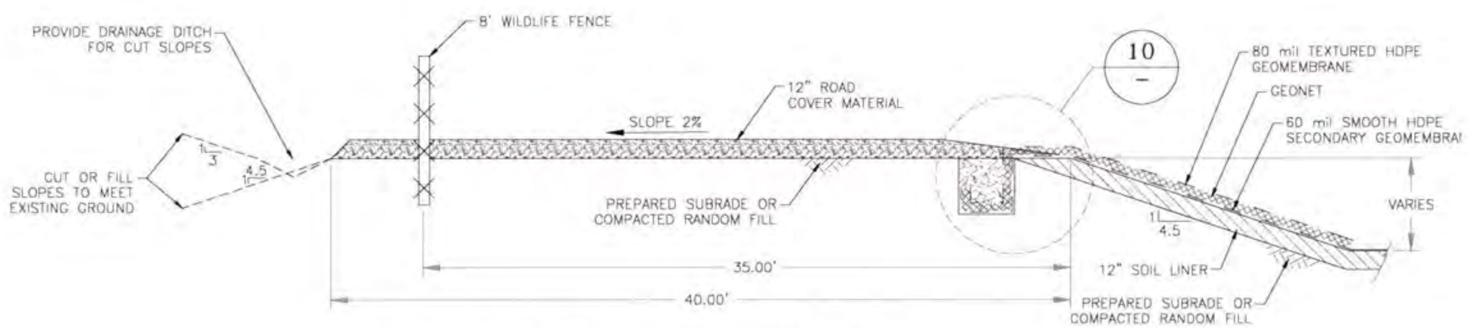


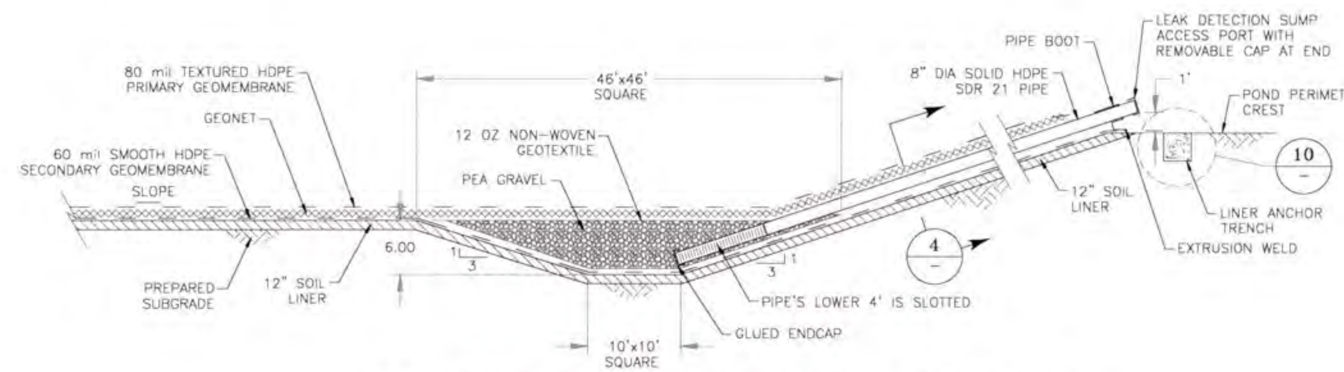
2 / 200 — 2 / 202 RADIUM SETTLING POND DETAIL
TYPICAL OF DOUBLE LINED PONDS

50 0 50 100 FEET
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)



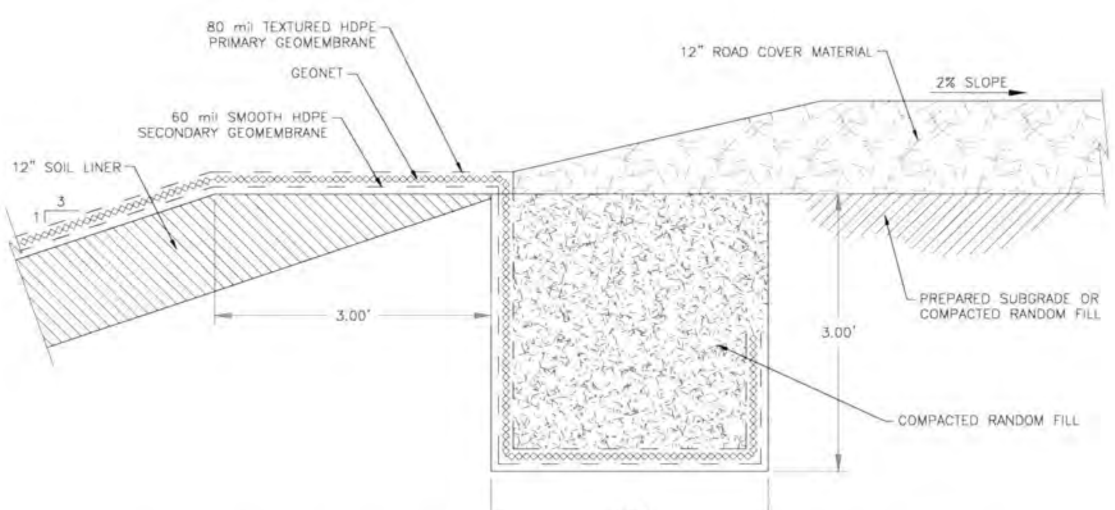
9 / – POND EMBANKMENT DETAIL
FOR DOUBLE LINED PONDS

5 0 5 10 FEET
1" = 5' AT FULL SIZE (ANSI D)
1" = 10' AT HALF SIZE (ANSI B)



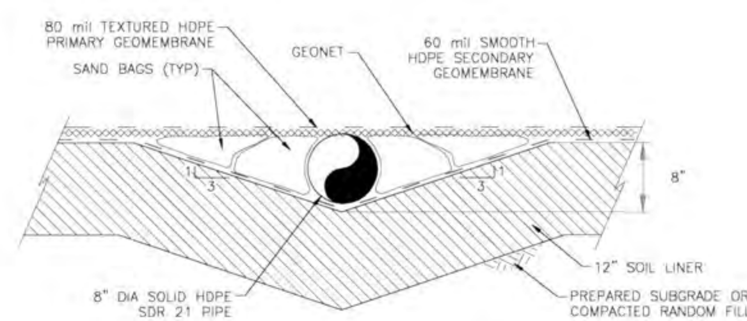
8 / – LEAK DETECTION SUMP AND ACCESS PORT DETAIL

10 0 10 20 FEET
1" = 10' AT FULL SIZE (ANSI D)
1" = 20' AT HALF SIZE (ANSI B)



10 / – ANCHOR TRENCH AND LINER DETAIL
FOR DOUBLE LINED PONDS

1 0 1 2 FEET
1" = 1' AT FULL SIZE (ANSI D)
1" = 2' AT HALF SIZE (ANSI B)



4 / – LEAK DETECTION SUMP ACCESS PORT DETAIL

1 0 1 2 FEET
1" = 1' AT FULL SIZE (ANSI D)
1" = 2' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).
2. EMBANKMENT DRAINS TO BE CONSTRUCTED BENEATH ALL FILL EMBANKMENTS.

CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION TYPICAL SECTIONS AND DETAILS SHEET 2 OF 2

Knight Piésold CONSULTING

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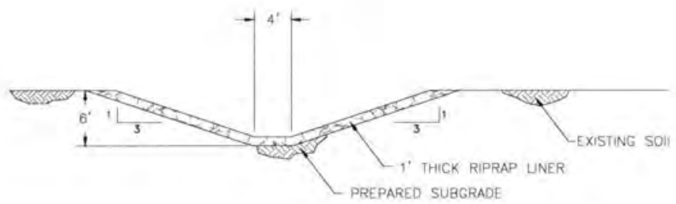
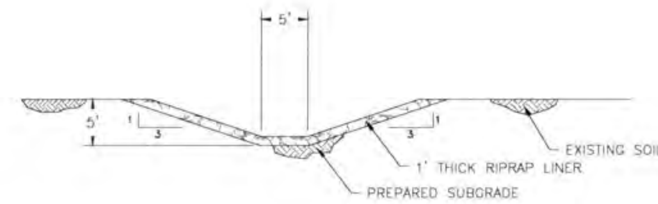


G
102
DEWEY STORMWATER DIVERSION CHANNEL SECTION



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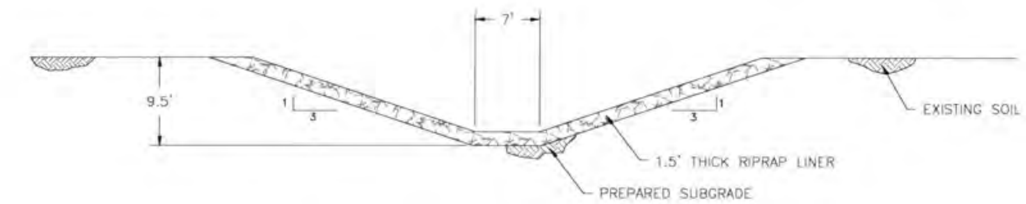
102
DEWEY STORMWATER DIVERSION CHANNEL SECTION



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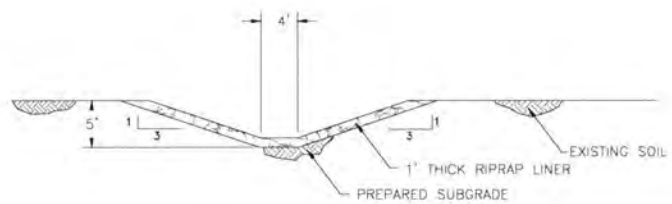
102
DEWEY STORMWATER DIVERSION CHANNEL SECTION



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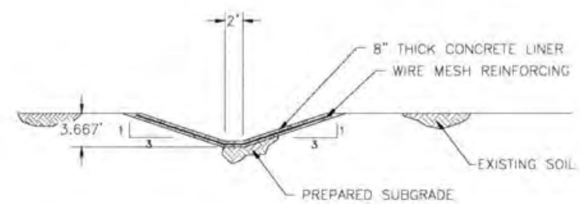
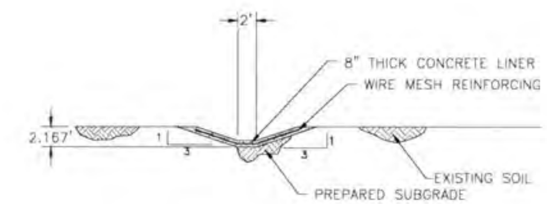
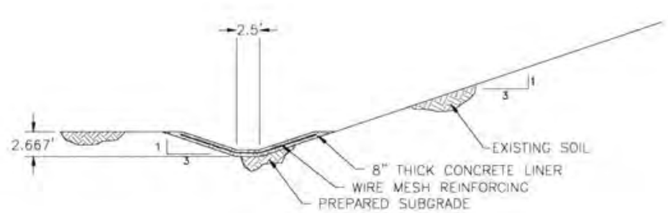
102
DEWEY STORMWATER DIVERSION CHANNEL SECTION



K
102
DEWEY STORMWATER DIVERSION CHANNEL SECTION



L
101
BURDOCK STORMWATER DIVERSION CHANNEL SECTION



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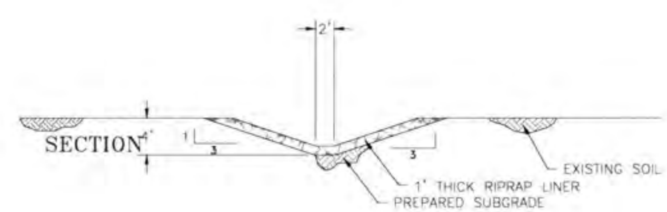
101
BURDOCK STORMWATER DIVERSION CHANNEL SECTION



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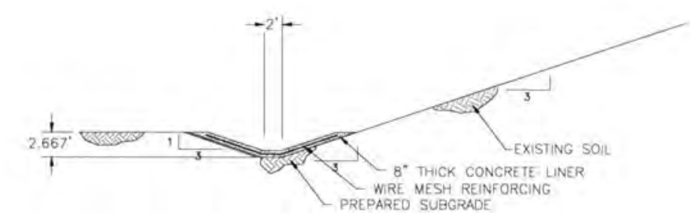
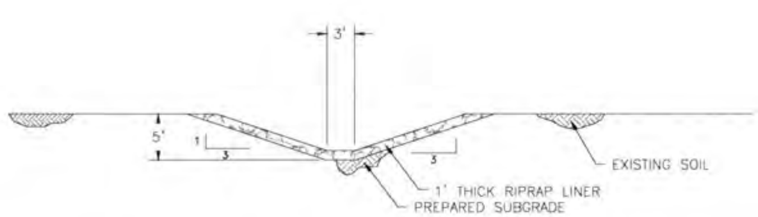
101
BURDOCK STORMWATER DIVERSION CHANNEL SECTION



O
101
BURDOCK STORMWATER DIVERSION CHANNEL SECTION

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).



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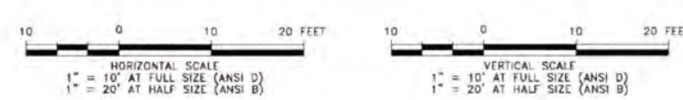
101
BURDOCK STORMWATER DIVERSION CHANNEL SECTION



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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICAITON AND IRRIGATION DIVERSION CHANNEL SECTIONS

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ACTIVITY CODE	N/A	XREF NUMBER	N/A		

PLAN

400 0 400 800 FEET

1" = 400' AT FULL SIZE (ANSI D)
1" = 800' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: LAND APPLICATION AND IRRIGATION DEWEY EVAPORATION AREAS AND LAND APPLICATION REGRADING

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
DRAWN BY	RJB	102	279.02	600	A
ACTIVITY CODE	N/A	XREF NUMBER	N/A		


LEGEND:
REGRADED CONTOURS
EXISTING ROAD
NEW ROADS
RAILROAD
POWER LINE
PIPELINE
ORE BODIES
LAND APPLICATION AREAS
SPARE APPLICATION AREAS
NATIONAL FOREST
BLM AREAS
AREAS TO BE REGRADED TO MAX. SLOPE OF 15%
LAND APPLICATION EVAPORATION AREAS
N
REGRADE TO MAXIMUM SLOPE OF 15%
REGRADE TO MAXIMUM SLOPE OF 15%
BURDOCK CENTER PIVOTS PUMP STA.
STORMWATER DIVERSION CHANNEL
STORAGE POND PUMP STATIONS
STORAGE PONDS
OUTLET POND PUMP STATION
OUTLET POND
RADIUM SETTLING POND
SPARE POND
STORMWATER DIVERSION CHANNEL
SPARE STORAGE POND
STORMWATER DIVERSION CHANNEL
NOTES:
1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).
PLAN
400 0 400 800 FEET
1" = 400' AT FULL SIZE (ANSI D)
1" = 800' AT HALF SIZE (ANSI B)
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CLIENT
POWERTECH (USA) Inc.
PROJECT
DEWEY-BURDOCK PROJECT
TITLE
LAND APPLICATION AND IRRIGATION
BURDOCK EVAPORATION AREAS AND
LAND APPLICATION REGRADING
Knight Piésold
CONSULTING
DESIGNED BY ST
DRAWN BY RJB
ACTIVITY CODE N/A
LOCATION 102
PROJECT NUMBER 279.02
DRAWING NUMBER 601
REVISION A
XREF NUMBER N/A

DEWEY-BURDOCK PROJECT
DEEP WELL DISPOSAL

JULY 2010

Prepared for

POWERTECH URANIUM CORPORATION

5575 DTC PARRKWAY
GREENWOOD VILLAGE, COLORADO, 80111 USA

Prepared by

Knight Piésold
CONSULTING

249 Third Street
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1580 Lincoln Street, Suite 1000
Denver, Colorado 80203-1512

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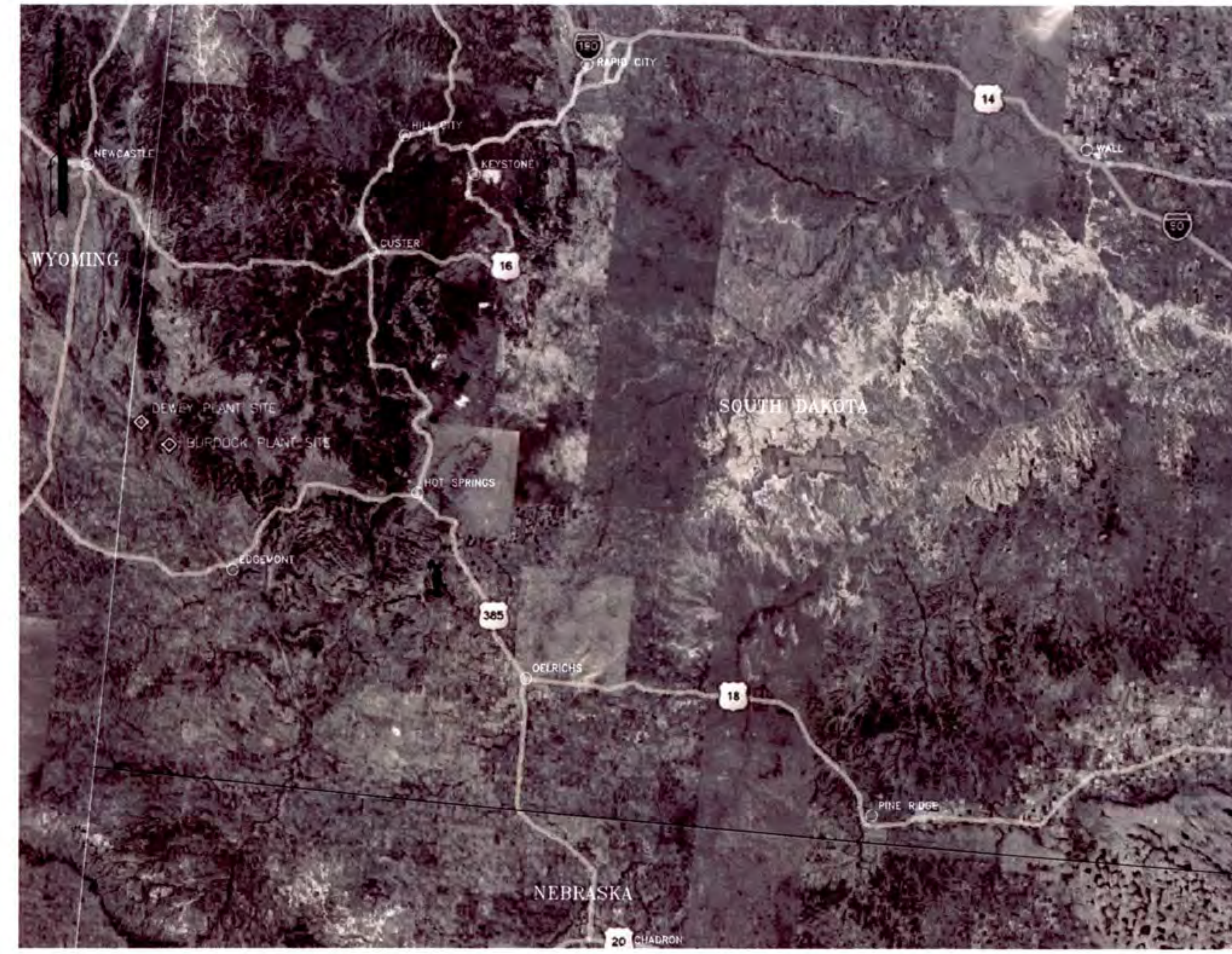
INDEX OF DRAWINGS



LOCATION MAP

COMMON ABBREVIATIONS

℄	CENTER LINE
DIA	DIAMETER
EL	ELEVATION
NTS	NOT TO SCALE
REQ'D	REQUIRED
SCH	SCHEDULE
SDR	STANDARD DIMENSION RATIO
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
(TYP)	TYPICAL
FT	FEET

SYMBOLS AND DESCRIPTIONS

3:1	3 (HORIZONTAL) TO 1 (VERTICAL) SLOPE
E 371000	EASTING COORDINATE
N 364500	NORTHING COORDINATE
1 / 100	DETAIL IDENTIFICATION DRAWING REFERENCE NUMBER
A / 100	PROFILE OR CROSS SECTION IDENTIFICATION DRAWING REFERENCE NUMBER
	DIRECTION OF FLOW
	EXISTING GROUND SURFACE OR BOTTOM OF EXCAVATION
6525	EXISTING GROUND SURFACE AND EL, FEET
	SLOPE INDICATOR
	TOP OF ROCK OR ROCK SURFACE
	WATER LEVEL

SYMBOLS AND DESCRIPTIONS

A / 100	SECTION CALLOUT WITH LOCATION REFERENCE
	DETAIL OR DIMENSION BREAK
	FENCE LINE
1 / 2	SLOPE INDICATOR (DETAIL)

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY–BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL
INDEX, GENERAL SITE LOCATION MAP AND SYMBOLS

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DRAWN BY	RJB	102	279.05	010	A
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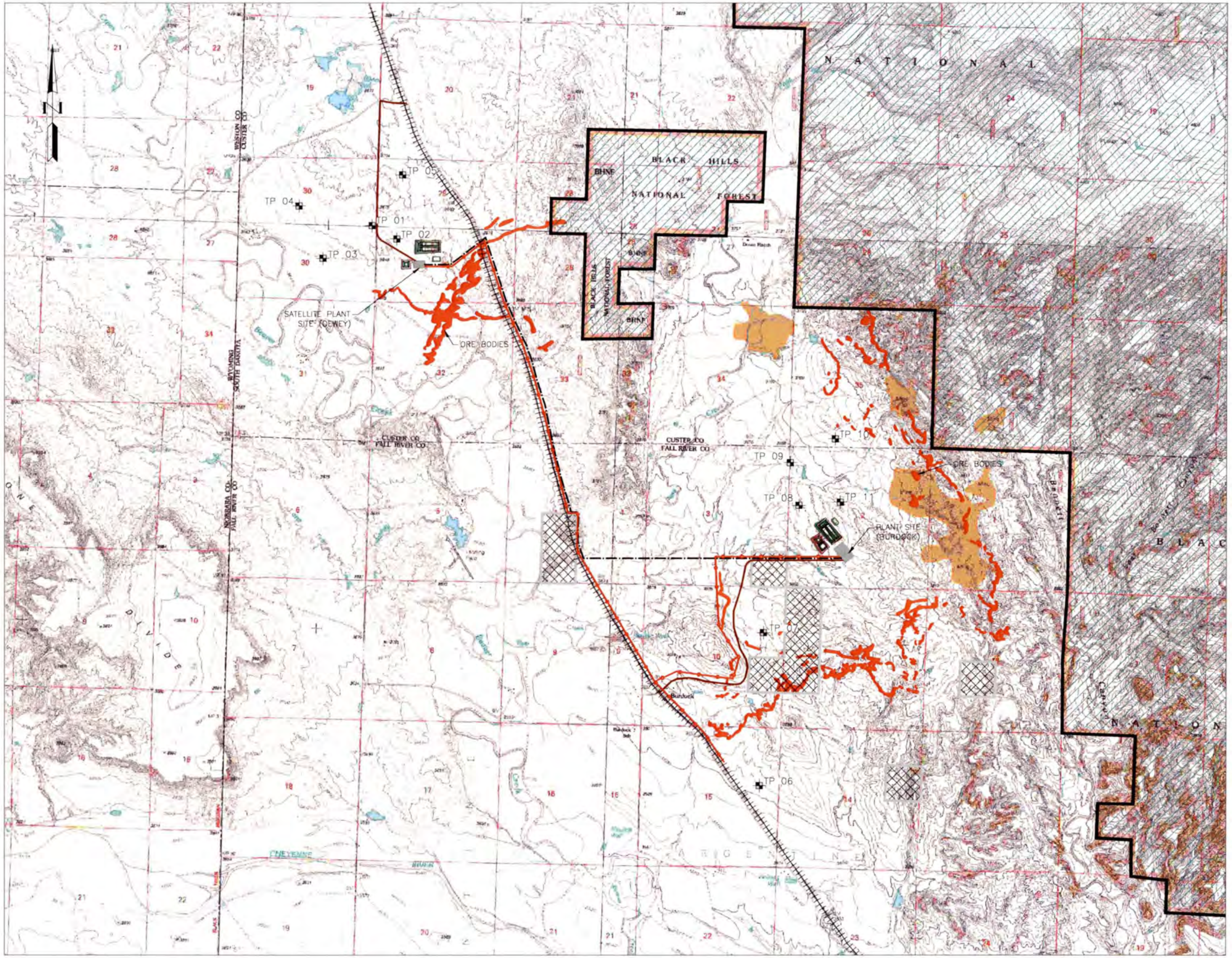

LEGEND:

- REGRADED CONTOURS
- EXISTING ROAD
- NEW ROADS
- RAILROAD
- POWER LINE
- PIPELINE
- ORE BODIES
- NATIONAL FOREST
- BLM AREAS
- TP 05 TEST PIT

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

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REV	DATE	DESCRIPTION	APP'D / CADD

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL SITE INVESTIGATION – TEST PIT LOCATIONS

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
DRAWN BY	RJB	102	279.05	050	A
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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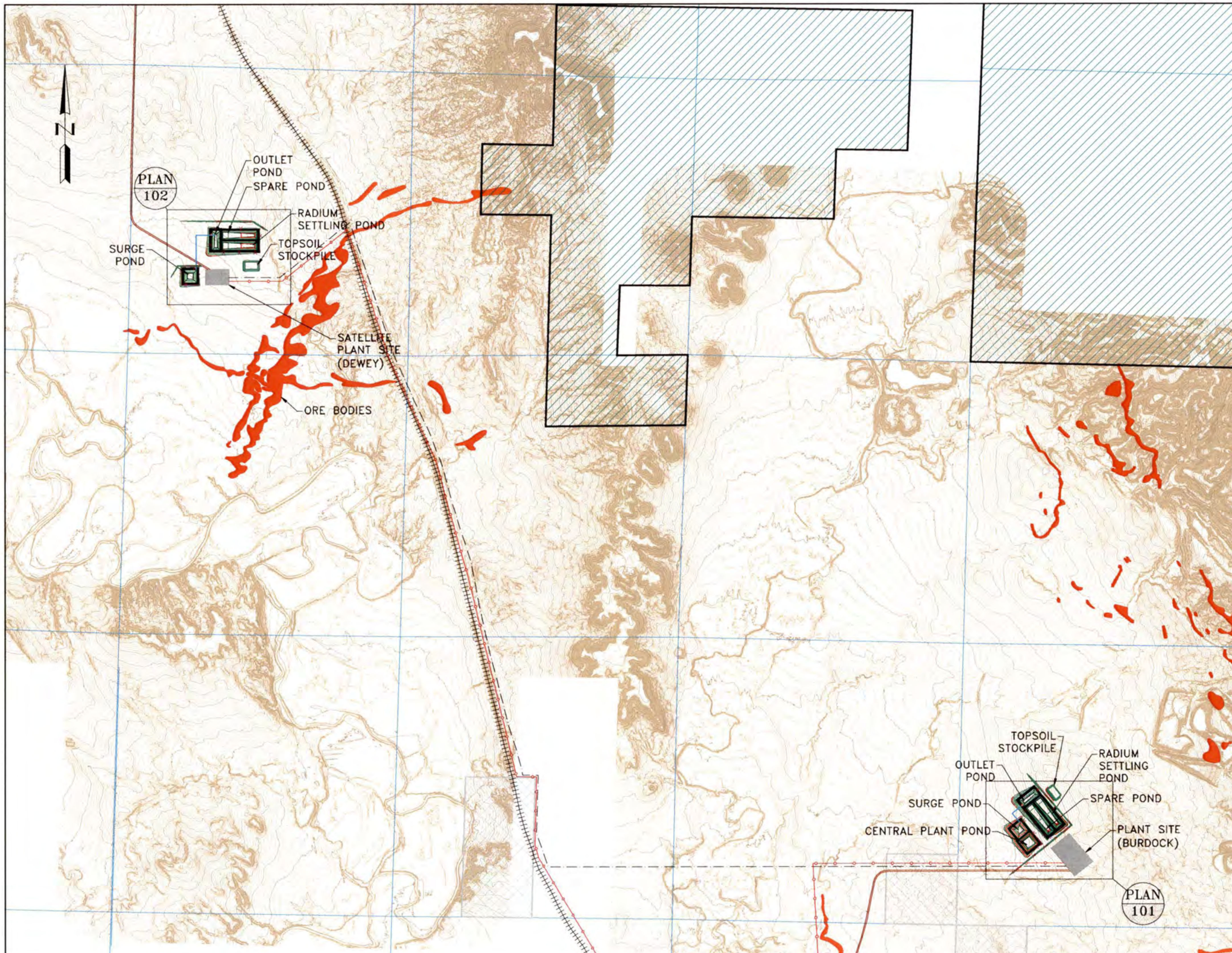

LEGEND:

- REGRADED CONTOURS
- EXISTING ROAD
- NEW ROADS
- RAILROAD
- POWER LINE
- PIPELINE
- EXISTING STREAM
- ORE BODIES
- NATIONAL FOREST
- BLM AREAS

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

PLAN

1000 0 1000 2000 FEET

1" = 1000' AT FULL SIZE (ANSI D)
1" = 2000' AT HALF SIZE (ANSI B)

CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL SITE PLAN

Knight Piésold CONSULTING

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A	09/16/09	ISSUED FOR CLIENT REVIEW	ST / RJB

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ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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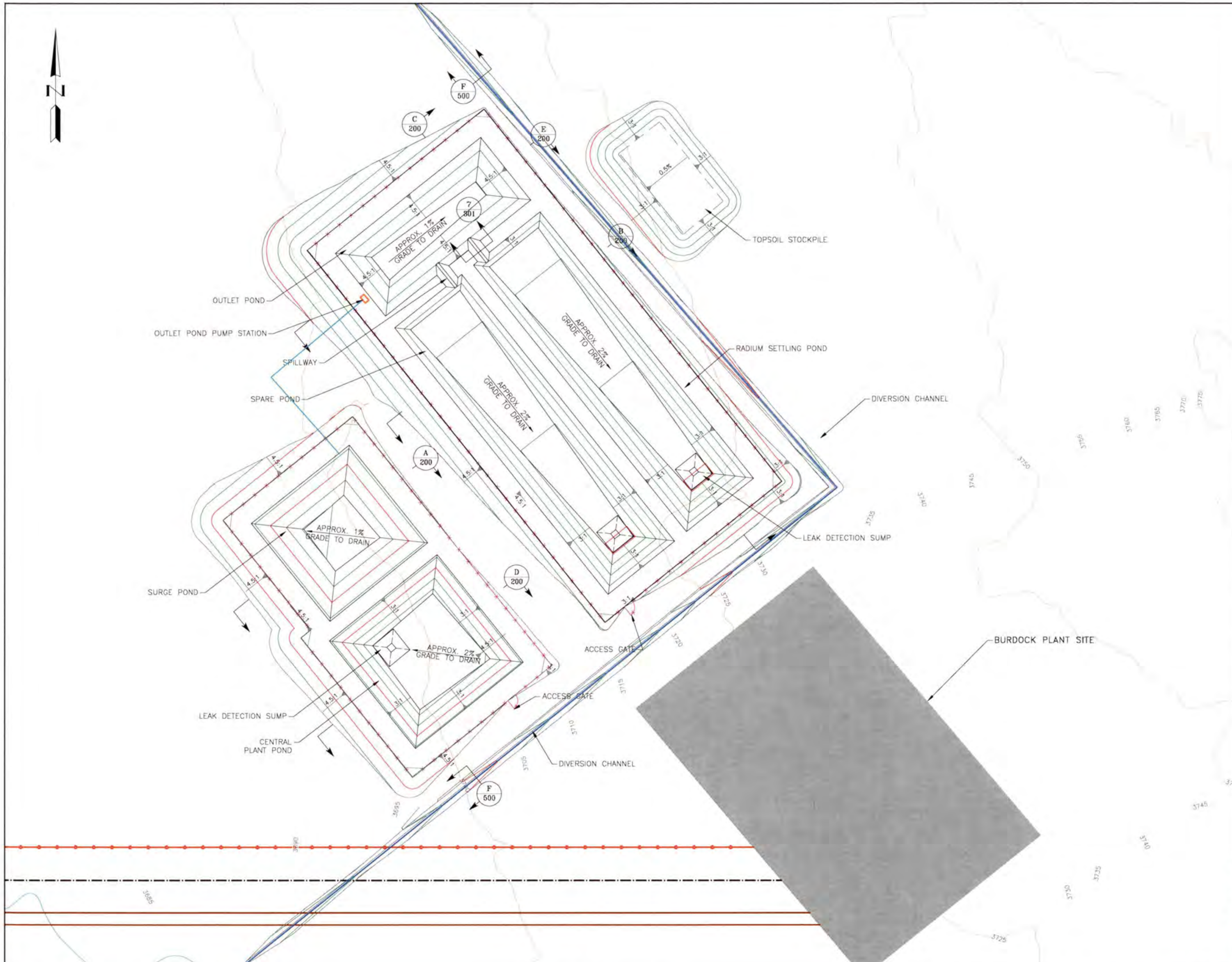

LEGEND:

- REGRADED CONTOURS
- EMBANKMENT ROAD
- PERIMETER FENCE
- PIPELINE
- POWER LINE
- ORE BODIES

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI–D) AND 1.5" ON A HALF SIZE PLOT (ANSI–B).

REFERENCE:
Existing ground surface generated from contours received from Powertech (USA) Inc. and dated 11 December 2008

PLAN – BURDOCK PLANT SITE

100 0 100 200 FEET
1" = 100' AT FULL SIZE (ANSI D)
1" = 200 AT HALF SIZE (ANSI B)

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY–BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL BURDOCK PLANT SITE PLAN

Knight Piésold CONSULTING

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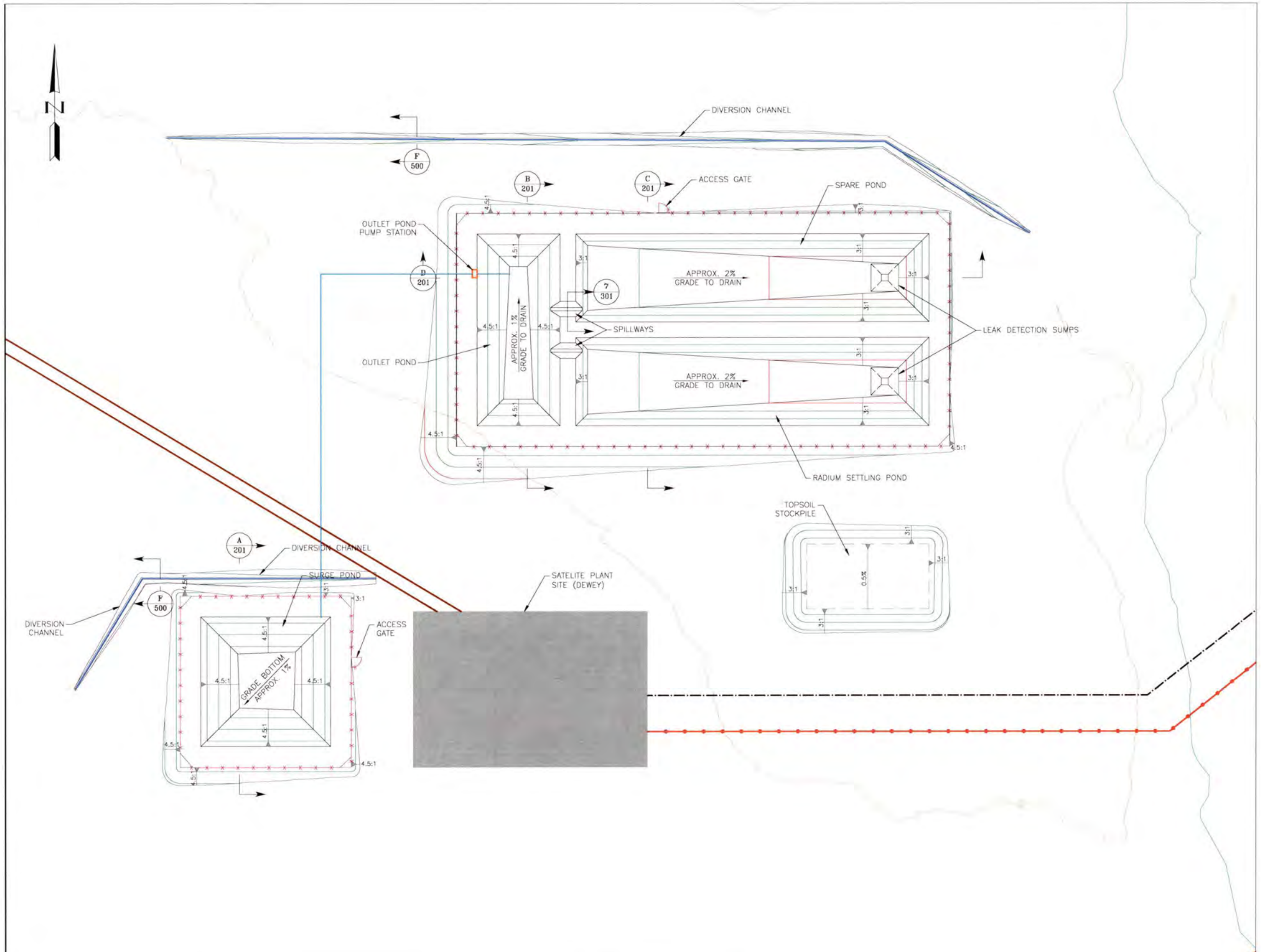

LEGEND:

- REGRADED CONTOURS
- EMBANKMENT ROAD
- PERIMETER FENCE
- POWER LINE
- PIPELINE
- ORE BODIES

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

REFERENCE:
Existing ground surface generated from contours received from Powertech (USA) Inc. and dated 11 December 2008

PLAN – DEWEY PLANT SITE

100 0 100 200 FEET

1" = 100' AT FULL SIZE (ANSI D)
1" = 200' AT HALF SIZE (ANSI B)

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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY–BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL DEWEY PLANT SITE PLAN

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
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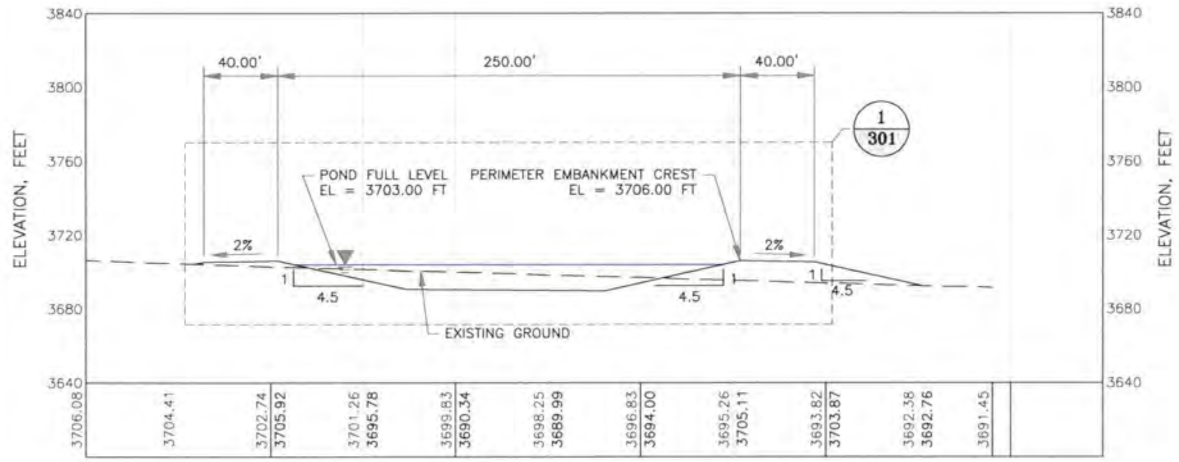
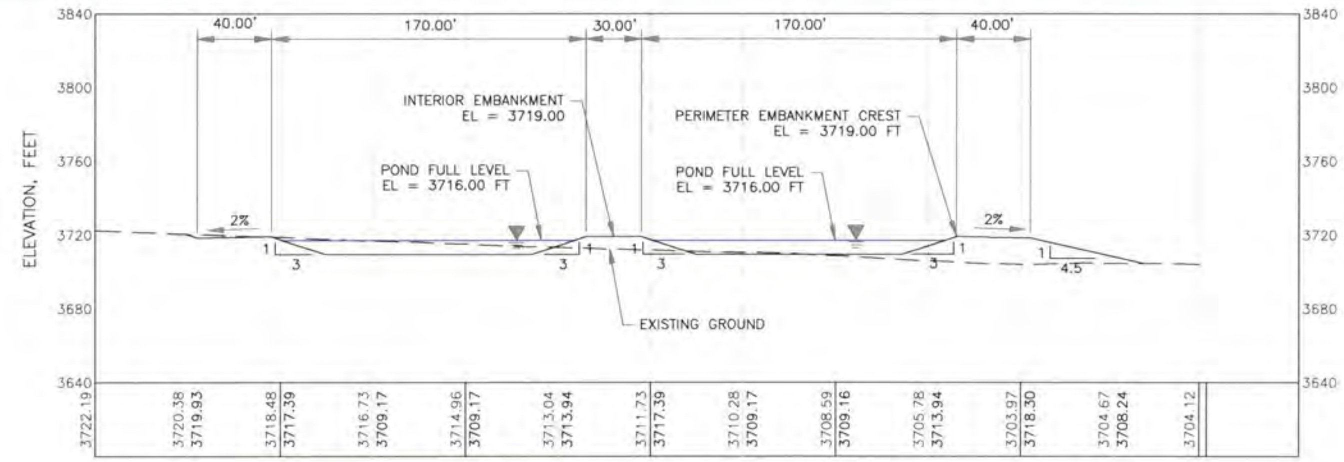
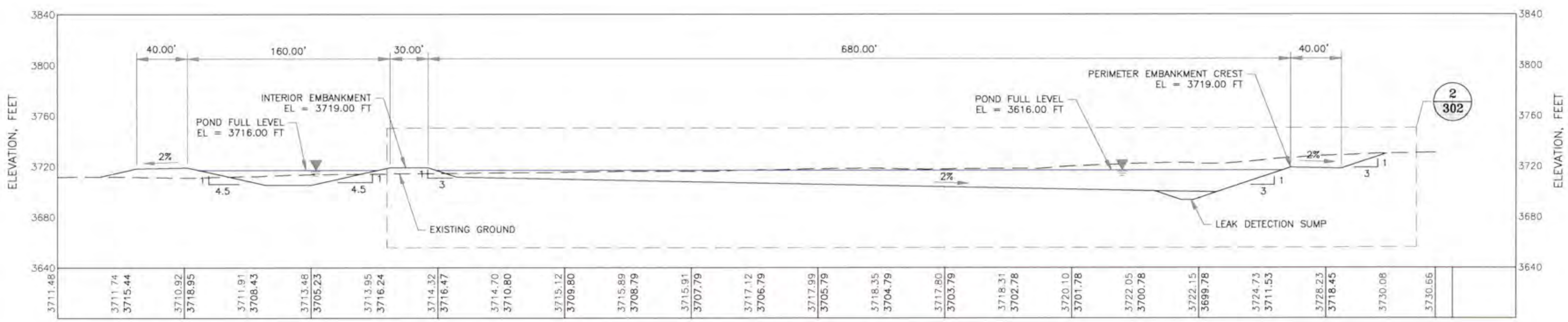


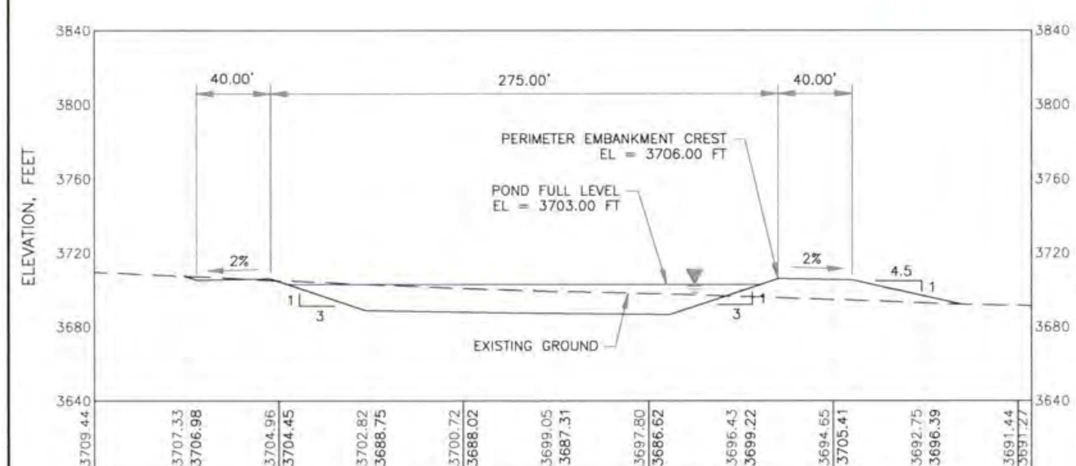
A
101
BURDOCK SURGE POND
SECTION



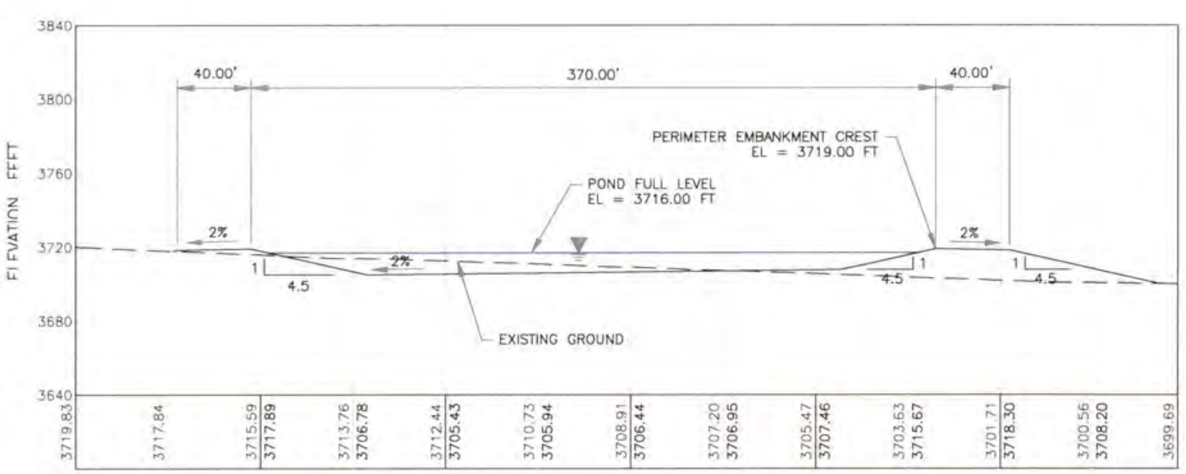
B
101
BURDOCK RADIUM SETTLING PONDS
SECTION



C
101
BURDOCK RADIUM SETTLING AND OUTLET PONDS
SECTION



D
101
CENTRAL PLANT POND
SECTION



E
101
OUTLET POND
SECTION

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

HORIZONTAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

VERTICAL SCALE
1" = 50' AT FULL SIZE (ANSI D)
1" = 100' AT HALF SIZE (ANSI B)

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CLIENT: POWERTECH (USA) Inc.
PROJECT: DEWEY–BURDOCK PROJECT
TITLE: DEEP WELL DISPOSAL BURDOCK POND SECTIONS

Knight Piésold CONSULTING

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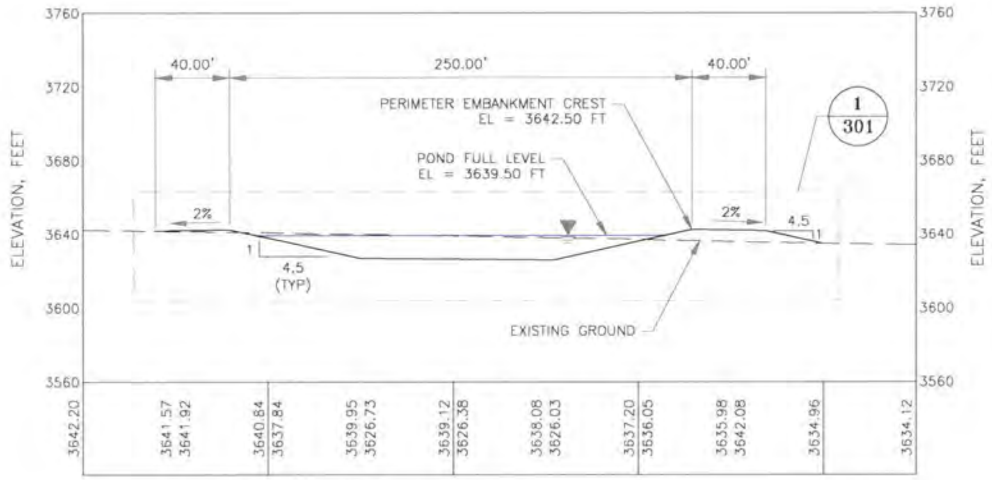
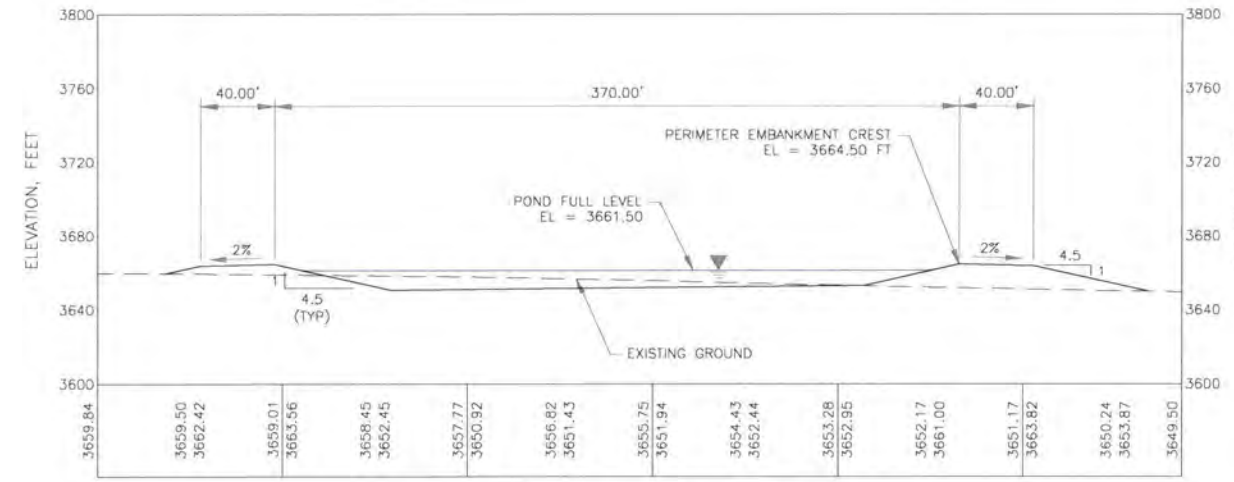
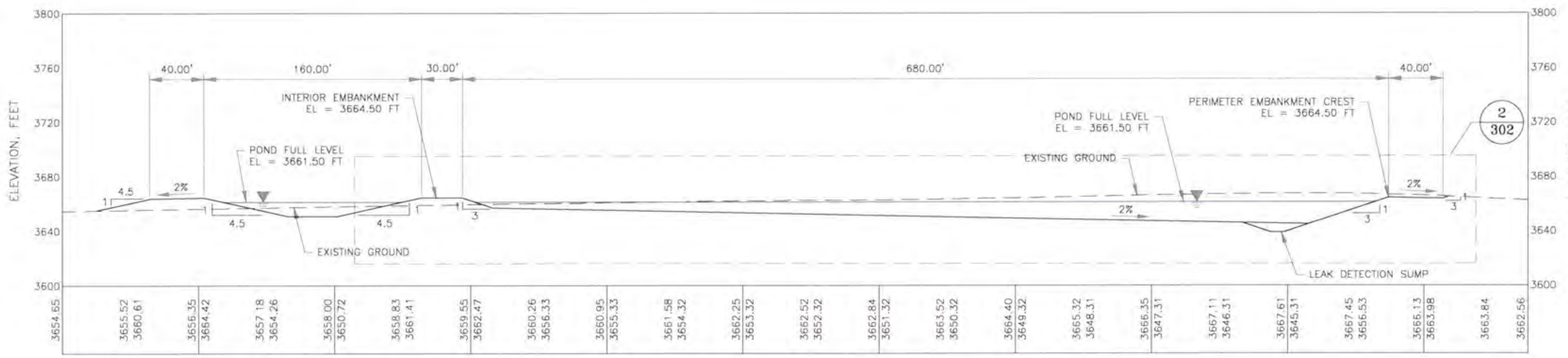


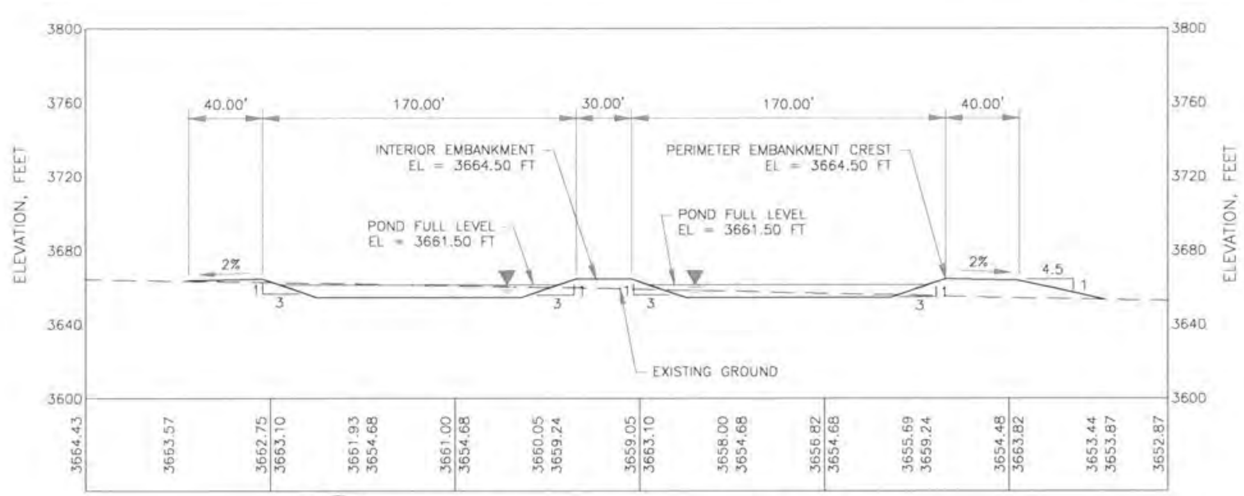
A
102
DEWEY SURGE POND SECTION



B
102
DEWEY OUTLET POND SECTION



D
102
DEWEY OUTLET AND RADIUM SETTLING PONDS SECTION



C
102
DEWEY RADIUM SETTLING AND SPARE PONDS SECTION

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).

HORIZONTAL SCALE 1" = 50' AT FULL SIZE (ANSI D) 1" = 100' AT HALF SIZE (ANSI B)

VERTICAL SCALE 1" = 50' AT FULL SIZE (ANSI D) 1" = 100' AT HALF SIZE (ANSI B)

CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL DEWEY POND SECTIONS

Knight Piésold CONSULTING

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ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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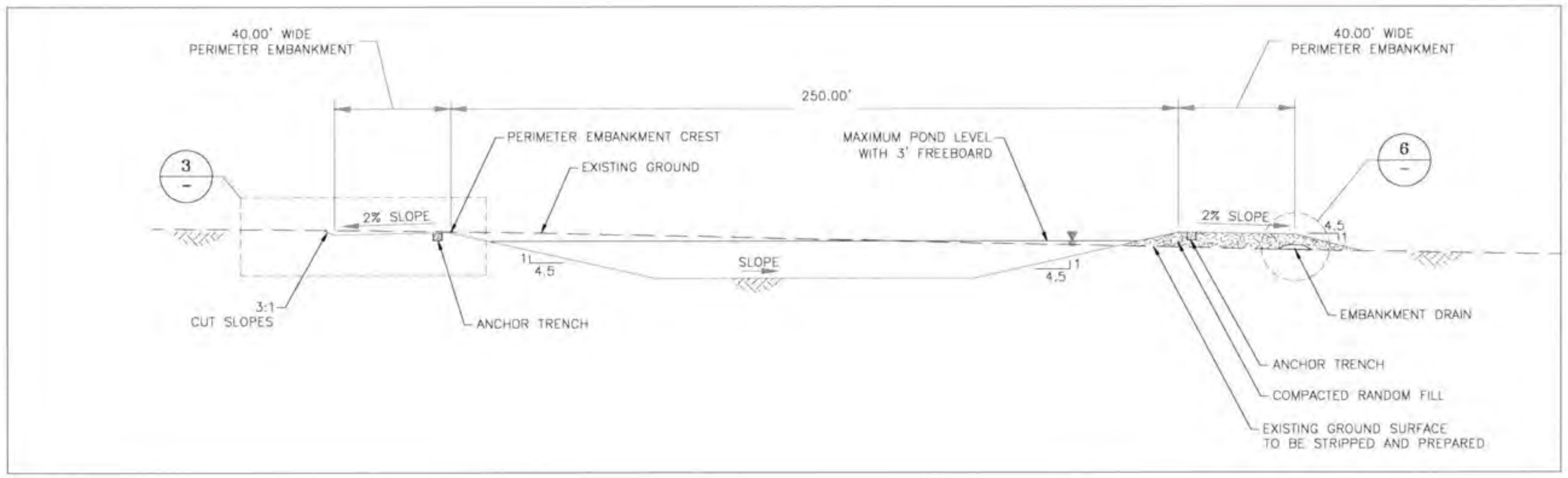
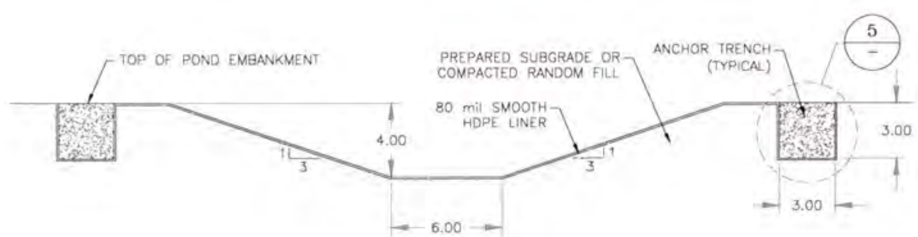


1/200 1/201 SURGE POND DETAIL
TYPICAL OF SINGLE LINED PONDS

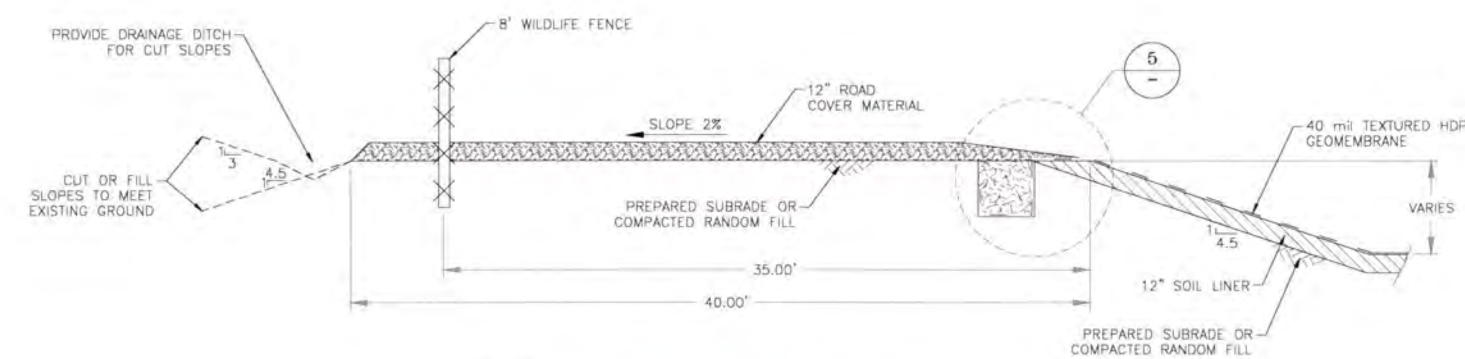
HORIZONTAL SCALE
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)

VERTICAL SCALE
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)



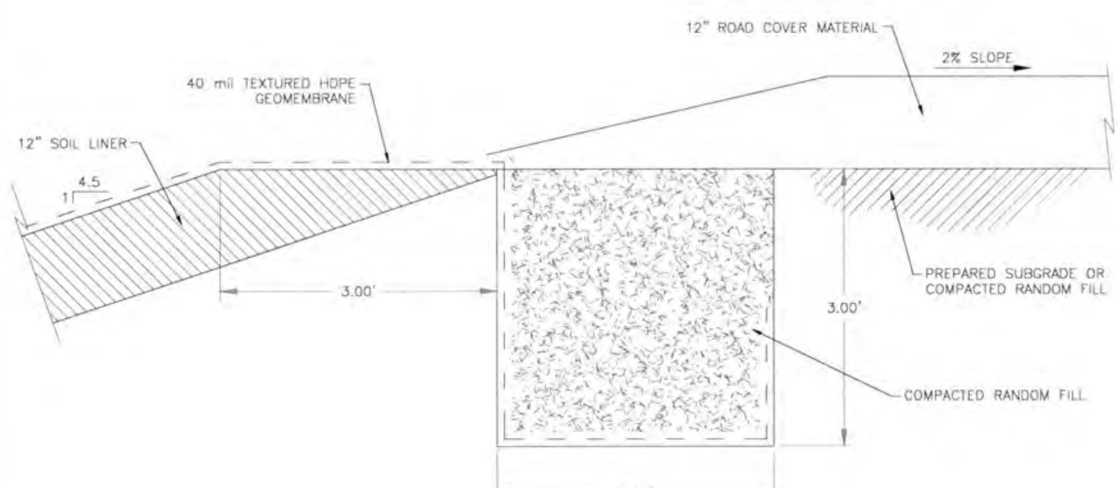
7/101 7/102 SPILLWAY DETAIL

1" = 5' AT FULL SIZE (ANSI D)
1" = 10' AT HALF SIZE (ANSI B)



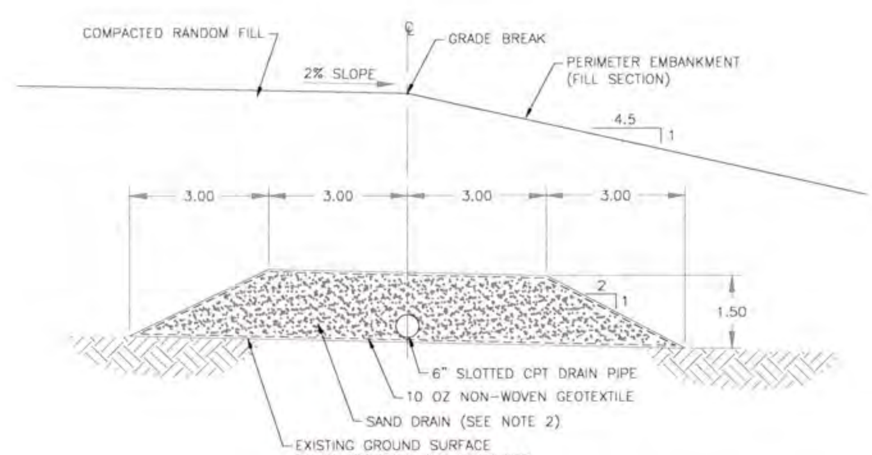
3 POND EMBANKMENT DETAIL
FOR SINGLE LINED PONDS

1" = 5' AT FULL SIZE (ANSI D)
1" = 10' AT HALF SIZE (ANSI B)



5 LINER ANCHOR TRENCH DETAIL
FOR SINGLE LINED PONDS

1" = 1' AT FULL SIZE (ANSI D)
1" = 2' AT HALF SIZE (ANSI B)



6 EMBANKMENT DRAIN DETAIL

1" = 2' AT FULL SIZE (ANSI D)
1" = 4' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).
2. TEXTURING OF PRIMARY GEOMEMBRANE IS AT SURFACE.
3. EMBANKMENT DRAINS TO BE CONSTRUCTED BENEATH ALL FILL EMBANKMENTS.

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CLIENT: POWERTECH (USA) Inc.
PROJECT: DEWEY-BURDOCK PROJECT
TITLE: DEEP WELL DISPOSAL
TYPICAL POND SECTIONS AND DETIALS
SHEET 1 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
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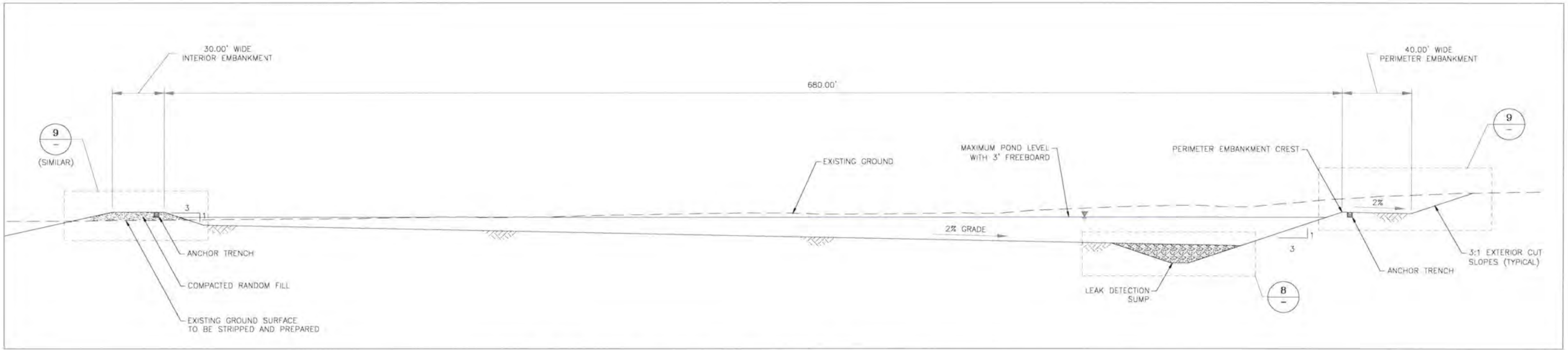
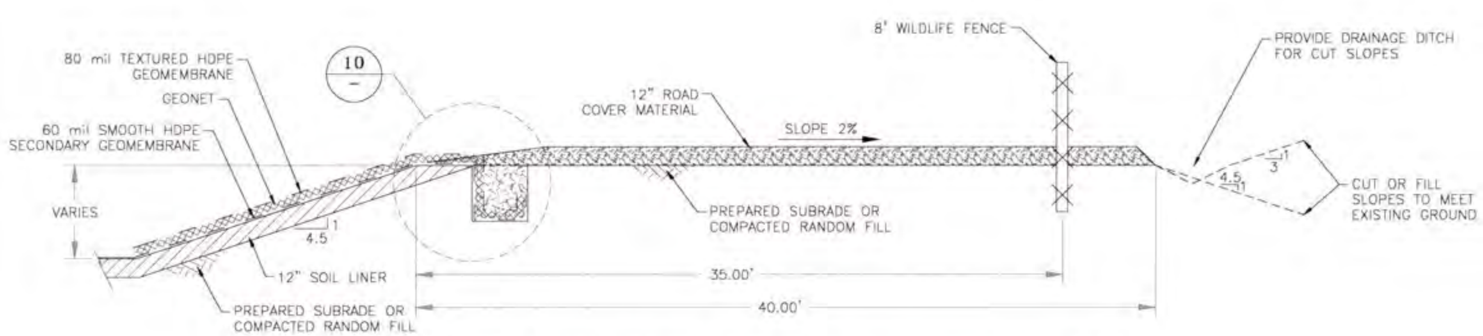
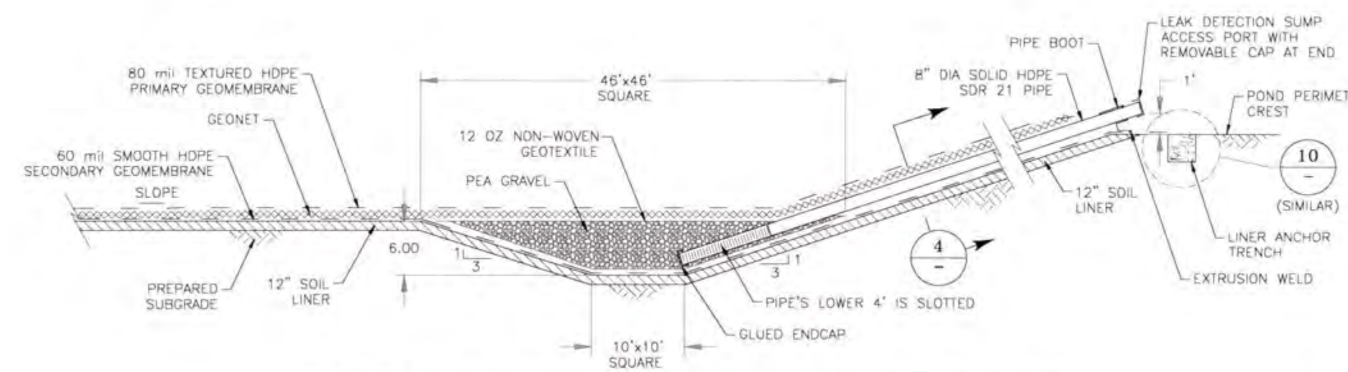


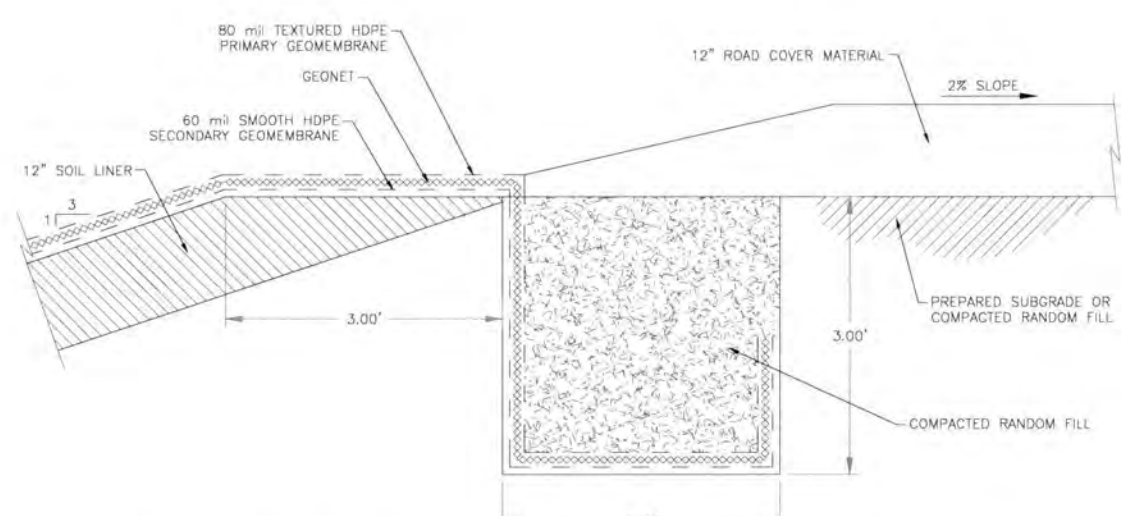
2/200 2/201 RADIUM SETTLING POND DETAIL
TYPICAL OF DOUBLE LINED PONDS
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)



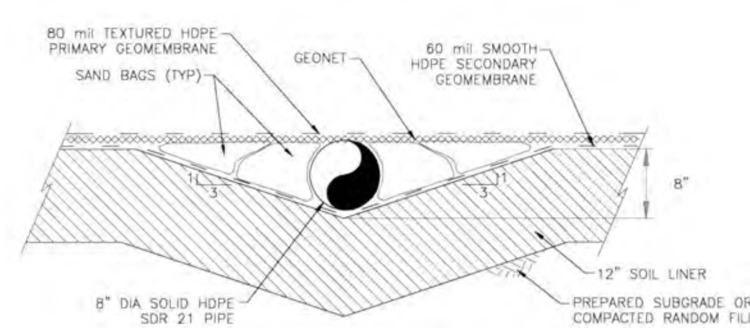
9/– POND EMBANKMENT DETAIL
FOR DOUBLE LINED PONDS
1" = 5' AT FULL SIZE (ANSI D)
1" = 10' AT HALF SIZE (ANSI B)



8/201 8/– LEAK DETECTION SUMP AND ACCESS PORT DETAIL
1" = 10' AT FULL SIZE (ANSI D)
1" = 20' AT HALF SIZE (ANSI B)



10/– ANCHOR TRENCH AND LINER DETAIL
FOR DOUBLE LINED PONDS
1" = 1' AT FULL SIZE (ANSI D)
1" = 2' AT HALF SIZE (ANSI B)



4/– LEAK DETECTION SUMP ACCESS PORT DETAIL
1" = 1' AT FULL SIZE (ANSI D)
1" = 2' AT HALF SIZE (ANSI B)

NOTES:

1. SCALE BAR MEASURES 3" ON A FULL SIZE PLOT (ANSI-D) AND 1.5" ON A HALF SIZE PLOT (ANSI-B).
2. EMBANKMENT DRAINS TO BE CONSTRUCTED BENEATH ALL FILL EMBANKMENTS.

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CLIENT: POWERTECH (USA) Inc.
PROJECT: DEWEY–BURDOCK PROJECT
TITLE: DEEP WELL DISPOSAL TYPICAL POND SECTIONS AND DETAILS SHEET 2 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
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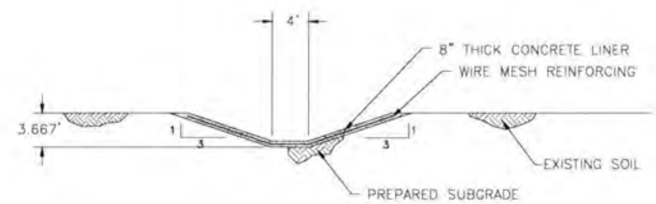
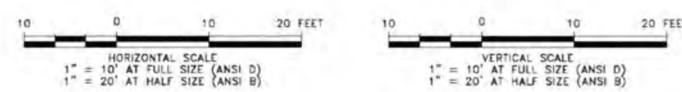


F 101 F 102 STORMWATER DIVERSION CHANNEL SECTION



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CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY-BURDOCK PROJECT

TITLE: DEEP WELL DISPOSAL DIVERSION CHANNEL SECTIONS

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	DRAWING NUMBER	REVISION
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Knight Piésold
CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 2 - Geosynthetics

July 2010

prepared for:
Powertech (USA) Inc.
5575 DTC Parkway, Suite 140
Telephone: (303) 790-7528
Facsimile: (303) 790-3885

prepared by:
Knight Piésold and Co.
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Denver, Colorado 80203-1512 USA
Telephone: (303) 629-8788
Facsimile: (303) 629-8789
E-mail: *denver@knightpiesold.com*

KP Project No. DV102.00279.09

Rev. No.	Date	Description	Knight Piésold	Client
0	July 2010		Paul Bergstrom	Powertech (USA) Inc.

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 2 - Geosynthetics

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Tables

Drawings

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 2 - Geosynthetics

Section 1.0 - General

1.1 Introduction

This Specification stipulates materials and installation requirements for geosynthetics related to the construction of the Ponds and Land Application Systems at Powertech's Dewey-Burdock project.

1.2 Limitations and Disclaimer

This Specification titled Dewey-Burdock Project Pond and Land Application Technical Specifications and QA/QC Plan Part 2 - Geosynthetics has been prepared by Knight Piésold and Co. (Knight Piésold) for the exclusive use of Powertech (USA) Inc. (Client). No other party is an intended beneficiary of this Specification or the information, opinions, and conclusions contained herein. Any use by any party other than the Client of any of the information, opinions, or conclusions is the sole responsibility of said party. The use of this Specification shall be at the sole risk of the user regardless of any fault or negligence of the Client or Knight Piésold.

The information contained herein have been completed to a level of detail commensurate with the objectives of the assignment and in light of the information made available to Knight Piésold at the time of preparation. This specification and its supporting documentation have been reviewed and/or checked for conformance with industry-accepted norms and applicable government regulations. To the best of the information and belief of Knight Piésold, the information presented in this Specification is accurate to within the limitations specified herein.

This Specification is Knight Piésold pdf file: Dewey-Burdock Project Pond and Land Application Technical Specifications and QA/QC Plan Part 2 - Geosynthetics Rev 0.pdf. Any reproductions or modifications of this Specification are uncontrolled and may not be the most recent revision.

1.3 Contributors and Approvals

This specification was prepared, reviewed, and approved by the undersigned.

Prepared by: Steven F. Truby, P. Eng.
Project Engineer

Approved by: Paul D. Bergstrom, C.E.P.
Sr. Executive Project Manager

Reviewed by: Jaye Pickarts, P.E.
Senior Vice President

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Section 2.0 - Scope and General Description of the Work

This Specification stipulates materials and installation requirements for geosynthetics related to the construction of the Ponds and Land Application Systems at Powertech's Dewey-Burdock project. Should the Contractor wish to deviate from these Specifications, he shall notify the Engineer in writing, providing a description of the deviation. The description shall include data indicating the magnitude of the deviation, justification for the deviation, and any possible short or long-term impacts of the deviation on the project. Deviations in materials Specifications shall be subject to the approval of the Engineer and Owner prior to shipment of the materials.

All geosynthetic installation is to be completed in accordance with the Manufacturer's specifications. Prior to starting geosynthetic installation, the Contractor shall provide certification from the Manufacturer that the materials supplied have been produced and tested in accordance with relevant Specifications.

2.1 Definition of Terms

"Owner" is defined as an authorized representative of Powertech.

"Engineer" is defined as representative appointed and authorized by the Owner. The Engineer shall be a Registered Professional Engineer, or a designated site representative under the supervision of a Registered Professional Engineer.

"Contractor" is defined as the party that has executed a contract agreement for the specified Work with the Owner.

"Technical Specifications" is defined as this document, prepared by Knight Piésold and Co. and all supplemental addenda.

"Drawings" is defined as the Drawings, in conjunction with these Technical Specifications, prepared by Knight Piésold and Co. for the ponds and land application system at Powertech's Dewey-Burdock Project.

"Work" is defined as the entire completed construction, or the various separately identifiable parts thereof, as shown on the Drawings, and required to be furnished under the Contract Documents.

"Site" is defined as the project area where the work is to be performed.

"Contract Documents" are defined as the Agreement, Addenda, Contractor's Bid (when attached as an Exhibit to the Agreement), Bonds, General Conditions, Special Conditions, Technical Specifications, Drawings and all modifications issued after execution of the Agreement.

"Modifications" are defined as changes made to the Technical Specifications or the Drawings, that are approved by the Owner and Engineer, in writing, after the Technical Specifications and Drawings have been finalized.

All slopes are defined as horizontal to vertical distances.

2.2 General Technical Requirements

The general technical requirements specified herein shall apply to all activities and operations relating to carrying out the Work or as required by the Engineer or Owner for the earthworks associated with the construction of the ponds and land application system at Powertech's Dewey-Burdock Project, South Dakota.

In the event of an inconsistency in the Technical Specifications and Drawings, the Contractor shall refer all questions to the Engineer for final decision. Work that concerns the inconsistency shall not be performed until the contradiction is remedied or explained by the Engineer. In all events, the decision of the Engineer is final.

2.2.1 General Specifications

The contractor will be required to submit to the Engineer or Owner, at a minimum, the following plans and comply with training requirements associated with their project tasks, as may be applicable:

- Occupational Safety and Health Administration (OSHA)
  - Healthy and Safety Plan in accordance with 29 CFR Part 1910 – Occupational Safety and Health Standards
  - Hazardous Communication Plan in accordance with 29 CFR Part 1910.1200 – Toxic and Hazardous Substances
  - Material Safety Data Sheets (MSDS) for all chemicals in accordance with 29 CFR 1910.1200 (g)
- Spill Prevention, Control and Countermeasure (SPCC) Plan in accordance with 40 CFR Part 112.3 – Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan
- Training
  - Mine Safety and Health Administration – 24-hour class plus 8-hour refresher course in accordance with 30 CFR
  - HAZWOPER – 40-hour class plus 8-hour refresher course in accordance with 29 CFR 1910.120

2.3 Applicable Codes and Regulations

The following publications of the latest issue are a part of this Specification, except where replaced or revised by local codes or ordinances having jurisdiction, in which case the more stringent shall govern.

- National Sanitation Foundation Standard 54
- American Society for Testing Materials (ASTM)
- Mine Safety and Health Administration (MSHA) Code of Federal Regulations - Title 30 (Mineral Resources)
- Army Corps of Engineers Test Methods
- Occupational Safety and Health Administration, General Industry and Health Standards - OSHA 2206 (29 CFR 1910)
- AASHTO - AGC - ARTBA - Task Force 25
- Federal Test Method Standards (FTMS)

Section 3.0 - Mobilization and Demobilization

3.1 Scope

The Work covered by this section consists of the Contractor's mobilization to the Site of all the equipment and temporary facilities required for the successful completion of the Work, and shall include, but not necessarily be limited to, the following:

- Establish the Contractor's maintenance facilities, temporary workshops, temporary office accommodation and sanitary facilities.
- Maintain equipment and temporary facilities for the duration of the Work.
- All items required to be moved onto the Site for execution of the Work.
- On completion of the Work, remove all equipment and temporary facilities from the Site, and clean up the Site to the satisfaction of the Owner and the Engineer.

3.2 Mobilization

The Contractor shall mobilize to the Site sufficient labor, materials, and equipment to allow commencement of the Work. The Contractor shall bring on to the Site, as and when necessary, any additional equipment, labor and materials which may be required to complete the remainder of the Work in the time specified in the General Terms and Conditions.

3.3 Contractor's Workshops, Stores, and Offices

The Contractor shall erect, in the area designated by the Owner and Engineer, adequate workshops, offices and other buildings and structures for the completion of the Work as designated in the Contract Documents. Such workshops, offices and etc., shall be maintained in a neat and tidy condition throughout the duration of the Work to the satisfaction of the Engineer and Owner.

3.4 Sanitation

The Contractor shall provide and maintain adequate sanitary facilities for the personnel at the Site, including the Contractor's offices and Engineer's offices, in compliance with local health regulations and to the satisfaction of the Engineer and Owner.

3.5 Demobilization

On completion of the Work, the Contractor shall remove all of the Contractor's equipment, temporary facilities and materials from the Site. The Site shall be left in a clean and tidy state, to the satisfaction of the Engineer and Owner. All waste and refuse shall be disposed of in a legal manner acceptable to the Owner.

Section 4.0 - Materials

4.1 Geonet

Geonet used in the Work shall be manufactured by extruding two crossing strands to form a bi-planar drainage net structure. The material provided as geonet shall conform to the following standards:

Table 4.1 - Geonet Specifications - Material Properties

Property	ASTM Test Methods	Minimum Average Value	Unit
Transmissivity	D4716	9.50	gal/min/ft
Thickness	D5199	200	mil
Density	D1505	0.94	g/cm^3
Tensile Strength (MD)	D5035/7179	45	lb/in
Carbon Black Content	D1603$^{(2)}$/D4218	2.0	%

Notes:
1. Gradient of 0.1, normal load of 10,000 psf, water at 70º F, between steel plates for 15 minutes. Contact manufacturer for performance transmissivity value for use in design.
2. Modified

The Contractor shall provide a written material guarantee covering the geonet material for a minimum warranty period of 1 year. The material warranty shall cover the cost of any replacement material required to replace any failed material. A minimum 1-year installation warranty shall also be provided and shall cover the cost of labor and equipment to replace the failed material.

4.2 Geotextile

This Section defines the requirements for nonwoven geotextile material and its installation.

Any alternatives or exceptions to this Specification shall be submitted in writing to the Engineer and shall be approved in writing prior to implementation of the Work.

The materials supplied as nonwoven geotextile shall be of new first-quality needle-punched polypropylene. The material is to be designed and manufactured specifically for the purpose of separation, tensile reinforcement, planar flow, and filtration. Geotextile material shall be produced so that it is free of holes, undispersed raw material, broken needles, or any contamination by foreign matter. Each type of geotextile shall be uniform in color, thickness, size, and texture.

The nonwoven geotextile fabric shall be 10 oz/yd^2 and 12 oz/yd^2, as specified on the Drawings. All geotextile material shall meet the requirements indicated in the table below:

Table 4.2 - Nonwoven Geotextile Specifications - Material Properties

Property	ASTM Test Methods	Unit	Minimum Average Value	
Mass per Unit Area	D5261	oz/yd^2	10	12
Grab Tensile Strength	D4632	lb	260	320
Grab Elongation	D4632	%	50	50
Trapezoidal Tear Strength	D4533	lb	100	125
Puncture Strength	D4833	lb	165	190
Apparent Opening Size (AOS)	D4751	U.S. Sieve Size	100$^{(2)}$	100$^{(2)}$
Permeability (k)	D4491	in/sec	0.12	0.11

Notes:
1. All values reported in weaker principle direction.

2. Value listed is a maximum value.

All rolls of nonwoven geotextile shall be properly identified and tagged by the Manufacturer. A copy of the Manufacturer's specifications is to be submitted to the Engineer by the Contractor prior to ordering materials. A copy of the geotextile certification will be provided to the Engineer prior to deployment.

It is essential that the nonwoven geotextile fabric retain its integrity after UV exposure. The Contractor shall provide a written guarantee covering the fabric against UV degradation for a minimum of 2 years. The guarantee shall cover the cost of the material, labor and equipment required to replace any failed material. With respect to UV degradation the geotextile fabric must meet the following requirements:

1. Retain 70 percent of its tensile strength after 500 hours of exposure to UV rays.
2. Remain intact with no holes evident due to UV degradation for a period of 2 years

4.3 HDPE Geomembrane Liner

The HDPE geomembrane liner shall be 40, 60, or 80 mil thickness, black surfaced, and either smooth or textured, as specified on the Drawings and in Table 4.3. The HDPE liner shall be a high quality formulation containing approximately 98 percent polymer and 2 percent carbon black with antioxidants and heat stabilizers. It shall be resistant to Ultraviolet (UV) rays.

The liner material shall comprise HDPE material manufactured of new, first-quality products designed and manufactured specifically for the purpose of liquid containment in hydraulic structures as applied to the mining industry.

The material shall be produced as to be free of holes, blisters, undispersed raw materials or any sign of contamination by foreign matter. Any such defects shall be repaired using extrusion fusion welding techniques or industry-accepted standard in accordance with the Manufacturer's recommendations.

Liner material samples and Manufacturer's minimum specifications for materials and installation shall be submitted to the Engineer. A copy of the Manufacturer's Quality Control Manual shall be submitted for approval, as required by the Engineer. The material provided as HDPE liner shall conform to the following standards:

Table 4.3 - HDPE Geomembrane Liner Specifications - Material Properties

Property	ASTM Test Methods	Minimum Average Value			Unit
		40 mil Textured	60 mil Smooth	80 mil Textured	
Thickness	D5199 (smooth) D5994 (textured)	40	60	80	mil
Density	D1505	0.94	0.94	0.94	g/cm^3
Tensile @ Break	D6693(1) Type IV	75	243	155	lb/in-width
Tensile @ Yield		90	132	177	lb/in-width
Elongation @ Break		100	700	100	%
Elongation @ Yield		12	13	12	%
Tear Resistance	D1004	32	42	60	lb
Puncture Resistance	D4833	95	125	160	lb
Notched Constant Tensile Load	D5397 Appendix	1,000	1,000	1,000	Hours
Carbon Black Content	D1603(5)/D4218	2.0-3.0	2.0-3.0	2.0-3.0	% (Range)
Carbon Black Dispersion	D5596	Note(3)	Note(3)	Note(3)	n/a

Notes:

1. Machine direction (MD) and cross machine direction (XMD) average values should be the basis of 5 test specimens each direction.
2. Yield elongation is calculated using a gauge length of 1.3 inches. Break elongation is calculated using a gauge length of 2.0 inches.
3. Dispersion only applies to near spherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.
4. Samples may be taken from material delivered to the site and tested for material conformance. Testing frequency to be determined by the Engineer.
5. Modified.

The manufacturer of the liner shall take random samples of the liner material from fabricated rolls during manufacture and test them at a frequency according to the following Table 4.4

Table 4.4 - HDPE Geomembrane Liner – Manufacturer Test Frequencies

Property	ASTM Test Methods	Frequency
Thickness	D5199 (smooth) D5994 (textured)	Per roll
Tensile Properties	D6693(1) Type IV	Every 50,000 square feet
Tear Resistance	D1004	Every 50,000 square feet
Puncture Resistance	D4833	Every 50,000 square feet
Carbon Black Content	D1603(5)/4218	Every 50,000 square feet
Carbon Black Dispersion	D5596	Every 50,000 square feet
Density	D1505	Every resin batch
Dimensional Stability (max. ave. %)	D1204	Every resin batch

All welding material shall be of a type recommended and supplied by the liner material manufacturer and shall be delivered in the original sealed containers, each with an indelible label bearing the manufacturer's mark number, and complete directions as to proper usage. The composition of welding wire or pellets shall be identical to the lining material.

The Contractor shall provide a written material guarantee covering the HDPE liner materials, including degradation due to UV light, for a minimum warranty period of 20 years. The material warranty shall cover the cost of replacement material required to replace any failed material. A minimum 1-year installation warranty shall also be provided and shall cover the cost of labor and equipment to replace the failed material.

4.3.1 Conformance Sampling

During liner deployment, the Engineer shall collect conformance samples at a rate of 1 per 120,000 square yards of liner shipped to site. The Contractor shall assist in the collection of these samples. Conformance samples collected shall be tested for thickness, density, tensile properties (yield stress, break stress, yield elongation and break elongation), carbon black content, and carbon black dispersion.

Section 5.0 - Installation

5.1 Geonet

Geonet shall be installed between the primary and secondary geomembrane liners in the areas shown on the Drawings. Geonet shall be installed parallel with the slope, and in the direction of potential flow of fluids. To the extent possible, seams shall be oriented parallel to the slope of the ground. Geonet shall extend to and be anchored in the pond anchor trenches.

Geonet panels shall be butted to each other, and secured with cable ties placed at minimums of every 5 ft along roll length, and placed every 1 foot along roll width. Panels shall be secured with cable ties placed 6 inches on center in the anchor trenches, or at other locations as required by the Engineer.

5.2 Geotextile

The geotextile shall be placed over a prepared surface as shown on the Drawings or as directed by the Engineer. The geotextile shall be placed in such a manner that it will not excessively stretch or tear upon placement of the overlying materials. Care should be taken to place the geotextile in intimate contact with the prepared surface such that no voids exist between the geotextile and the underlying material.

The individual panels of the geotextile shall be sewn, overlapped or fusion-seamed with a heat gun, as site conditions and design dictate and as directed by the Engineer. Joints made by sewing or fusion seaming, shall be overlapped a minimum of 6 inches. Joints not sewn or heat-seamed shall be overlapped a minimum of 36 inches. The installer shall ensure that no foreign material is present within the seams or overlaps. All joints shall be constructed with the upslope sheet placed over the down-slope sheet. Care shall be taken during installation to prevent contamination and/or damage to the geotextile. Torn or punctured material shall be patched when feasible. The patch shall extend a minimum of 36 inches beyond the edge of the tear or damage.

Sewn seams shall be sewn with a Type 401 stitch with 1 or 2 rows of stitching. Each row of stitching shall have between 4 to 7 stitches per 1 inch. The minimum distance between the stitch line and the edge of the geotextile shall be 1.5 inches.

All geotextile panels shall be temporarily secured from the wind until the final covering material is placed. Temporary ballast, such as soil heaps, UV resistant sand bags, or stones, shall be placed on the overlaps and at the perimeter as necessary to secure the geotextile. Where temporary ballasting comparable to the cover material is used and it will not interfere with the placement of the covering material, it may be left in place, subject to the approval of the Engineer.

Methods used for placement of the geotextile shall be selected by the Contractor and are subject to approval by the Engineer. Modifications to construction procedures and techniques may be necessary to prevent undue wastage of the material.

The installed geotextile will be inspected by the Engineer for continuity and defects. Any defects will be repaired at the Contractor’s expense.

5.3 HDPE Geomembrane

The HDPE liner shall be installed on the areas shown on the Drawings or as directed by the Engineer. The surface on which the liner is to be installed shall be free of sharp particles, rocks or other debris to the satisfaction of the Engineer. Sharp objects shall be removed by raking, brooming or hand picking as necessary.

The Contractor shall supply the Engineer with panel layouts of the liner. These panel layouts must have been approved by the Engineer prior to the Contractor commencing the Work. It is the Contractor's responsibility to submit timely proposals (allowing a minimum of 2 weeks for approval).

Installation of the HDPE liner shall be performed under the direction of a field Engineer or supervisor who has installed a minimum of 120,000 square yards of flexible lining material.

The liner shall be placed over the prepared surfaces using methods and procedures that assure a minimum of handling. Adequate temporary and permanent anchoring devices and ballasting shall be provided to prevent damage due to winds.

To the extent possible, seams shall be oriented parallel to the slope of the ground. The panels shall be secured temporarily with sandbags or other approved ballasting method to hold them in place until the field seams have been completed and the liner has been permanently anchored.

The Contractor shall take into account that winds may result in delays. The Contractor shall take all necessary measures to ensure that each panel is sufficiently ballasted to prevent damage or movement by wind. Fusion of panels and repairs will only be permitted under weather conditions allowing such work, and within the warranty limits of the liner Manufacturer, as approved by the Owner and Engineer.

The Contractor shall take into account that weather changes could result in delays to the construction of field seams. Fusion of panels and repairs will only be permitted under weather conditions that allow such work, and within the warranty limits of the manufacturer.

Horizontal field seams on slopes shall be kept to a minimum. Horizontal seams on steep slopes shall be avoided where possible by cutting the liner at a 45^{o} angle. Generally, horizontal seams are to be no closer than 5 feet from the toe of the slope. If required, horizontal seams shall be made by lapping the uphill material over the downhill material. Panels shall be shingled in a manner that prevents water from running beneath the liner.

The liner shall be installed in a relaxed condition and shall be free of tension or stress upon completion. The installed liner shall contain sufficient slack material to allow for thermal expansion and contraction. Individual wrinkles should take the form of undulations in the liner but should not be large enough for the material to fold over itself.

During installation, the Contractor shall give each field panel an "identification" code number consistent with the layout plan. The numbering system must have been approved by the Engineer. The Contractor shall upgrade the layout plan as each panel is installed to show the location of each panel. A field panel is defined as the area of liner that is to be seamed in the field (roll or portion of a roll cut in the field).

Individual panels of HDPE material shall be laid out in a pattern that will produce the least number of seams. The material shall be overlapped prior to welding. Extreme care shall be taken by the Contractor in the preparation of the areas to be welded. The joint interface shall be cleaned and prepared according to procedures laid down by the material Manufacturer and approved by the Engineer. Seaming shall not take place unless the panel is dry and clean. All sheeting shall be welded together by thermal methods.

The liner material shall be installed such that foot traffic is minimized. No vehicle traffic or heavy generators are permitted on the liner surface. No open seams or holes shall be allowed in the deployed liner at the end of the shift.

Any liner area showing damage due to excessive scuffing, puncture or distress from any cause shall be replaced or repaired with an additional piece of liner material of the same type. The cost of replacing or repairing the liner shall be borne solely by the Contractor.

The welding equipment used shall be well maintained and in good working condition. It shall be capable of continuously monitoring and controlling the temperatures in the zone of contact where the machine is actually fusing the lining material to ensure changes in environmental conditions will not affect the integrity of the weld. The double wedge fusion-welding process shall be used unless the Engineer approves alternate methods. Extrusion welding will be permitted to repair small areas or where test samples have been removed.

No “fish mouths” will be allowed within the seam area. Where “fish mouths” occur, the material shall be cut, overlapped and an overlap extrusion weld shall be applied.

Liner panels must have a finished overlap of 4 inches for double-wedge welding seams and 3 inches for extrusion welding seams. Notwithstanding this provision, sufficient overlap shall be provided to allow peel tests to be performed on any seam.

The temperature of hot air at the nozzle of any welding apparatus shall be controlled at all times such that the liner is not damaged. Upon completion of the Work, all welds shall be tightly bonded.

Handling and storage of HDPE liner material shall be in accordance with the Manufacturer’s printed instructions. All persons walking or working on the HDPE liner shall wear soft-sole shoes.

The liner shall extend into the anchor trench as shown on the Drawings. All anchor trenches must have been approved by the Engineer prior to installation of the liner in the trench. The trench must have again been inspected by the Engineer once the liner has been placed in it, and prior to backfilling.

Section 6.0 - Quality Control of HDPE Geomembrane

Written certification shall be provided from the supplier that the material delivered to the project complies with these specifications. A copy of the Manufacturer's printed instruction for installation is also to be provided.

The Manufacturer of the liner shall take random samples of the liner material during manufacture. Samples shall be tested by a qualified laboratory by methods specified within this Section, or applicable ASTM standards, for thickness, strength, tear resistance, low temperature impact, density and dimensional stability. The results shall be supplied to the Engineer.

The Contractor shall be fully responsible for carrying out all quality control tests on HDPE liner and shall do so to the satisfaction of the Engineer and in accordance with this Specification. On-site physical non-destructive and destructive testing shall be completed on all joints to ensure that watertight uniform seams are achieved on a continuous basis as installation proceeds. The Contractor shall provide Technicians experienced in the testing procedures that are to be used. At the time of bid submission, details shall be provided by the Contractor that set forth the method proposed for both destructive and non-destructive testing of seams. The Engineer must have approved these methods prior to the Contractor commencing the Work. Visual inspection alone is unacceptable.

The Contractor shall furnish labor and equipment required to assist in any other sampling and testing that is requested by the Owner or the Engineer.

The welding equipment used shall be capable of continuously monitoring and controlling the temperatures in the zone of contact where the machine is actually fusing the material to ensure changes in environmental conditions will not affect the integrity of the weld. Fusion of panels and repairs will only be permitted under weather conditions allowing work that is in conformance to the specifications and within the warranty limits imposed by the manufacturer.

At a minimum, the Contractor's field installation test program shall include periodic visual observations and continuity and strength tests as defined in the following subsections. The amount of geomembrane liner deployed without final quality control and final repairs being completed shall never exceed 300,000 square feet. Upon completion of an area of the liner, the Contractor shall identify the boundaries of the area. At this time, the final inspection by Engineer shall take place to identify any defects in the completed liner. The Contractor shall repair any defects identified to the satisfaction of the Engineer.

6.1 HDPE Geomembrane Testing and Inspection

These tests are to be made routinely on seams from each welding machine regardless of other types of testing required. The procedure for both double wedge fusion and extrusion seams is described as follows (beginning of each day of seaming and upon resumption of work after any stoppage or operator change):

- Run a test seam with each machine to be used. Repair or replace and retest any machine determined to be defective or malfunctioning.
- Visually inspect the seam for squeeze out and melt.
- Record observations.
- Perform a peel and shear seam strength test on each test seam as per Section 6.1.6 (on a continuing basis).
- Visually check field seams for squeeze out, footprint, melt and overlap.
- Check machines for cleanliness, temperature and related items.

6.1.1 Visual Inspections

The Owner, his representatives, and the Engineer shall have unrestricted access and right to inspect all Contractor's work, materials, equipment, tools, and records pertaining to the lining work.

The Contractor shall perform visual inspections of deployed and welded HDPE panels to identify defects, damage, or protrusion of sharp objects that may affect the integrity of the liner. Defective or damaged areas will be marked and repaired according to the Technical Specifications.

The Contractor's QC Technician(s) or Field Engineer shall inspect each panel and all seams, marking his initials and date inspected at the end of each panel. Prior to final inspection of the liner by the Owner and Engineer, the following shall have been completed:

- All trash and debris must have been cleared from the liner.
- All loose gravel around ballast piles or damaged sand bags must have been removed from the liner.
- The area must have been thoroughly inspected by the Contractor's QC personnel.
- All documentation, including destructive test results, air test results and deployment records shall have been completed and submitted to the Engineer.

6.1.2 Continuity Testing

A maximum effort shall be made to install a perfect liner. This implies that all seams completed in the field, patches and extrusions shall be tested and recorded. All failures shall be isolated and repaired as directed by the Engineer. A general testing procedure is included as follows:

- Test all field seams and patches with inter-seam pressure, spark test or other approved methods. Pressure and spark testing are discussed in following subsections.
- Isolate and repair all areas indicating any leakage. Retest the repair.

Testing equipment shall be in good condition and be to the satisfaction of the Engineer. Any equipment that is found to be unacceptable shall be removed from service until it has been repaired, and it has been approved by the Engineer.

6.1.3 Inter-seam Pressure Testing

Test procedure for inter-seam pressure for seams over 65 yards long (for double wedge welding only):

- Seal both ends of the seam to be tested by applying heat to the end of the seam via a heat gun until flow temperature is achieved. Clamp off the ends and let cool.
- Insert a pressure gauge/needle assembly into the end of the seam and seal.
- Apply between 40 and 45 psi air pressure to the void between the 2 seams, for a minimum of 5 minutes.
- The allowable leak down for the seam is 3 psi.
- Enter the results of the leak test on the appropriate document, indicating either a passed or failed seam. The seam is to be repaired if it fails, with the repair work and subsequent testing being recorded on the same document.

6.1.4 Spark Testing

All extrusion welded patches, caps, etc, shall be "spark" tested in accordance with ASTM D6365. All extrusion welds in pipe boots shall be spark tested. The basic concept for spark testing is as follows:

- Just prior to applying the extrusion bead, a small gauge copper wire is placed into the seam. An 18-gauge bare copper wire usually works well. The wire should be grounded at one end and be placed at the edge of the top sheet of the overlap seam. Tucking the wire under the edge of the top sheet will help hold the wire in place during welding, but this should be done prior to grinding to avoid the risk of contamination of the weld area.
- Apply the extrudate bead as normal, and allow the weld to cool.
- Energize the spark tester, and move the electrode wand near a grounding source to determine the maximum length of spark that can be generated. Adjust the output voltage setting until the spark length exceeds the greatest potential leak path distance. This is typically the diagonal distance from the embedded wire to the edge of the weld bead at a “T” joint.
- Once the output voltage has been set, testing may be started. Testing is performed by passing the electrode over the seams with the electrode in contact with the membrane and/or the extruded weld bead. The audible and visual indication of a spark provides the determination of a potential leak path.
- If a potential leak is detected, the area can be repaired by grinding and re-welding. Applying additional weld beads adjacent to the leaking weld is not an acceptable repair technique. This will only lengthen the leak path to the extent that the spark tester may not be capable of generating a spark of sufficient length to breach the lengthened gap.
- After grinding and re-welding, the seam must be retested. If there is still an indication of a potential leak (spark), it may be required to apply a patch over the entire area.

6.1.5 Vacuum Box Testing

Vacuum box testing can be used as a secondary test to check for leaks and holes in addition to spark testing, or in locations where spark testing is not feasible. All vacuum box testing is to be done in accordance with ASTM D5641.

6.1.6 Peel and Shear Strength Testing

The Engineer shall test a minimum of 20 percent of the samples obtained for peel and bonded seam strength. The samples shall be tested either on site, or submitted for testing to an independent laboratory. In all instances, failed coupons determined by the Engineer’s testing shall overrule passing test results obtained by the Contractor.

These tests shall be carried out on trial seams comprising a test weld 36 inches long by 12 inches wide for each welding machine at the following times:

- At the beginning of seaming operations
- After every four hours of seaming operation
- A minimum of 1 sample per 500 feet of seam
- After repairs have been made to the seaming equipment
- By each Technician using the seaming equipment
- As required by the Engineer

The test weld shall be marked with date, ambient temperature, and welding machine number. Samples of the weld, 8 inches long by 1 inch wide, shall be cut from the test weld and tested for shear and peel strength requirements. Seams should be stronger than the material. The weld sample shall be kept for subsequent testing on laboratory tensiometer equipment in accordance with the applicable ASTM standards.

Peel and shear seam strength testing shall also be carried out on samples of seams removed from the Work. For these tests, the following procedures shall be followed:

- Coupon sampling of all field seams, including patches and repair areas, shall be taken by cutting perpendicular to the seams a sample approximately 36 inches by 12 inch. This sample shall be cut into three 24 inch by 12 inch samples and labeled with seaming crew names, date, location and individually marked “Owner Sample,” “QA/QC Sample” and “Lab QA/QC Sample.” The frequency and location shall be determined by the Engineer but shall not be less than one sample per 500 linear feet of field seams. These coupons shall be tested for peel and shear seam strength and thickness. Coupons (5 per series of tests 1 inch by 12 inches) from the destructive sample shall be tested for peel and bonded-seam strength as well as for thickness in accordance with the applicable ASTM standards. All shear and peel test results shall meet or exceed the project requirements. If one or more of the coupons fails, the sample will be considered a failure.
- Heat-welded seams shall be allowed to cool or warm to about 70° F prior to testing. Solvent seams, when used, shall be allowed to cure according to the Manufacturer’s recommendations. Additionally, at the Engineer’s option, approximately 10 percent of the coupons shall be sent to an independent laboratory for confirmation testing. Should the lab and field tests conflict, installation shall halt until the conflict is resolved to the satisfaction of the Engineer.
- A quality control Technician or field Engineer acting for the Contractor shall inspect each seam, marking his initials and date inspected at the end of each panel. Any area showing a defect shall be marked and repaired in accordance with the applicable repair procedures.

In the case that a destructive seam test fails in either shear or peel, the entire length of seam represented by this test is in question. As a minimum, the procedure for destructive test failures shall be as follows;

- The Contractor shall provide the Engineer with 2 additional destructive test samples at least 150-feet on either side of the failed test. The Engineer and Owner reserve the right to take additional samples as warranted to adequately assess the quality of the work.
- If a failing test occurs at the new destructive test location, an additional test shall be taken at another minimum 50-foot interval from the additional tests. This procedure is repeated until the defective section is fully defined, or the edge of the seam that was originally represented by the original test is reached.
- If passing tests are achieved at the minimum 150-foot distance from the failed destructive test, additional destructive tests may be taken at a closer spacing from the failed test at the discretion of the Contractor. If the tests at the closer interval fail, additional destructive tests shall be taken until the length of the defective seam is fully defined.
- Once the length of defective seam is identified, the Contractor shall either cut out the defective seam and wedge weld a new piece of liner in the seam area; or install a cap-patch strip over the affected seam area. Cap-patches or new sections of liner shall be a minimum of 3-feet in width, and shall be centered over the defective seam. Extrusion welding the exposed flap of liner on wedge welded seams, or additional extrusion welding of extrusion welded seams shall not be allowed.
- In the case that the retest of the repaired area fails, the procedure described above shall be repeated until passing tests are achieved.

In the case that a destructive seam test fails at the beginning or end of a seam, the previous or following seam completed by that same welding machine shall also be tested.

Results of all seam and strength testing completed for a day shall be compiled and submitted to the Engineer by the end of each day. All destructive samples tested by the Contractor shall be tested the same day they are marked.

Destructive samples taken from the liner shall identify the two panels that are joined by that seam.

The Engineer will continuously inspect the installation of the HDPE liner to ensure that the procedures specified in this section are fully adhered to.

Table 6.1 - HDPE Geomembrane Liner Specifications - Field Seaming Requirements

Property (Seam Strengths)(1)	Test Method	Minimum Average Value			Unit
		40 mil Textured	60 mil Smooth	80 mil Textured	
Fusion Peel	ASTM D4437	65	98	130	lb/in
Extrusion Peel(2)		52	78	104	lb/in
Shear Strength		81	121	162	lb/in

Notes:
1. Seam tensile strength testing shall be performed at the same strain rate as the parent material.
2. Seam must exhibit film tear bond (FTB). Trial welds should have no incursion into the weld.

Any material or workmanship that fails to comply with the Specifications shall be corrected or replaced by the Contractor at his expense. The cost of retests and re-inspection shall be the responsibility of the Contractor.

A copy of all tests performed by the Contractor shall be furnished to the Owner and Engineer prior to final acceptance of the HDPE liner. Failure by the Contractor to provide required test and inspection documentation in an acceptable time period may result in the suspension of installation work until the required documentation is submitted.

6.2 Warranty

The Contractor shall provide a written guarantee covering materials, and all workmanship, as well as degradation due to UV light for exposed areas, that the material will not fail for a minimum of 20 years. This guarantee shall cover the cost of material, labor and equipment to replace any failed material.

Section 7.0 - Submittals

The Contractor shall provide the Owner and Engineer with the following material submittals for review prior to the materials being approved for use on the project, or for the Work incorporating the material to be allowed to commence. Data submitted shall include drawings showing essential details of any changes proposed by the Contractor.

Table 7.1 – Submittal Requirements

Section	Subsection	Material	Details
4.0	4.1	Geonet	Material Specifications
4.0	4.2	Geotextile	Material Specifications
4.0	4.3	HDPE Geomembrane Liner	Material Specifications

Section 8.0 - As-Built Requirements

To assist in the production of adequate as-built Drawings and documentation, the Contractor will be required to provide a panel log, seaming log, QC log, repair log, and a 22 inch by 34 inch set of drawings, along with the executable format, showing panel numbers, and locations and types of patches and seams. Locations of all destructive test samples are to be identified on the Drawings. The panel log shall include roll identification numbers.

Section 9.0 - References

ASTM International, 2009, *ASTM A1004 - 09 Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting*, ASTM International.

ASTM International, 2008, *ASTM D1204 - 08 Standard Test Method for Linear Dimensional Changers of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature*, ASTM International.

ASTM International, 2003, *ASTM D1505 - 03 Standard Test Method for Density of Plastics by the Density-Gradient Technique*, ASTM International.

ASTM International, 2006, *ASTM D1603 - 06 Standard Test Method for Carbon Black Content in Olefin Plastics*, ASTM International.

ASTM International, 1996, *ASTM D4218 - 96 Standard Test Method for Determination of Carbon black Content in Polyethylene Compounds by the Muffle-Furnace Technique*, ASTM International.

ASTM International, 1996, *ASTM D4437 - 08 Standard Practice for Non-destructive Testing (NDT) for Determining the Integrity of Seams Used in Joining Flexible Polymeric Sheet Geomembranes*, ASTM International.

ASTM International, 2004, *ASTM D4491 - 99a(2004)e1 Standard Test Methods for Water Permeability of Geotextiles by Permittivity*, ASTM International.

ASTM International, 2009, *ASTM D4533 - 04(2009) Standard Test Method for Trapezoid Tearing Strength of Geotextiles,* ASTM International.

ASTM International, 2008, *ASTM D4632 - 08 Standard Test Method for Grab Breaking Load and Elongation of Geotextiles*, ASTM International.

ASTM International, 2008, *ASTM D4716 - 08 Standard Test Method for Determining the (In-plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head*, ASTM International.

ASTM International, 2004, *ASTM D4751 - 04 Standard Test Method for Determining Apparent Opening Size of a Geotextile*, ASTM International.

ASTM International, 2007, *ASTM D4833 - 07 Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products*, ASTM International.

ASTM International, 2008, *ASTM D5035 - 06(2008)e1 Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method*), ASTM International.

ASTM International, 2006, *ASTM D5199 - 01(2006) Standard Test Method for Measuring the Nominal Thickness of Geosynthetics*, ASTM International.

ASTM International, 2009, *ASTM D5261 - 92(2009) Standard Test Method for Measuring Mass per Unit Area of Geotextiles*, ASTM International.

ASTM International, 2007, *ASTM D5397 - 07 Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load Test*, ASTM International.

ASTM International, 2009, *ASTM D5596 - 03(2009) Standard Test Method for Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics*, ASTM International.

ASTM International, 2006, *ASTM D5641 - 94(2006) Standard Practice for Geomembrane Seam Evaluation by Vacuum Chamber*, ASTM International.

ASTM International, 2003, *ASTM D5994 - 98(2003) Standard Test Method for Measuring Core Thickness of Textured Geomembrane*, ASTM International.

ASTM International, 2006, *ASTM D6365 - 99(2006) Standard Practice for the Nondestructive Testing of Geomembrane Seams using the Spark Test*, ASTM International.

ASTM International, 2008, *ASTM D6693 - 04 Standard Test Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes*, ASTM International.

ASTM International, 2007, *ASTM D7179 - 07e1 Standard Test Method for Determining Geonet Breaking Force*, ASTM International.

Drawings

(see Drawings for Part 1 – Earthworks)

Knight Piésold
CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 3- Pipeworks and Appurtenances

July 2010

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Rev. No.	Date	Description	Knight Piésold	Client
0	July 2010		Paul Bergstrom	Powertech (USA) Inc.

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 3- Pipeworks and Appurtenances

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Drawings

Powertech (USA) Inc.
Dewey-Burdock Project
Pond and Land Application
Technical Specifications and QA/QC Plan
Part 3- Pipeworks and Appurtenances

Section 1.0 - General

1.1 Introduction

This Specification stipulates materials and installation requirements for pipework and appurtenances related to the construction of the Ponds and Land Application Systems at Powertech's Dewey-Burdock project.

1.2 Limitations and Disclaimer

This Specification titled Dewey-Burdock Project Pond and Land Application Technical Specifications Part 3 - Pipework and Appurtenances has been prepared by Knight Piésold and Co. (Knight Piésold) for the exclusive use of Powertech (USA) Inc. (Client). No other party is an intended beneficiary of this Specification or the information, opinions, and conclusions contained herein. Any use by any party other than the Client of any of the information, opinions, or conclusions is the sole responsibility of said party. The use of this Specification shall be at the sole risk of the user regardless of any fault or negligence of the Client or Knight Piésold.

The information contained herein have been completed to a level of detail commensurate with the objectives of the assignment and in light of the information made available to Knight Piésold at the time of preparation. This specification and its supporting documentation have been reviewed and/or checked for conformance with industry-accepted norms and applicable government regulations. To the best of the information and belief of Knight Piésold, the information presented in this Specification is accurate to within the limitations specified herein.

This Specification is Knight Piésold pdf file: Dewey-Burdock Pond and Land Application Technical Specifications Part 3 - Pipework and Appurtenances Rev 0.pdf. Any reproductions or modifications of this Specification are uncontrolled and may not be the most recent revision.

1.3 Contributors and Approvals

This specification was prepared, reviewed, and approved by the undersigned.

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Approved by:

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Reviewed by:

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Section 2.0 - Codes, Regulations and Definitions

This Specification stipulates materials and installation requirements for pipework and appurtenances related to the construction of the Ponds and Land Application Systems at Powertech's Dewey-Burdock project. Should the Contractor wish to deviate from these Specifications, he shall notify the Engineer in writing, providing a description of the deviation. The description shall include data indicating the magnitude of the deviation, justification for the deviation, and any possible short or long-term impacts of the deviation on the project. Deviations in materials Specifications shall be subject to the approval of the Engineer and Owner prior to shipment of the materials.

All pipe installation is to be completed in accordance with the Manufacturer's specifications. Prior to starting pipe installation, the Contractor shall provide certification from the Manufacturer that the materials supplied have been produced and tested in accordance with relevant Specifications.

2.1 Definition of Terms

"Owner" is defined as an authorized representative of Powertech.

"Engineer" is defined as representative appointed and authorized by the Owner. The Engineer shall be a Registered Professional Engineer, or a designated site representative under the supervision of a Registered Professional Engineer.

"Contractor" is defined as the party that has executed a contract agreement for the specified Work with the Owner.

"Technical Specifications" is defined as this document, prepared by Knight Piésold and Co. and all supplemental addenda.

"Drawings" is defined as the Drawings, in conjunction with these Technical Specifications, prepared by Knight Piésold and Co. for the ponds and land application system at Powertech's Dewey-Burdock Project.

"Work" is defined as the entire completed construction, or the various separately identifiable parts thereof, as shown on the Drawings, and required to be furnished under the Contract Documents.

"Site" is defined as the project area where the work is to be performed.

"Contract Documents" are defined as the Agreement, Addenda, Contractor's Bid (when attached as an Exhibit to the Agreement), Bonds, General Conditions, Special Conditions, Technical Specifications, Drawings and all modifications issued after execution of the Agreement.

"Modifications" are defined as changes made to the Technical Specifications or the Drawings, that are approved by the Owner and Engineer, in writing, after the Technical Specifications and Drawings have been finalized.

All slopes are defined as horizontal to vertical distances.

2.2 General Technical Requirements

The general technical requirements specified herein shall apply to all activities and operations relating to carrying out the Work or as required by the Engineer or Owner for the pipeworks and appurtenances associated with the construction of the ponds and land application system at Powertech's Dewey-Burdock Project, South Dakota.

In the event of an inconsistency in the Technical Specifications and Drawings, the Contractor shall refer all questions to the Engineer for final decision. Work that concerns the inconsistency shall not be performed until the contradiction is remedied or explained by the Engineer. In all events, the decision of the Engineer is final.

2.2.1 General Specifications

The contractor will be required to submit to the Engineer or Owner, at a minimum, the following plans and comply with training requirements associated with their project tasks, as may be applicable:

- Occupational Safety and Health Administration (OSHA)
  - Healthy and Safety Plan in accordance with 29 CFR Part 1910 – Occupational Safety and Health Standards
  - Hazardous Communication Plan in accordance with 29 CFR Part 1910.1200 – Toxic and Hazardous Substances
  - Material Safety Data Sheets (MSDS) for all chemicals in accordance with 29 CFR 1910.1200 (g)
- Spill Prevention, Control and Countermeasure (SPCC) Plan in accordance with 40 CFR Part 112.3 – Requirement to prepare and implement a Spill Prevention, Control, and Countermeasure Plan
- Training
  - Mine Safety and Health Administration – 24-hour class plus 8-hour refresher course in accordance with 30 CFR
  - HAZWOPER – 40-hour class plus 8-hour refresher course in accordance with 29 CFR 1910.120

2.3 Applicable Codes and Regulations

The following publications of the latest issue are a part of this Specification, except where replaced or revised by local codes or ordinances having jurisdiction, in which case the more stringent shall govern.

- American National Standard Institute (ANSI)
- American Society of Mechanical Engineers (ASME)
- American Society for Testing and Materials (ASTM)
- American Water Works Association (AWWA)
- American Association of State Highway Transportation Officials (AASHTO)
- Society of Plastics Inc. (SPI)
- American Petroleum Institute (API)
- Plastic Pipes Institute (PPI)

Section 3.0 - Mobilization and Demobilization

3.1 Scope

The Work covered by this section consists of the Contractor's mobilization to the Site of all the equipment and temporary facilities required for the successful completion of the Work, and shall include, but not necessarily be limited to, the following:

- Establish the Contractor's maintenance facilities, temporary workshops, temporary office accommodation and sanitary facilities.
- Maintain equipment and temporary facilities for the duration of the Work.
- All items required to be moved onto the Site for execution of the Work.
- On completion of the Work, remove all equipment and temporary facilities from the Site, and clean up the Site to the satisfaction of the Owner and the Engineer.

3.2 Mobilization

The Contractor shall mobilize to the Site sufficient labor, materials, and equipment to allow commencement of the Work. The Contractor shall bring on to the Site, as and when necessary, any additional equipment, labor and materials which may be required to complete the remainder of the Work in the time specified in the General Terms and Conditions.

3.3 Contractor's Workshops, Stores, and Offices

The Contractor shall erect, in the area designated by the Owner and Engineer, adequate workshops, offices and other buildings and structures for the completion of the Work as designated in the Contract Documents. Such workshops, offices and etc., shall be maintained in a neat and tidy condition throughout the duration of the Work to the satisfaction of the Engineer and Owner.

3.4 Sanitation

The Contractor shall provide and maintain adequate sanitary facilities for the personnel at the Site, including the Contractor's offices and Engineer's offices, in compliance with local health regulations and to the satisfaction of the Engineer and Owner.

3.5 Demobilization

On completion of the Work, the Contractor shall remove all of the Contractor's equipment, temporary facilities and materials from the Site. The Site shall be left in a clean and tidy state, to the satisfaction of the Engineer and Owner. All waste and refuse shall be disposed of in a legal manner acceptable to the Owner.

Section 4.0 - Materials

4.1 General

The Contractor shall perform all material tests in accordance with the Specifications. The Engineer shall have the right to witness all testing conducted by the Contractor provided that the Contractor's schedule is not delayed.

In addition to those tests specifically required, the Engineer may request additional samples of material for testing. The additional samples shall be supplied at no additional cost to the Client.

4.2 High Density Polyethylene (HDPE) Pipe

The type of pipe used shall be as specified on the Drawings, or an equivalent that has been approved by the Engineer, and shall comply with American Water Works Association (AWWA) Specifications C906. It shall have a minimum density of 0.955 grams per cubic centimeter, and a Hydrostatic Design Basis (HDB) of 1,600 psi (ASTM D2837).

HDPE pipe and fittings shall be from a single manufacturer who is fully experienced, reputable and qualified in the manufacture of the HDPE pipe to be furnished.

HDPE pipework and fittings shall be high density, high molecular weight polyethylene pipe such as PLEXCO PE 3408, manufactured by PLEXCO, Inc., or an equivalent that has been approved by the Engineer.

Material used for the manufacture of HDPE pipe and fittings shall be made from a PE 3408 high density polyethylene resin compound meeting cell classification 345434C per ASTM D3350; and meeting Type III, Class C, Category 5, Grade P34 per ASTM D1238.

Should rework compounds be required, only those generated in the Manufacturer's own plant from resin compounds of the same class and type, and from the same raw material supplier shall be used.

Pipe shall be furnished in standard laying lengths not to exceed 50 feet, and to be no shorter than 20 feet.

Dimensions and workmanship shall be as specified by ASTM F714, ASTM D2513 and ASTM D3035.

Stub ends for butt fusion shall be at least the same wall thickness, pressure rating, resin type, and Manufacturer as the pipe to be joined, unless the Engineer has approved otherwise.

Where HDPE and Corrugated Polyethylene Tubing (CPT) pipes are connected, only manufactured fittings shall be used. All other joints shall be flanged joints or as indicated on the Drawings. Backing flanges for HDPE pipe shall be ductile iron unless the Engineer has approved otherwise.

Pipe diameters and thicknesses shall be as specified on the Drawings.

4.2.1 Fittings

All molded fittings and fabricated fittings shall be fully pressure rated to match the pipe SDR rating to which they are made.

The manufacturer of the HDPE pipe shall supply all HDPE fittings and accessories as well as any adapters and/or specials required to perform the work as shown in the Drawings or specified herein. No Contractor fabricated fittings shall be used unless approval has been obtained from the Engineer.

HDPE fittings and transitions shall meet ASTM D3261

4.3 Carbon Steel Pipe

All pipes, fittings and flanges shall be carefully examined for cracks and other defects prior to shipment. All defective pipes, fittings and flanges shall be rejected and replaced.

In addition to any other markings specified herein, each length of pipe and each special section shall be legibly marked by paint stenciling, die stamping, or hot roll marking to show the following:

- Manufacturer’s name and mark.
- Size and weight of the pipe or special section.
- Type of steel from which the pipe or special section was made.

Carbon steel pipe shall be ERW, bare finish, have beveled ends, and conform to ASTM A-135, Grade B requirements. Pipe schedule shall be Standard unless shown otherwise on the Drawings. All pipes and fittings shall be free from fins and burrs.

4.3.1 Fittings

Butt weld fittings are to be manufactured from carbon steel, to be seamless, conform to ASTM A234 Grade WPB, to be butt welded, and are to be Schedule 40.

Grooved couplings are be Vitaulic Style 77 or an equivalent that has been approved by the Engineer, have Grade “O” Fluoro-elastomer, are to conform to ANSI C606, to be manufactured from ductile iron conforming to ASTM A536, and to have carbon steel heat treated track bolts conforming to ASTM A183. All bolts, nuts and washers shall be made of Type 316 stainless steel.

Pipe Flanges are to be manufactured from Class 150 carbon steel, are to conform to ASTM A105, to be raised face, weldneck, and are to be Schedule 40 bore.

Blind Flanges are to be Class 150 Carbon Steel, are to conform to ASTM A105, and are to be raised face.

Orifice Flanges are to be Class 300 Carbon Steel, are to conform to ASTM A105, be raised face, Weldneck, to have 1/2” screwed taps, and are to be Schedule 40 bore.

4.4 Bolts and Gaskets

4.4.1 Bolts

Flange assembly bolts are to conform to ASTM A307, Grade A Standard. Bolt/stud length shall be such that on completed joints, the ends of the bolts shall protrude the unit by no more than 12mm. Threads shall conform to ASME B1.1. Bolts are to be assembled with an anti-seize compound.

4.4.2 Gaskets

Flange gaskets shall conform to ASME/ANSI B 16.21 and shall be used with all flanged joints unless otherwise specified by the supplier of the valves, fittings or pipework, and approved by the Engineer.

Gaskets are to have a 1/16” minimum thickness for plain finished surfaces, and a 3/32” minimum thickness for serrated surfaces.

4.5 Valves

All valves are to conform to API Specification 6D and API 600. They are to be Class 150, unless otherwise specified. They are to be carefully examined prior to shipment for defects, with any defective valves being rejected and replaced. Valves are to be reexamined when they are offloaded at site, and again when they are installed.

All valves shall be as specified on the Drawings. Valves shall not have any brass, copper, aluminum or zinc parts. Valve specifications, per the valve supplier, shall be submitted to the Engineer for approval prior to bringing such valves on site.

4.6 Pumps

Pumps are to be carefully examined prior to shipment for defects, with any defective pumps being rejected and replaced. Pumps are to be reexamined when they are offloaded at site, and again when they are installed.

All pumps shall be as specified on the Drawings. Pumps shall not have any brass, copper, aluminum or zinc parts. Pump specifications, per the pump manufacturer, shall be submitted to the Engineer for approval prior to bringing such pumps on site.

4.7 Submittals

4.7.1 General

The Contractor shall submit to the Engineer upon request a Manufacturer's certification that all pipe, valves and fittings comply with the applicable portions of the Specification.

The Contractor shall provide a warranty against manufacturing defects of material and workmanship for a period of ten years after final acceptance of the project by the Owner. The Contractor shall replace, at no expense to the Owner, any defective piping/fitting material, including labor, within the warranty period.

4.7.2 HDPE Pipe

Documentation from the resin's manufacturer showing results of the following tests for resin identification is to be provided:

- Melt flow index – ASTM D1238
- Density – ASTM D1505

The HDPE pipe manufacturer shall provide certification that stress regression testing has been performed on the specific polyethylene resin being utilized in the manufacture of the product. This stress regression testing shall be in accordance with ASTM D2837. The manufacturer shall provide a product supplying a minimum Hydrostatic Design Basis (HDB) of 1,600 psi, as determined in accordance with ASTM D2837.

4.7.3 Carbon Steel Pipe

The Contractor is to provide Manufacturer's data on the furnished pipe, indicating compliance with the specifications regarding dimensions, thickness, weights and materials. In addition, he is to provide the manufacturer's "Certificate of Compliance", stating that the materials furnished comply with this Specification.

4.8 Pipe and Valve Delivery, Handling and Storage

All pipe and appurtenances furnished by the Contractor shall be delivered, distributed, and stored at the project site by the Contractor. All items are to be shipped in accordance with the manufacturer's instructions, and stored in a manner that they are not damaged. Care shall be taken in loading, transporting and unloading to prevent damage to the pipe or appurtenances. Pipe, fittings, valves and other appurtenances shall be loaded and unloaded by lifting with hoists or by skidding so as to avoid shock or damage.

- All items shall be handled in such a manner as to avoid damage or hazard.
  - Ropes, fabric or rubber protected slings and straps shall be used when handling pipes.
  - Two slings spread apart shall be used for lifting each length of pipe.
  - Under no circumstances shall pipe or pipe fittings be dropped to the ground or into trenches.
  - Under no circumstances shall chains, cables or hooks inserted into pipe ends be used for lifting the pipe.
- Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. The Contractor shall ensure the safe and proper storage of pipe and fittings. The interior of all pipe shall be kept free from dirt and foreign material at all times.

The Contractor shall be responsible for all materials at all times. The Contractor shall be responsible for all material furnished by him, and shall replace or repair at his own expense, and in a manner that has been approved by the Engineer, all such material found to be defective in manufacture or damaged in handling or during storage after delivery by the Manufacturer. This shall include the furnishing of all materials and labor required for the replacement of installed material discovered to be damaged or defective prior to final acceptance of the work, or during the guaranteed period.

Pipe shall not be stacked higher than the manufacturer's recommendations.

4.8.1 HDPE Pipe

Pipes shall be stored on clean, level ground, preferably turf or sand, and free from sharp objects that could damage the pipe. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width so as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.

Stacking of HDPE pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipe under anticipated temperature conditions.

Pipe shall be handled so that it is not damaged by dragging it over sharp and cutting objects. The maximum allowable depth of cuts, scratches or gouges on the exterior of the pipe is 5 percent of wall thickness. The interior of the pipe is to be free of cuts, scratches or gouges.

4.8.2 Carbon Steel Pipe

All pipes, fittings, flanges and accessories shall be stored at the job site in unit packages provided by the manufacturer, and caution shall be exercised to avoid compression damage or deformation of the piping. Any gaskets shall be stored in a cool, dark place out of the direct rays of the sun, in their original cartons, and are not to come into contact with petroleum products.

Section 5.0 - Installation

5.1 Pipe

All pipe and appurtenances shall be examined before installation, and no piece is to be installed that is found to be defective. Any damage to the pipe shall be replaced or repaired, as directed by the Engineer. If any defective pipe is discovered after it has been installed, it shall be removed and replaced by the Contractor in a satisfactory manner that has been approved by the Engineer, at the Contractor's expense.

All pipe and fittings shall be thoroughly cleaned before installation, shall be kept clean until they are used in the work and when laid.

All pipes and fittings shall be lowered into trenches; under no circumstances shall pipe or appurtenances be dropped into trenches.

All pipe installation is to be completed in accordance with the pipe Manufacturer's specifications. Prior to commencing pipe installation a copy of the Manufacturer's specifications shall be submitted to the Engineer for approval. A copy of the Manufacturer's specifications shall be maintained on site during construction.

The Contractor shall supply and install all piping required to complete the piping installation in accordance with good piping practices, whether such piping is specifically detailed on the Drawings or not. All pipe shown on the Drawings shall be installed to the alignments and grades indicated by the Drawings. Where specific alignments and grades are no indicated on the Drawings, they shall be determined in the field by the Engineer to suit existing conditions and to fulfill the requirements of the project. Where interference is encountered during installation, or relocation of piping is deemed necessary, the Engineer shall be consulted before any changes are made. Care shall be taken in the installation of pipeline runs where drainage is required to ensure that the pipeline has a continuous slope to the point of drainage.

Care should be taken to prevent foreign material from entering the pipe during installation. The open ends of the pipes shall be covered with fabricated end caps or other approved means when installation is not in progress, including lunchtime.

Pipes bent to form curves in any direction shall not exceed the deflections recommended by the Manufacturer and Engineer. The cutting of the pipe for inserting fittings or closure pieces shall be done in a neat and workmanlike manner without damage to the pipe.

Backfill materials shall be as indicated on the Drawings and according to Earthworks Specifications. Where compacted earth backfill is indicated, the backfill material shall be placed around and over buried sections in lifts not exceeding 8-inches loose. Compaction is to be achieved by hand operated compactors, or other methods approved by the Engineer. Unless otherwise specified, compaction is to be to a minimum of 90 percent of the maximum dry density as determined by ASTM D1557.

Pipe and fittings shall rest solidly on the pipe bed, with recessed excavation to accommodate bells, joints and couplings. Anchors and supports shall be provided where necessary and where indicated on the drawings for fastening work into place. Fittings shall be independently supported.

Once installation has been completed, thoroughly clean all new pipelines to remove dirt, stones, pieces of wood or other material which may have entered during the construction period by forcing a cleaning swab through all pipes 6" or greater. Flushing velocities shall be a minimum of 2.5 feet per second. All flushing shall be coordinated with the Engineer. Debris removed from the lines shall be removed from the job site and be disposed of in a legal manner that has been approved by the Engineer and Owner.

5.1.1 HDPE Pipe

All HDPE pipe shall be designed, constructed and installed with the best practices and methods, and shall comply with these Specifications. Installation shall be in accordance with the manufacturer's instructions, as show on the Drawings, and as specified herein.

Sections of pipe with cuts, gouges or scratches exceeding 5 percent of the pipe wall thickness, or which is in any other way defective, shall be removed completely and the ends of the pipes rejoined to the Engineer's approval, at the cost of the Contractor.

Joining techniques and operating procedures shall be in accordance with written instructions provided by the pipe Manufacturer and the joining equipment supplier. Joining equipment shall be supplied by, leased from, or otherwise approved by the pipe Manufacturer. Where an inconsistency between pipe Manufacturer and joining equipment supplier exist, the pipe Manufacturer shall overrule once approval has been obtained from the Engineer. A copy of all instructions shall be present at any location that butt fusion is being conducted.

Joining HDPE pipe lengths shall be by thermal butt fusion as outlined in ASTM D2657, and shall conform to the Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe, Technical Report TR-33/2006, published by the Plastic Pipe Institute (PPI), unless otherwise specified on the Drawings.

Pipe segments shall be joined in continuous lengths at the location of installation. Dragging of pipe into place shall be kept to a minimum and will only be permitted when the pipe will not be damaged.

The polyethylene pipe flange adapters at pipe material transitions shall be backed up by stainless steel flanges conforming to ASME/ANSI B16.1 and shaped as necessary to suit the outside dimensions of the pipe. The flange adapter assemblies shall also conform to the following:

- The flange adapter assemblies shall be connected with corrosion resisting bolts and nuts of Type 316 Stainless Steel, as specified in ASTM A726 and ASTM A307.
- All bolts shall be tightened to the manufacturer's specifications; bolts shall be tightened alternatively and evenly.
- After installation, a bitumastic coating is to be applied to the bolts and nuts.

All HDPE pipe must be at the temperature of the surrounding soil at the time of backfilling and compaction.

5.1.1.1 Fittings

All fittings shall be installed using butt-fused fittings, thermo-fused fittings/couplings, or flanged adapters, and must have been approved by the Engineer. No size-on-size wet taps shall be permitted.

5.1.2 Carbon Steel Pipe

All work on carbon steel pipe shall be done by qualified craftsmen in a workmanlike manner, and shall conform to API 1104 and industry standards. All welders shall be certified in accordance with API 1104. However, other certification may be accepted at the discretion of the Engineer. The Contractor shall submit certifications to the Engineer prior to welding of the pipework.

Before jointing, all joint contact surfaces shall be wire brushed, wiped clean, and kept clean until the jointing is completed. Flange faces shall be wire brushed and cleaned to remove all oil, grease, loose primer, mill scale, or any other foreign matter that could affect the proper seating of the gasket.

All welds shall be full penetration and no backup rings shall be used. Welding shall conform to ASME B31.1.

5.2 Valves

All valves are to be installed as shown on the Drawings, and as specified by the valve manufacturer.

5.3 Pumps

All pumps are to be installed as shown on the Drawings, and as specified by the pump manufacturer.

5.4 Compatibility

The Contractor is responsible for the compatibility between all pipe materials, fittings and appurtenances.

Section 6.0 - Testing

6.1 HDPE Pipe

6.1.1 Bent Strap Tests

On days that butt fusions are to be made, the first fusion shall be a trial fusion in the presence of the Engineer. The following shall apply:

- Heating plates shall be inspected for cuts and scrapes.
- The plate temperature shall be measured at various locations to ensure proper heating/melting per the manufacturer's recommendations.
- Once the trial fusion has been completed, a fusion or test strip shall be cut out of the pipe after cooling completely for inspection.
- The test strip shall be a minimum of 12" or 30 times the wall thickness in length, whichever is greater. The fusion joint shall be located midway along the strip.
- The test strip shall be a minimum of 1" or 1.5 times the wall thickness in width, whichever is greater.
- The joint shall be visually inspected as to continuity of "beads" from the melted material, and for assurance of "cold joint" prevention (a "cold joint" forms when the molten material is squeezed out of the joint, resulting in unmelted sections of the pipe butting up against each other on each side of the joint).
- Joint spacing between the walls of the two ends shall be a minimum of 1/16" to a maximum of 3/16".
- A bent strap test is to be performed on the test strip.
  - These tests require safety measures against inadvertent release, joint failure, and springback during bending. Considerable force may be required to complete the test for pipe having larger wall thicknesses.
  - The Contractor is to ensure that the appropriate safety equipment is provided for the test, and that all participants and witnesses have the appropriate personal protective equipment.
  - During the bent strap test, the test strip is to be bent so that the ends of the strip touch.
  - Any disbondment of the fusion is unacceptable and indicates poor fusion quality.
  - If failure occurs, fusion procedures and/or machine setup should be changed, a new trial fusion must be made, and a new bent strap test specimen prepared and tested.
  - Field fusion shall not proceed until a test joint has passed the bent strap test.

6.1.2 Destructive Laboratory Tests of Butt Fusion Joints

Destructive laboratory tests of tensile specimens prepared from butt fusion joined pipes shall be performed for every 2,500 ft of pipe installed. A minimum of three tests shall be performed for each pipe diameter/SDR combination. These tests shall be performed according to ASTM D638, and shall be compared to specimens without joints, and obtained from the parent pipe.

6.1.3 Pressure Testing

All HDPE pipelines shall be field pressure tested. The Contractor shall supply all labor, equipment, material, gauges, pumps, meters and incidentals required for testing. Each pipeline shall be pressure tested upon completion of pipe laying and backfilling operations, including placement of any required temporary roadway surfacing.

Hydrostatic pressure leak tests of HDPE pipe shall be conducted in accordance with ASTM F2164. The pipes shall be tested using clean water. The following must be complied with during the testing procedure:

- The pipeline must be restrained against movement in the event of catastrophic failure. Joints may be exposed for leakage examination, provided that restraint is maintained.
- The testing equipment capacity and the pipeline test section shall be such that the pipeline can be pressurized and examined for leaks within the test duration time limits. Lower capacity testing and pressurizing equipment may require a shorter test section.
- Test equipment and the pipeline shall be examined before pressure is applied to ensure that connections are tight, necessary restraints are in place and are secure, and that components that should be isolated or disconnected are isolated or disconnected. All low pressure filling lines and other items not subject to the test pressure shall be disconnected and isolated.
- All pipelines shall be tested to 150 percent of the operating design pressure of the pipe at the lowest elevation in the section under test, unless otherwise approved or instructed by the Engineer.
  - If lower pressure rated components cannot be removed or isolated from the test section, the maximum test pressure is the pressure rating of the lowest pressure rated component that cannot be isolated from the test section.
  - Test pressure is temperature dependent, and the pipe manufacturer must be consulted where the pipe is to be tested at elevated temperatures.
- The pressure testing procedure shall be per the Manufacturer's recommendations and as approved by the Engineer, or as follows:
  - Fill the pipeline slowly with water; maintain a flow velocity of less than 2 feet per second.
  - Expel air completely from the line during filling and again before applying the test pressure. Air shall be expelled by means of taps at the points of highest elevation.
  - The test procedure consists of an initial expansion phase, and a test phase.
    - For the initial expansion phase, the test section is pressurized to the test pressure, and make up liquid is added as required to maintain the maximum test pressure for four hours. This allows for the diametric expansion/pipe stretching to stabilize.
    - For the test phase, the pressure is reduced by 10 psi and the pump is turned off. This is the target test pressure. If the pressure remains steady (within 5% of the target test pressure) for an hour, and provided no leaks are observed, the pipe is considered to have passed the test.
  - Upon completion of the test, the pressure shall be bled off form a location other than the point where the pressure was monitored. The pressure drop shall be witnessed by the Engineer at the point where the pressure is being monitored and shall be shown on the recoded pressure readout submitted to the Engineer.
- If any test pipe laid discloses leakage, and/or a significant pressure drop greater than 5% of the target test pressure, the Contractor shall locate and repair the cause of leakage at his own expense, and retest the line.
- All visible leaks shall be repaired regardless of the amount of leakage.
- If leaks are discovered, depressurize the pipeline before repairing leaks. Leakage of a butt fusion joint may indicate imminent catastrophic rupture, and in such circumstances, the pipe must be depressurized immediately. Leaks at fusion joints require that the fusion joint be cut out of the pipeline and redone.
- If the pressure leak test is not completed for any reason, including equipment failure, the test section shall be depressurized and repairs made. The test section is to remain depressurized for at least eight hours before retesting.
- The Contractor must submit his plan for testing to the Engineer for review at least 10 days before starting the test. The Engineer is to be present throughout the entire test procedure.

6.2 Carbon Steel Pipe

6.2.1 Pressure Testing

All carbon steel pipelines shall be hydrostatically pressure tested in accordance with ASME B31.3 - 2008 Process Piping. The Contractor shall supply all labor, equipment, material, gauges, pumps, meters and incidentals required for testing. Each pipeline shall be pressure tested upon completion of pipe laying and backfilling operations, including placement of any required temporary roadway surfacing.

Section 7.0 - As-Built Requirements

To assist in the production of adequate as-built Drawings and documentation, the Contractor will be required to provide one set of 22 inch by 34 inch red-lined Drawings with construction modifications, as well as the electronic formatted version of the Drawings to the Owner.

Section 8.0 - References

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Drawings

(see Drawings for Part 1 – Earthworks)

POWERTECH (USA) INC.

APPENDIX 5.5-A

WRITTEN RADIOLOGICAL SAFETY INSTRUCTIONS TO WORKERS

Instruction to Workers:

(a) All individuals who in the course of employment are likely to receive in a year an occupational dose in excess of 100 mrem shall be:

(1) Kept informed of the storage, transfer, or use of radiation and/or radioactive material;

(2) Instructed in the health protection concerns associated with exposure to radiation and/or radioactive material, in precautions or procedures to minimize exposure, and in the purposes and functions of protective devices employed;

(3) Instructed in, and required to observe, to the extent within the workers control, the applicable provisions of NRC regulations and licenses for the protection of personnel from exposure to radiation and/or radioactive material;

(4) Instructed of their responsibility to report promptly to Powertech any condition which may lead to or cause a violation of NRC regulations and licenses or unnecessary exposure to radiation and/or radioactive material;

(5) Instructed in the appropriate response to warnings made in the event of any unusual occurrence or malfunction that may involve exposure to radiation and/or radioactive material; and

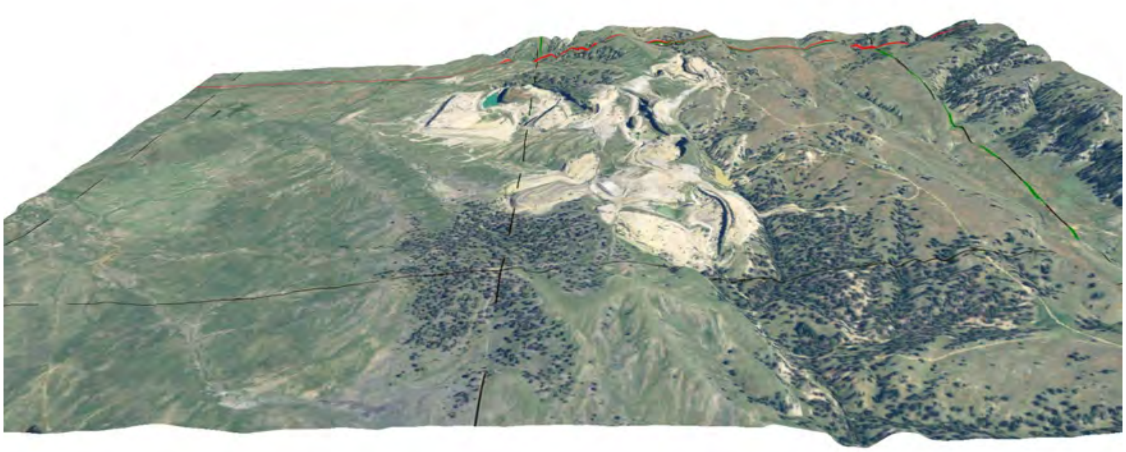
(6) Advised as to the radiation exposure reports which workers may request pursuant to 10 CFR § 19.13.

(b) In determining those individuals subject to the requirements of item (a), Powertech will take into consideration assigned activities during routine and non-routine situations involving exposure to radiation and/or radioactive material which can reasonably be expected to occur during the life of the licensed facility. The extent of these instructions will be commensurate with potential radiological health protection concerns present in the work place.

APPENDIX 6.1-A

Numerical Groundwater Model

NUMERICAL MODELING OF HYDROGEOLOGIC CONDITIONS
DEWEY-BURDOCK PROJECT
SOUTH DAKOTA



POWERTECH DEWEY-BURDOCK PROJECT
FALL RIVER AND CUSTER COUNTIES, SD
February 2012

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NUMERICAL MODELING OF HYDROGEOLOGIC CONDITIONS
DEWEY-BURDOCK PROJECT
SOUTH DAKOTA

1 Introduction

Powertech USA (Powertech) has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a Uranium Recovery License (URL) to conduct in-situ recovery (ISR) of uranium from the Dewey-Burdock Project in South Dakota. The target ore zones are the Fall River Formation (Fall River) and the Chilson Member (Chilson) of the Lakota Formation, both included within the Inyan Kara Group. The target ore zones are separated by the Fuson Shale, a low permeability confining unit.

A numerical groundwater flow model was developed using site-specific data to evaluate hydraulic responses of the Fall River and Chilson aquifers to ISR production and restoration operations at the site. This report describes the development of the numerical model and summarizes the results of numerical simulations used to predict aquifer drawdown and recovery from ISR operations in the Inyan Kara aquifer system.

2 Purpose and Objectives

The numerical groundwater flow model was developed to support Powertech in planning and operation of the uranium ISR project. The numerical model is used to assess hydraulic response of the Fall River and Chilson aquifers to ISR uranium extraction.

Objectives of the numerical model included the following:

- Enhance understanding of the Fall River and Chilson aquifer systems with respect to:
    - regional and local flow patterns
    - recharge and discharge boundaries
    - overall water budget (available and sustainable resources)
- Evaluate potential hydraulic impacts (e.g. drawdown and potential dewatering) from production and restoration operations on both the local and regional scale;
- Assess potential communication (if any) between the Fall River and Chilson aquifers during production and restoration activities;
- Compare hydraulic impacts of variable bleed rates and production rates on the Fall River and Chilson aquifers;
- Determine the level of interference between wellfields that could occur with simultaneous production and restoration operations;

- Evaluate the potential impacts of ISR operations to an open pit mine located within the Project Area that intercepts Fall River groundwater;
- Assess the potential hydraulic impacts that would result from a breccia pipe recharge to the Fall River and Chilson aquifers (as hypothesized by Gott et al [1974]) within the Project Area.

3 Conceptual Model

Detailed description of the geology and hydrogeology of the Project Area can be found in the Dewey-Burdock Project Application for NRC URL Technical Report (Dewey-Burdock TR) prepared by Powertech. The conceptual hydrologic model for the Dewey-Burdock Project Area is summarized below.

The Dewey-Burdock Project Area lies on the southwest flank of the Black Hills Uplift; a large structural feature of Laramide age. Igneous and metamorphic Precambrian-age rocks are exposed in the core of the uplift and are surrounded by outward-dipping Paleozoic and Mesozoic rocks. The Dewey Fault, a northeast to southwest trending fault zone, is present approximately one mile north of the Dewey-Burdock Project Area. The Dewey Fault is a steeply dipping to vertical normal fault with the north side uplifted approximately 350 feet by a combination of vertical and horizontal displacement. The Project Area lies near the eastern limit of the Powder River Basin. Locally, the Barker Dome Anticline, present east of the Project Area, creates geologic dip to the west-southwest in the subsurface strata.

The target ore zones are the Fall River Formation and the Chilson Member of the Lakota Formation within the Cretaceous Inyan Kara Group. The Inyan Kara consists of interbedded sandstone, siltstone and shale and averages approximately 350 feet thick in the Dewey-Burdock Project Area. To the northeast, toward the Black Hills Uplift, the Inyan Kara is largely eroded away. Where exposed at the surface, infiltration of precipitation and runoff provides recharge to the Inyan Kara aquifers. The Inyan Kara is confined below by the Jurassic Morrison Formation and above by the Cretaceous Graneros Group except for the areas to the north and east where the Inyan Kara is exposed in outcrop.

Groundwater flow within the Inyan Kara, based on regional studies conducted by the U.S. Geological Survey in the 1990s (Strobel et al 2000), is generally away from the Black Hills Uplift, toward the south and west. Within the Black Hills area, the transmissivity of the Inyan Kara aquifers is highly variable, ranging from 1 to 6,000 ft^2/day. The Inyan Kara is capable of yielding large volumes of water (Driscoll et al 2002). For example, an aquifer test conducted near the Project Area by Tennessee Valley Authority (TVA) averaged nearly 500 gpm over an 11 day pumping period (Boggs 1983).

The Fall River Formation is the uppermost unit within the Inyan Kara Group. It is composed of carbonaceous interbedded siltstone and sandstone, channel sandstone and a sequence of interbedded sandstone and shale. The Fall River ranges from 120 to 160 feet thick within the Project Area. The Fall River Formation dips southwesterly at 2 to 6 degrees and is present in outcrop near the eastern and northern edges of the Project Area. A structure map of the top of the Fall River is provided as Plate 2.6-5 in the Dewey-Burdock TR.

Overlying the Fall River Formation is the Graneros Group, a sequence of dark shales that reaches over 500 feet thick in the northwestern portion of the Project Area. This unit is eroded away along the eastern edge of the Project Area where the Fall River is exposed in outcrop. Where present, the Graneros Group provides an upper confining unit to the Fall River Formation. Evidence of the confining characteristics of the Graneros Group can be seen in the large artesian heads present in many of the Inyan Kara wells in the western portion of the Project Area.

The Lakota Formation is locally subdivided into the Fuson, the Minnewaste Limestone and the Chilson Members. The Minnewaste Limestone is not present in the Project Area. The Fuson Shale is differentiated from the Fuson Member for purposes of characterizing site geology. The Fuson Shale consists of low permeability shales and clays which generally occur at or near the base of the Fuson Member. An isopach of the Fuson, based on over 3,000 boreholes, indicates the thickness of this unit ranges from about 20 to 80 feet as shown on Plate 2.6-8 of the Dewey-Burdock TR. The Fuson Shale is a confining unit between the Fall River and Chilson.

The Chilson consists of fluvial channel sandstone and associated laterally finer-grained overbank deposits and varies from 100 to 240 feet thick. It also is present in outcrop, slightly farther north and east than the Fall River, and is readily observed along the sides of Bennett Canyon. The Chilson also dips to the southwest at between 2 and 6 degrees. A structure map of the top of the Chilson is provided as Plate 2.6-3 in the Dewey-Burdock TR.

Hydrologic properties for these hydrostratigraphic units have been estimated from a number of pumping tests, core analyses and water level measurements. Figure 3-1 shows the location of pumping tests.

The Fall River aquifer is partially saturated in the eastern portion of the Project Area, becoming fully saturated to the west-southwest. Flowing artesian conditions exist across the western portion of the site. The potentiometric surface of the Fall River across the Project Area has a hydraulic gradient of approximately 0.005 to 0.006 ft/ft (26 to 32 ft/mile) toward the southwest. The potentiometric surface of the Fall River based on average water level elevations collected in 2010 and 2011, is shown on Figure 3-2. Water level data used to construct the potentiometric map are included in Table 3-1. Transmissivity of the

Fall River ranges from about 50 to 330 ft^2/d (375 to 2,500 gpd/ft) based on reports of the pumping tests conducted by TVA in 1979 and Knight-Piesold in 2008. The transmissivity values were approximately three to four times higher in the test conducted near the Dewey location compared to the test near Burdock. Storativity estimated from the pumping tests ranged from 1.0 E-05 to 5.0 E-05. Hydraulic conductivity calculated from pumping tests ranged from 1.5 to 2.0 ft/d in the northwest test (Knight-Piesold 2008) and around 0.5 ft/d in the southeast test (Boggs 1983).

The Chilson is fully saturated across the most of the site. There are areas along the eastern margin of the Project Area where water level data from monitor wells indicate that the potentiometric head is below the top of the Chilson. In that area, the Chilson does contain a clay unit that separates the upper and lower Chilson sand units locally. The upper unit is partially saturated but the lower unit is fully saturated. The target ore zone in the eastern portion of the Project Area is the lower, fully confined Chilson unit.

The potentiometric surface of the Chilson across the Project Area has a hydraulic gradient of approximately 0.002 to 0.004 ft/ft (10.5 to 16 ft/mile) toward the southwest. The potentiometric surface of the Chilson, determined from average water level elevations collected in 2010 and 2011, is shown on Figure 3-3. Water level data used to construct the potentiometric map are included in Table 3-1. The transmissivity and hydraulic conductivity of the Chilson are slightly higher than those of the Fall River, based on the available data. Transmissivity of the Chilson ranges from about 150 to 600 ft^2/d (1,125 to 4,500 gpd/ft) based on reports of the pumping tests conducted by TVA in 1982 and Knight-Piesold in 2008. The transmissivity values for the Chilson were approximately four times higher in the test conducted near the Dewey location compared to the test near Burdock, consistent with the results for the Fall River tests. Storativity estimated from the pumping tests ranged from 1.0 E-04 to 2.0 E-04. Hydraulic conductivity calculated from pumping tests ranged from 3.1 ft/d in the northwest test (Boggs 1983) to around 0.9 ft/d in the southeast test (Knight-Piesold 2008).

Total porosity of the Fall River and Chilson is estimated at 30 percent (Dewey-Burdock TR Section 6.1.6).

Data regarding aquifer properties of the Fuson Shale are derived from core permeability analyses and pumping test data. Vertical permeability ranges from about 7.8 E-09 to 2.2 E-07 cm/sec (2.2 E-05 to 6.2 E-04 ft/d) from core data. An estimate of the vertical permeability of the Fuson Shale from the 1979 pumping tests in the Fall River and Chilson was reported by TVA as 4.6 E-08 to 1.0 E-07 cm/sec (1.4E-04 to 2.8E-04 ft/d), which is consistent with the values from the core tests.

Core data from the Skull Creek Shale (of the Graneros Group) that is overlying the Fall River indicate a vertical permeability of 1.5 E-05 ft/d (Knight-Piesold 2008).

Underlying the Chilson is the Morrison Formation. The Morrison Formation averages 100 feet in thickness in the Project Area and is composed of waxy, calcareous, non-carbonaceous, massive shale with numerous limestone lenses and a few thin fine-grained sandstones. Core sample analyses indicate the vertical permeability of the Morrison clays to be very low, in the range of 3.9 E-09 to 4.2 E-08 cm/sec (1.1 E-05 to 1.1 E-04 ft/d) (Dewey-Burdock TR). Because of the low permeability and continuity beneath the Dewey-Burdock area, the Morrison Formation is considered the lowermost confining unit for the proposed ISR operations. No impacts from ISR activities are anticipated below the Morrison Formation.

Within the Project Area, the Fall River and Chilson are generally bounded above and below by low permeability clays and silts that act as confining units. Water level differences between the Fall River and the Chilson are variable but can be in excess of 40 feet. In the northern portion of the site, the potentiometric head of the Fall River is generally from 8 to 16 feet higher than the Chilson. Toward the central western portion of the site, the potentiometric head of the Chilson is 35 to 40 feet higher than the Fall River. Close to the outcrop area of the Fall River on the east side of the Project Area the potentiometric heads are nearly equal. There are numerous flowing artesian wells throughout the area both in the Fall River and Chilson aquifers, providing an indication that there is an overall upward gradient across much of the area, particularly away from recharge areas where the Fall River crops out. Figure 3-4 indicates the general relationship of hydraulic head between the Fall River and Chilson aquifers.

Recharge occurs to the Fall River from a combination of infiltration of precipitation over outcrop areas and from infiltration of overland flow. In the fall of 2011, Petrotek personnel conducting a site visit observed flow in the Pass Creek drainage near the northern boundary of the Project Area infiltrate into the ground over a distance of a few hundred feet. The observed flow was estimated on the order of 100 gpm within a few hundred feet of where the drainage became dry.

The Fall River crops out to the east and north of the Project Area. The Chilson crops out slightly farther east and north of the Fall River outcrop area. These are areas of direct recharge to the aquifers. Geologic dip and hydraulic gradient are both toward the southwest. Therefore a portion of groundwater passing through the Fall River and Chilson beneath the Project Area most likely originates from recharge from the outcrop areas to the north and east. A number of private wells either pump water from the Fall River and Chilson aquifers or allow water to flow under natural artesian conditions. Estimates of the current level of discharge from these wells, based on a recent survey conducted by Powertech, are on the order of 100 to 150 gpm and are summarized in Table 3-2. There must be sufficient recharge occurring to the Fall River and Chilson aquifers to sustain the artesian water levels observed in wells in the area.

An approximation of groundwater flux across the Project Area can be calculated for the Fall River and Chilson using the following equation:

$$Q = K\, i\, a$$

where Q = groundwater flux in ft^3/d
K = hydraulic conductivity in ft/d
i = hydraulic gradient in ft/ft
a = cross-sectional area perpendicular to flow.

The following parameter estimates are used in the calculation. The cross-sectional distance from the northwest corner of the Project Area to the southeast corner (approximately parallel to the potentiometric contours) is approximately 37,500 feet. For the Fall River, an average thickness of 140 feet, a hydraulic conductivity of 1 ft/d and a hydraulic gradient of 0.005 ft/ft are used to calculate a flux of 26,250 ft^3/d or 136 gpm. For the Chilson, an average thickness of 180 feet, a hydraulic conductivity of 2 ft/d and a hydraulic gradient of 0.003 ft/ft are used to calculate a flux of 40,500 ft^3/d or 210 gpm. The recharge rate updip of the Project Area must be approximately equivalent to this flux in order to maintain present water levels. These estimates are on the low side because the recharge must also account for the private well discharge of 100 to 150 gpm.

Average groundwater velocity under the aquifer conditions stated above for each of the aquifers and an estimated porosity of 0.30 would be 0.017 ft/d (6.1 ft/yr) for the Fall River aquifer and 0.02 ft/d (7.3 ft/yr) for the Chilson aquifer.

Annual precipitation in the Black Hills area generally ranges from 12 to 28 inches. In the Dewey-Burdock area, the average precipitation is approximately 16.5 inches.

As previously indicated, the Fall River and Chilson are the primary hosts of uranium mineralization within the Dewey-Burdock Project Area. These two units, and the Fuson Shale confining unit between them, will be the focus of the modeling effort.

Average ore zone thickness between the Fall River and Chilson is estimated at 4.6 feet (Dewey-Burdock TR Section 6.1.6). Anticipated production rates will be 20 gpm per well pattern, all of which will be reinjected with the exception of a net 0.5 to 1.0 percent bleed (overproduction) as indicated in the Dewey-Burdock TR.

4 Model Development

The model code used to simulate the Dewey-Burdock ISR project was MODFLOW-2000 (Harbaugh et al 2000). MODFLOW-2000 is a public domain computer code developed by the U.S. Geological Survey that numerically solves the groundwater flow equation for a porous medium using a finite difference method. MODFLOW-2000 is an enhanced version of the widely used MODFLOW code that has been updated several times (McDonald and Harbaugh 1988, and Harbaugh and McDonald 1996). Like its predecessors, MODFLOW 2000 simulates groundwater flow using a block-centered, finite-difference approach that is capable of a wide array of boundary conditions. The code can simulate aquifer conditions as unconfined, confined, or a combination of the two. MODFLOW-2000 also supports variable thickness layers (i.e. variable aquifer bottoms and tops). Documentation of all aspects of the MODFLOW-2000 code is provided in the users manuals (Harbaugh et al 2000).

The pre/post-processor Groundwater Vistas (Environmental Simulations, Version 6, 2011) was used to assist with input of model parameters and output of model results. Groundwater Vistas serves as a direct interface with MODFLOW-2000, and MODPATH. Groundwater Vistas provides an extensive set of tools for developing, modifying and calibrating numerical models and allows for ease of transition between the groundwater flow and particle tracking codes. Full description of the Groundwater Vistas program is provided in the Users Guide to Groundwater Vistas, Version 6.0 (Environmental Simulations Inc. 2011).

4.1 Model Domain and Grid

The model domain encompasses an area of nearly 360 square miles with north-south and east-west dimensions of 100,000 ft (18.9 miles). The Project Area is located in the northeastern quadrant of the model domain. As described in the conceptual model discussion, north and east of the Project Area the Fall River Formation and the Chilson Member have been eroded away. The northern and eastern extent of the model domain represents the natural updip termination of saturated conditions within the Inyan Kara aquifer system in the vicinity of the Project Area due to the absence of the Fall River and Chilson hydrologic units. The south and west boundaries of the model extend at least 10 miles beyond the Project Area. The extent of the model domain is illustrated in Figure 4-1.

The model grid was designed to provide adequate spatial resolution within the Project Area in order to simulate response of the aquifer to typical extraction and injection rates anticipated for the Dewey-Burdock uranium project. The model domain was extended a considerable distance from the wellfield boundaries to minimize impacts of exterior boundary conditions on the model solution in the area of interest.

Cell dimensions within the vicinity of the Project Area are 100 feet by 100 feet. Cell dimensions are gradually increased to a maximum size of 400 feet by 400 feet near the edges of the model. The model consists of 525 rows and 523 columns with 4 layers and contains 1,098,300 cells.

The four layers of the model represent, from shallowest to deepest, the Graneros Group, the Fall River Formation, the Fuson Shale and the Chilson Member of the Lakota Formation. The Morrison Formation beneath the Chilson is considered an aquitard for the region and is represented as a no flow boundary in the model. The Graneros Group is also considered an aquitard in the region but was included in the model to provide a reference point for water level elevations within the Fall River and Chilson aquifers relative to ground surface. Figure 4-2 shows the relationship of the model layers. Ground surface elevation corresponds to the top of the model, and the bottom of the Chilson corresponds to the base of the model. The data within the Project Area are based on site borings. Outside of the Project area, geologic picks are largely based on available oil and gas well logs. The geologic dips of the surfaces are projected out to the model limits.

4.2 Boundary Conditions

Boundary conditions imposed on a numerical model define the external geometry of the groundwater flow system being studied as well as internal sources and sinks. Boundary conditions assigned in the model were determined from observed conditions. Descriptions of the types of boundary conditions that can be implemented with the MODFLOW code are found in McDonald and Harbaugh (1988). Boundary conditions used to represent hydrologic conditions at the Dewey-Burdock Project Area included general-head (GHB), areal recharge and wells and no-flow boundaries (NFB). The locations of the NFB, GHB and recharge boundary conditions within the model are illustrated in Figure 4-1. Discussion of the placement and values for these boundary conditions is provided below. The well boundaries are described in the discussion of calibration and operation simulations.

The NFB was used to represent areas where groundwater flow was not hydraulically connected to the site or where the aquifer was absent, as in the case where the Fall River has been eroded away north and east of the site. The Dewey Fault system has sufficient offset such that there is a break in the continuity of the Fall River and Chilson units. Therefore, the assumption used in the development of the model is that there is no flow across the fault in either the Fall River or Chilson aquifers. The model domain north of the Dewey Fault system is simulated using the NFB condition.

Geologic maps of the area (Braddock 1963) were used to identify where the Fall River has been eroded away. The NFBs were used to represent that condition. To simplify some of the modeling effort, it was assumed that the underlying

Fuson Shale was also absent in the same area as the Fall River. Similarly, geologic maps were used to identify areas were the Chilson was absent or very thin and those areas were also simulated using the NFBs.

The GHB was used in the Dewey-Burdock Project Area model to account for inflow and outflow from the model domain. GHBs were assigned along the edges of the model domain where available water-level data suggest the aquifer is being recharged from, or discharging to, a source external to the model domain. GHBs were used because the groundwater elevation at those boundaries can change in response to simulated stresses. In the Dewey-Burdock Project Area model, GHBs were assigned to the west, south and southeast boundaries of the model to represent outflow from the model domain as groundwater moves away from the Project Area out into the Powder River Basin (to the west) and down the Cheyenne River Valley (to the south and southeast). The values of head assigned to the GHBs on the west edge of the model ranged from 5445 to 5560 ft amsl from south to north. Along the south edge of the model GHB values ranged from 5445 to 5550 ft amsl.

Pass Creek recharges the underlying Fall River and Chilson aquifer systems north of the Project Area. GHBs were used to simulate the recharge occurring in the area of Pass Creek. Some GHBs were also placed along the eastern edge of the model to account for some underflow through the Chilson from areas outside the model domain. The heads in the GHBs near the Project Area were adjusted to achieve calibration of the model.

The GHB condition was also used to simulate the presence of a surface depression that appears to intercept groundwater. The Triangle Pit located in the east portion of the Project Area, is a former uranium open mine pit. The depth of the pit and the projection of the potentiometric surface at that location suggest that this depression intercepts the water table in the Fall River. The elevation of water in the Pit is approximately 3670 ft amsl. The base of the other former open pit mine workings located further to the southeast are above the potentiometric surface of the Fall River and Chilson aquifers and are not included in the model simulations. A detailed discussion of the former mine pits and the relationship to groundwater is provided in the Dewey-Burdock TR.

The Fall River crops out north and east of the Project Area. This is an area of direct recharge to the aquifer. Recharge to the Fall River and Chilson aquifers upgradient of the Project Area must be approximately equal to the flux across the Project boundary. The flux across the Fall River and Chilson aquifers was previously calculated as 136 gpm and 210 gpm, respectively across a 37,500 ft cross-sectional length. In addition to the GHBs that were applied north of the Project Area to represent recharge from Pass Creek, zones of recharge were applied along the east edge of the model domain to represent infiltration recharge to the Fall River in the area where the unit crops out or is very close to ground surface. The recharge was extended further east than the mapped limits of the Fall River to allow for infiltration recharge to enter the Chilson in the areas where that unit outcrops or is close to the ground surface. Recharge rates were limited during calibration to not exceed 10 percent of the average precipitation rate for the Project Area. In the final calibration, the rates were substantially lower than that at approximately 0.0001 ft/d or 0.44 in/yr. That value is less than 3 percent of the average annual precipitation rate. The location of the recharge zones is illustrated in Figure 4-3.

Groundwater Vistas allows the option of simulating wells using either the MODFLOW well package or as analytical elements. MODFLOW simulation of the wells using either method of input, is the same. The analytical elements method was selected for this model mainly for the ease of interactively shifting well locations on the viewer screen and for importing large numbers of wells into the model from spreadsheets. Analytical element wells were used to simulated pumping and/or artesian flow from private wells in the area. Table 3-2 summarizes the flow rates used for private wells in the model. It was assumed for purposes of the model that these flow rates represent average continuous rates and are therefore simulated as steady state boundary conditions.

Analytical element wells were also used to simulate well patterns of the ISR project. A single well is used to represent the net extraction that occurs within each well pattern. The total number of well patterns per wellfield ranges from 9 to 120 (Table 6-1). Each well pattern is approximately 100 feet on a side which coincides with the cell size in the area of the wellfields. Extraction rates applied to the wells varied according to the production/restoration schedule applied to the various operational simulations and are described under that section of this report.

The model domain was extended a suitable distance from the location of the proposed production wellfields to minimize perimeter boundary effects on the interior of the model where the hydraulic stresses were applied.

4.3 Aquifer Properties

Input parameters used in the model to simulate aquifer properties are consistent with site-derived data including; top and bottom elevations of the Fall River, Fuson and Chilson, hydraulic gradient, hydraulic conductivity, and specific storage.

The top and bottom elevations of the Fall River and Chilson within the Project Area were determined from picks in several hundred borings provided by Powertech and outside of the Project Area from well logs obtained from the South Dakota Department of Environment and Natural Resources, the Wyoming State Engineer's Office or the Wyoming Oil and Gas Commission. Gridded contour maps were generated using the contouring program Surfer, Version 9.0 (Golden Software, 2009). The maps were imported into Groundwater Vistas to represent the top and bottom elevations of the Fall River and Chilson (Figure 4-4 through 4-7).

During model construction, there was difficulty in maintaining integrity between the various layers of the model. Based on projection of the available data, some of the layers intersected each other in space. This occurred primarily because the data sets were not entirely consistent, (i.e. not all well reports contained geologic picks for each of the modeled units). The decision was made during model development to utilize the top of the Fall River and Chilson layers as mapped from the available data and to simulate the Fuson as a uniform layer 45 thick with the bottom corresponding to the top of the Chilson. As previously noted, the Fuson ranges from 20 to 80 feet thick across the Project Area (Dewey-Burdock TR), therefore, a simulated thickness of 45 feet is a reasonable approximation for purposes of the model.

The initial potentiometric surfaces of the Fall River and Chilson were estimated from average water level measurements collected from baseline monitor wells in 2010 and 2011 (Table 3-1).

Hydraulic conductivity determined from recently conducted site pumping tests ranged from 0.5 to 2.0 ft/d for the Fall River and 0.9 to 3.1 ft/d for the Chilson. Zones of hydraulic conductivity were set up to facilitate calibration of the model. Parameter values were maintained within the general range exhibited in the pumping tests. However it is recognized that those pump tests may not capture the full range of aquifer properties that exist at the site. The final calibrated hydraulic conductivity zones for Model Layers 2, 3 and 4 are shown on Figures 4-8, 4-9 and 4-10, respectively. Layer 1 was simulated with a uniform value for horizontal hydraulic conductivity of 2.0 E-04 ft/d and vertical hydraulic conductivity of 2.0 E-05 ft/d.

Specific storage is also an aquifer property of interest with respect to the response of an aquifer to extraction or injection. Specific storage is a measure of the water released from storage due to compaction of the aquifer and expansion of water in response to a decline in head. Specific storage is the storage term used for confined aquifers, where lowering of the potentiometric surface in response to pumping does not result in physical dewatering of the aquifer. Specific storage multiplied by the saturated thickness of an aquifer is referred to as storativity or storage coefficient. Storativity of a confined (fully saturated) aquifer system is typically in the range of 5.0 E-03 to 1.0 E-06 or less. The range of storativity calculated from site pumping tests was from 1.5 E-05 to 1.5 E-04. Zones of specific storage were set up to facilitate calibration of the model to various pumping tests. The final calibrated specific storage values were as follows:

Layer 1 (Graneros) = 3.2 E-07

Layer 2 (Fall River) = 3.1 E-07

Layer 3 (Fuson) = 3.2 E-07

Layer 4 (Chilson = 1.0 E-06

The storativity of the aquifer is determined by multiplying the specific storage by the saturated thickness of the aquifer.

Porosity of the aquifer is used in the model to estimate groundwater velocity. Groundwater velocity is calculated from the Darcy equation as follows:

$$v = ki/n$$

where

v = average interstitial groundwater velocity
k = hydraulic conductivity
i = hydraulic gradient
n = porosity (effective)

The porosity for the Fall River and Chilson is estimated from site data as 30 percent (Dewey-Burdock TR).

5 Model Calibration

Groundwater flow model calibration is an integral component of groundwater modeling applications. Calibration of a numerical groundwater flow model is the process of adjusting model parameters to obtain a reasonable match between field measured values and model predicted values of heads and fluxes (Woessner and Anderson 1992). The calibration procedure is generally performed by varying estimates of model parameters (hydraulic properties) and/or boundary condition values from a set of initial estimates until an acceptable match of simulated and observed water levels and/or flux is achieved. Calibration can be accomplished using trial and error methods or automated techniques (often referred to as inverse modeling).

The focus of this model is on the response of the aquifer to hydraulic stresses imposed on a wellfield scale. The model was initially calibrated to current conditions (which incorporated the pumping rates and artesian discharge rates estimated from the previously referenced survey by Powertech). Because of the uncertainty in the discharge rates from the pumping and artesian wells, the calibration is considered to be more of a representative steady state than a true steady state calibration. The variables that were used to calibrate the model to the representative steady state conditions included recharge along the north and east edges of the model domain, heads and conductivity of the GHBs on all model borders, and both the vertical and hydraulic conductivity zone values and distribution. The calibration targets were the average water level data collected in 2010 and 2011. A secondary calibration target was the calculated flux term for the Fall River and Chilson aquifers of 136 and 210 gpm, respectively.

The adequacy of model calibration is judged by examining model residuals. A residual, as defined for use in this modeling report, is the difference between the observed change in groundwater elevation and the change in groundwater elevation predicted by the model. The objective of model calibration should be the minimization of the residual mean, residual standard deviation, and residual sum of squares (RSS) (Duffield et al 1990). The mean residual is the arithmetic average of all the differences between observed and computed water levels. A positive sign indicates that the model has underpredicted the observed drawdown level and a negative sign indicates overprediction. The residual standard deviation quantifies the spread of the differences between observed and predicted drawdown around the mean residual. The ratio of residual standard deviation to the total head change across the model domain should be small, indicating the residual errors are only a small part of the overall model response (Woessner and Anderson 1992). The RSS is computed by adding the square of each residual and is another measure of overall variability. The overall objective during the calibration process is to minimize the residuals and the statistics based on the residual while maintaining aquifer properties within the range of reasonably expected values. .

5.1 Steady-State Calibration

Calibration was achieved by comparing field-measured (observed) water levels in the baseline monitor wells with heads predicted by MODFLOW-2000 for the same wells under simulated steady state conditions of the Fall River and Chilson aquifers. The hydraulic conductivity zones, recharge values and GHB heads were adjusted until the best fit to the average potentiometric surface observed in the baseline monitor wells was achieved. The final distribution and values for hydraulic conductivity zones for model layers representing the Fall River, Fuson and Chilson are shown on Figures 4-8, 4-9 and 4-10, respectively. The values are generally within the ranges determined from site pumping tests. The final distribution and values for the recharge zones are shown on Figure 4-3.

The potentiometric surfaces of that simulation for the Fall River and Chilson are shown in Figures 5-1 and 5-2. Calibration residuals are presented in Figure 5-3 and 5-4, respectively. Calibration statistics from that simulation are listed in Table 5-1. A plot of the observed versus simulated heads is provided in Figure 5-5.

5.2 Transient Calibration

Once a steady-state calibration was achieved, the model was calibrated to the two pumping tests conducted by Knight-Piesold in 2008. The Fall River pump test, conducted near Dewey for 3.1 days at an average rate of 30.2 gpm, was simulated using the initially calibrated model in transient mode. Because the minimum cell size in the model is 100 feet by 100 feet, the drawdown in the pumping well was not included in the calibration statistics. Factors such as well inefficiency and the steepness of the drawdown cone in the immediate vicinity of the well would make inclusion of the pumping well drawdown of negligible value.

Calibration was achieved by varying the specific storage zone values and then revising the hydraulic conductivity zones. Whenever changes were made to hydraulic conductivity zones, the initial steady-state model was rerun to determine if additional changes had to be made to that base model. The process was repeated until a satisfactory calibration was achieved. Results of the calibration to the Fall River pump test are shown on Figure 5-6 and included in Table 5-2.

The calibration process was then repeated for the 2008 Chilson pump test conducted near Burdock. A 3.0 day pump test, also at 30.2 gpm was simulated. Results of that calibration are provided in Figure 5-7 and the statistics are shown on Table 5-2.

5.3 Model Verification

As a final check to verify that the model provides a reasonable prediction of response to significant hydraulic stress, the calibrated model was used to simulate the TVA test conducted in 1982 in the Chilson, near the north end of the Project Area. That test was run for a period of 11 days at an average rate of 495 gpm. In addition to several Chilson monitoring wells located near the pumping well, a Fuson monitor well and three Fall River monitor wells were observed during the test. The drawdown in the Fuson was over 20 feet at the end of the test. Several feet of drawdown were also measured in the Fall River monitor wells during the test.

The simulated drawdown in the Chilson is generally within 10 percent of the observed drawdown, indicating a reasonable calibration (Figure 5-8). The calibrated model was also able to simulate the drawdown in the overlying Fuson Shale unit fairly closely. It should be noted that the drawdown in the pumping well was over 300 ft during the test so it is expected that there would be drawdown within the Fuson directly above the pumping well even though the hydraulic conductivity of the Fuson is several orders of magnitude lower than the Chilson.

The model was unable to replicate drawdown in the Fall River on the scale of what was observed during the test despite extensive efforts to do so. It is possible that the drawdown observed in the Fall River during the 495 gpm pumping test in the Chilson was the result of improperly completed wells or exploration boreholes that provided a hydraulic connection between the two units.

Additional testing and monitoring will be conducted on the wellfield scale prior to operating the ISR project to determine if the response of the Fall River during the

1982 test was leakage through the Fuson Shale or communication through the wells or boreholes.

The results of the calibration for this simulation are presented in Figure 5-8 and the statistics are provided in Table 5-3. Comparison of the simulated drawdown to the observed drawdown from the 1982 Chilson pumping test confirms that the model adequately replicates response of the Chilson aquifer and the overlying Fuson confining unit to a large hydraulic stress. In fact, the net extraction rate at which the well was pumped (495 gpm) is significantly greater (3 to 12 times) than the net extraction during any period of the proposed production/restoration mine schedule as described in Section 6 of this report.

5.4 Groundwater Flux Comparison

As a final check on the representativeness of the model, the simulated groundwater flux from the calibration model was compared to the previously calculated flux described under the conceptual model discussion. Figure 5-9 shows the location of the cross section through which the flux was originally calculated and described under the conceptual model discussion and was then extracted from the calibration simulation.

Flux through the cross-sectional area in the Fall River was simulated at 25,442 ft^3/d or 132 gpm. Flux through the cross-sectional area in the Chilson was simulated at 41,214 ft^3/d or 214 gpm. These values are in close agreement to the calculation previously described. Additionally, the final recharge rate for the calibration simulation was 1.1 E-04 ft/d or 0.482 in/yr which is approximately 3 percent of the average annual precipitation rate of 16.5 in/yr.

5.5 Sensitivity Analysis

The process of model calibration is intended to estimate parameter values that provide the “best fit” to the selected observational data. As previously described, the hydraulic conductivity, specific storage and recharge zone values and the GHB head and conductance values were adjusted during the calibration process to achieve that fit. Although each of these terms has significant impact on the model solution and calibration, the groundwater flux through the Project Area is of critical importance as this determines whether the proposed ISR production and restoration rates are sustainable throughout operation of the mine. The rate of recharge applied to the model and the head and conductance of the GHBs immediately north of the Project Area largely control the groundwater flux through the area of the proposed wellfields. Because of the importance of these terms, and the fact that they are applied relatively close to the area of the wellfields, a sensitivity analysis was performed to evaluate impacts on model flux and model calibration.

The sensitivity analysis was accomplished by varying the value of the recharge rate and the head and conductance of the GHBs located north of the Project Area in the Fall River and the Chilson. Figure 5-10 shows the locations of the features included in the sensitivity analysis. The values used for each sensitivity analysis simulation and the resulting calibration and groundwater flux through the same cross-sectional area previously described are included in Table 5-4.

Results of the sensitivity analysis indicate that for recharge, the calibration, as measured by the RSS term, was best at the base value of 1.1 E-04 ft/d (indicated by the 1.0 multiplier on Figure 5-11). Reducing the recharge rate by an order of magnitude did not significantly alter the flux through either the Fall River or Chilson in the central portion of the Project Area. Increasing the recharge by an order of magnitude resulted in large increases in the Fall River and Chilson simulated flux and in the RSS. The analysis indicates that the model is not particularly sensitive to decreases in the recharge term but is highly sensitive to increasing that value.

The GHBs representing flux into the Fall River in the area of Pass Creek were evaluated by varying the head and the conductance terms. The conductance assigned to the GHBs representing recharge to the Fall River in the vicinity of Pass Creek ranged from 99 to 366 ft^3/d in the calibration simulation. The sensitivity simulations indicate that varying the conductance even by an order of magnitude up or down results in negligible changes to the flux within the Fall River and Chilson (less than 3 percent of the original calibrated value (Figure 5-12). The head assigned to the GHBs representing recharge to the Fall River in the vicinity of Pass Creek ranged from 3767.2 to 3790.8 ft in the calibration simulation. Increases in head for the Fall River GHB result in increased flux in the Fall River, but decreased flux in the Chilson (Figure 5-13). The opposite also holds true in that decreasing the head results in decreased flux in the Fall River and increased flux in the Chilson. As a result, the combined flux of the Fall River and Chilson stays relatively consistent (within about 3 percent of the calibrated value) but the RSS shows large fluctuation in response to changes in head of the Fall River GHB.

The conductance assigned to the GHBs representing recharge to the Chilson in the vicinity of Pass Creek ranged from 47 to 112 ft^3/d in the calibration simulation. Varying the conductance of the GHBs representing flux into the Chilson in the vicinity of Pass Creek results in negligible change to the flux of the Fall River and Chilson (less than 1 percent of the calibrated values) (Figure 5-14). The head assigned to the GHBs representing recharge to the Chilson in the vicinity of Pass Creek ranged from 3725.0 to 4004.5 ft in the calibration simulation. Changing the head in the Chilson GHBs has the same effect as for the Fall River GHBs. Increasing the head results in increased flux in the Chilson and decreased flux in the Fall River and vice versa (Figure 5-15). The net change in total flux varies by less than 7 percent even with a change of 50 ft in the GHB head.

In summary, changes to the conductance and head of the GHBs in the vicinity of Pass Creek do not appreciably alter the flux of the Fall River and Chilson aquifers across the Project Area, but do result in significant increases to the RSS, indicating a generally poorer calibration. Increasing the recharge rate also changes the calibration substantially and causes large increases in the flux of both the Fall River and Chilson. Decreasing the recharge has negligible effect on either flux or calibration.

6 Operational Simulations

This numerical groundwater flow model was developed to evaluate the effects of ISR operations on the Fall River and Chilson during projected ISR operations. Simulations were performed using the numerical model to address requests for additional information posed by the NRC in response to the original URL Application. The simulations described in this section provide:

- Demonstration of the hydraulic effects that the ISR operation will have on the Fall River and Chilson aquifers, including the sustainability of anticipated production and restoration rates;
- Comparison of hydraulic effects of variable bleed rates and production rates on the Fall River and Chilson aquifers;
- Assessment of the level of interference between wellfields that could occur with simultaneous production and restoration operations; and,
- Evaluation of potential hydraulic effects of ISR operation with respect to an open pit mine located on the eastern portion of the Project Area.

6.1 Initial Conditions

The initial condition for the simulations was based on the potentiometric surface determined from the calibration simulation. As previously stated, the hydraulic conductivity, specific storage and recharge values and the GHB heads were adjusted to provide a reasonable match to potentiometric surface data representative of steady-state conditions and to drawdown data from three separate pumping tests. The final calibrated model was then used to simulate operating conditions for the Dewey-Burdock uranium ISR project. The potentiometric surfaces for the Fall River and Chilson, shown on Figures 5-1 and 5-2, respectively, were used as initial conditions for each of the operational runs described below.

6.2 Simulation of ISR Operations

Model simulations were run to represent the full cycle of ISR production and restoration under a wide range of operating conditions. Fourteen wellfields were simulated, ten in the Burdock Production Area and four in the Dewey Production

Area. Figure 6-1 shows the location of the proposed Fall River and Chilson wellfields. The outlines shown on the figure represent the monitor well ring boundaries which extend out approximately 400 feet from the ore bodies. Note that many of the wellfields have adjoining boundaries and some actually overlap. The areas of overlap are locations where ore zones may be present in subunits within the Fall River or Chilson. For purposes of this modeling effort, the Fall River and Chilson are not subdivided and are each simulated as a single layer within the model.

The model cell size within the Project Area is 100 ft by 100 ft. It is assumed that this is also the dimension of a single 5-spot pattern. The number of well patterns simulated for each wellfield was determined by placing a well within each of the cells where ore is indicated. The number of well patterns per wellfield simulated in the model approximates, but is not exactly the same as, the number projected in the Dewey-Burdock TR. Figure 6-1A shows an example of the placement of wells (representing well patterns) within the outline of the ore body.

The target production rate for Dewey-Burdock Project is 4,000 gpm (Dewey-Burdock TR). The projected production rate at any one time for the 4,000 gpm scenario is 2,400 gpm for the Burdock wellfields and 1,600 gpm for the Dewey wellfields. The production rate per well pattern is assumed to be 20 gpm for the 4,000 gpm production case. For purposes of modeling, and to reflect actual operating conditions, only the net loss, or consumption of water, was simulated for each well pattern. For instance, under a scenario of a 1 percent bleed, a single well pattern is simulated at a rate of 0.2 gpm (20 gpm x 0.01). For simulating the Burdock wellfields at the target production rate of 2,400 gpm with a net bleed of 1 percent, the net extraction rate for the Burdock area would be 24 gpm.

To evaluate the sensitivity of the model to hydraulic stress, simulations were also run using an 8,000 gpm production rate. For the 8,000 gpm simulations, the targets for the Burdock and Dewey Production areas were 4,800 gpm and 3,200 gpm, respectively. The production rate per well pattern is assumed to be 40 gpm for the 8,000 gpm production simulations. Multiplying the total well pattern rate by the bleed rate gives the model rate per well pattern for each simulation.

Simulations were run at the 4,000 and 8,000 gpm production rate at variable bleed rates and restoration rates. The simulations were all run for a period of 8.5 years over 12 stress periods and included restoration after production of each wellfield.

Wellfield restoration was simulated under two separate scenarios. The first scenario involves extraction of groundwater during restoration and reinjection of the majority of that water into the wellfield along with makeup water sufficient to maintain a 1 percent net aquifer restoration bleed. The second scenario utilizes 1 Pore Volume (PV) of Groundwater Sweep (GWS) in addition to the 1 percent bleed during restoration. GWS is used to hydraulically capture groundwater within the affected area of the wellfield and is totally consumptive during a portion of the restoration (that is, none of the extracted water is returned to the aquifer). The extraction rates applied during simulation of restoration under both scenarios are based on the PV of each wellfield. A PV is calculated as follows:

PV = A x B x n x WF

where A = area of the wellfield (feet^2)

B = average ore body thickness (feet)

n = porosity (unitless)

WF = wellfield flare (combined vertical and horizontal flare factor)

Assumptions used in calculating the PV are that the average ore body thickness is 4.6 feet, porosity for the Fall River and Chilson is 30 percent, and the wellfield flare factor is 1.44. The calculation of a PV for each wellfield is included in Table 6-1.

The net-extraction rates used in these restoration simulations conform with both the restoration methods described in the Dewey-Burdock TR that include:

-Groundwater treatment with Reverse Osmosis (RO)

-Groundwater sweep with clean make-up water re-injection (no RO)

It is assumed that a total of 6 PVs will be removed from each wellfield during the restoration phase. The restoration phase simulated for the wellfields ranged from 183 days up to 549 days. The flow rate required to remove 6 PVs within the simulated restoration phase was calculated for each wellfield (Table 6-1). For each wellfield the flow rate was less than 500 gpm. As previously described, a maximum one percent bleed of the operational capacity (5 gpm) is assumed for the restoration process without groundwater sweep (No GWS). This maximum rate (5 gpm net extraction) was conservatively applied to each of the wellfields for simulation of restoration. The actual net extraction rate would be less than 5 gpm from any of the wellfields, as previously described. The 5 gpm is equally divided into the number of wells within the wellfield during the simulation of restoration.

For the GWS scenario, it is assumed that an additional 1 PV is extracted during restoration and is not reinjected. GWS is applied concurrently with the one percent restoration bleed. The extraction rate used for the simulation of the GWS scenario was calculated by dividing 1 PV by the number of days in the restoration period. The resulting rate was then equally divided by the number of wells in each wellfield to determine the rate per well pattern for the simulation that represents GWS. The one percent restoration bleed rate of 5 gpm was also applied as stated for the previous simulation of restoration with no GWS.

For computational efficiency, some of Burdock wellfields that are “stacked” within the Chilson production zone were simulated as operating at the same time. This was the case for wellfields BWF5 and BWF9 and also for wellfields BWF2 and BWF3. Wellfields BWF9 and BWF3 are relatively small in comparison to the other wellfields and make up a small proportion (less than 10 percent) of the total production rate for any model simulations. Similarly, Dewey wellfields DWF2 and DWF4 overlie each other.

One of the Dewey wellfields, DWF1 was divided into two wellfields for purposes of modeling production and restoration, because of its large size. Figure 6-1A represents the division of wellfield DWF1 into two components, DWF1A and DWF1B. As previously noted, the figure also provides an illustration of how the well patterns are simulated as single 100 ft by 100 ft cells within the ore body.

The anticipated ISR operational rates for the Dewey-Burdock Project are for the case of 4,000 gpm production with 0.875 percent net bleed and without GWS (Dewey-Burdock TR). However, the same operational scenario with GWS will result in greater hydraulic effects with respect to drawdown and the simulation of that case is shown in detail. Figure 6-2 illustrates the sequence and rates used in the simulation of 4,000 gpm production with a net bleed of 0.875 percent and restoration with GWS. The sequence of wellfield production and restoration in the simulation is provided to illustrate a possible schedule that may be used to operate the Dewey-Burdock Project. The actual schedule and sequence for operating the Dewey-Burdock Project may differ substantially from that simulated. Regardless of the sequence of wellfield operation, hydraulic containment of production and restoration fluids will be a primary objective throughout the Dewey-Burdock Project operations. Figures 6-3 through 6-14 illustrate the drawdown in the Fall River at the end of each of the 12 stress periods for that simulation. The figures indicate which wellfields were in production or restoration and what the simulated rates were for each stress period.

The first Fall River wellfield in production in the simulation (DWF1) is one of the larger wellfields and is divided into two components for modeling (DWF1A and DWF1B). At the end of the first stress period, simulating 730 days of production at a total rate of 1600 gpm (net loss of 14 gpm), drawdown is centered around wellfield DWF1 (Figure 6-3). The drawdown cone continues to gradually expand through stress periods 2 and 3, which have the same extraction rate as the first stress period (Figures 6-4 and 6-5). Stress periods 4 and 5 simulate concurrent production and restoration from wellfield DWF1B and DWF1A at respective net rates of 14.0 and 29.2 gpm (Figures 6-6 and 6-7). The maximum drawdown outside of the Project Area within the Fall River at the end of this period is slightly greater than 8 feet. The full extent of drawdown in the Fall River across the model domain for this stress period is shown on Figure 6-7A. This stress period represents the maximum hydraulic impact on the Fall River because the largest net extraction from the Fall River (43.2 gpm) for the simulation is applied during this period. Although some drawdown is indicated several miles west and southwest of the Project Area, the amount is negligible considering that large artesian heads exist within the Fall River in those areas. For purposes of comparison, drawdown for the anticipated actual operating scenario, simulation of 4,000 gpm production with 0.875 percent net bleed without GWS, is shown in Figure 6-7B.

Figures 6-8 and 6-9 represent drawdown in the Fall River at the end of stress periods 6 and 7 when only wellfield DWF1B is in production (net extraction of 14 gpm). Simulation of the restoration phase of DWF1B through stress periods 8 and 9 (net extraction of 29.2 gpm) is shown on Figures 6-10 and 6-11. Figure 6-12 exhibits the drawdown resulting from production of wellfield DWF3 at a rate of 300 gpm (net 2.6 gpm bleed) in stress period 10. Wellfield BFW10 (the only Burdock wellfield anticipated to produce from the Fall River) is added in stress period 10 but at very low rates (180 gpm production, 1.6 gpm net bleed) because of its small size (Figure 6-12). Those two wellfields continue in production through stress period 11 (Figure 6-13). The final stress period simulates restoration of wellfields DWF3 and BWF10 and the resulting drawdown is shown on Figure 6-14.

Figures 6-15 through 6-26 illustrate the drawdown in the Chilson at the end of each of the 12 stress periods for the 4,000 gpm, 0.875 percent bleed, with GWS simulation. The figures indicate which wellfields were in production or restoration and what the simulated rates were for each stress period.

The first Chilson wellfield in production in the simulation is BWF1. At the end of the first stress period, simulating 730 days of production at a total rate of 2400 gpm (net bleed of 21 gpm), drawdown in the Chilson is centered around wellfield BWF1 (Figure 6-15). The second and third stress periods simulate concurrent production from three wellfields (BWF5, BWF8 and BWF9) at a combined production rate of 2,380 gpm (net bleed of 20.8 gpm) and restoration from wellfield BWF1 at a net extraction rate of 26.7 gpm (Figures 6-16 and 6-17).

Stress periods 4 and 5 simulate Chilson production of wellfield BWF6 at 2400 gpm (net bleed of 21.0 gpm) and restoration of wellfields BWF5, BWF8 and BWF9 at a combined net extraction rate of 38.0 gpm (Figures 6-18 and 6-19). Figure 6-20 shows the drawdown at the end of stress period 6 which simulates only production from wellfield BWF6 at 2,400 gpm (net bleed of 21.0 gpm). Drawdown during the restoration of wellfield BWF6 (net extraction rate of 20.9 gpm) combined with production at Wellfields BWF2 and BWF3 (net bleed of 14.0 gpm) is simulated as stress period 7 (Figure 6-21).

Stress period 8 simulates the initial Chilson production from the Dewey Production Area in wellfield DWF2 at 1600 gpm (net bleed of 14 gpm) (Figure 6-22). Restoration of wellfields BWF2, BWF3 and BWF6 is included in that stress period at a net extraction rate of 48.4 gpm. Maximum drawdown that occurs outside the Project Area in the simulation is approximately 8 feet. Figure 6-22A shows the hydraulic effect in the Chilson aquifer across the entire domain at the end of stress period 8. Stress period 8 has the highest extraction rate (Figure 6-2) simulated for the Chilson. The simulation indicates that drawdown extends several miles outside the Project Area but that the total impact is only a few feet, which is negligible considering the large artesian heads that exist in the Chilson west and southwest of the site. For purposes of comparison, drawdown for the anticipated actual operating scenario, simulation of 4,000 gpm production with 0.875 percent net bleed without GWS, is included in Figure 6-22B.

Figure 6-23 shows the drawdown resulting from stress period 9 which simulates continued production of wellfield DWF2 and restoration of wellfield BWF2 (net extraction of 18.9 gpm) and adds production of wellfield BWF7 at 1,040 gpm (net bleed of 9.1 gpm). Note that the drawdown around wellfield BWF7 appears limited because the Chilson in this area is simulated as partially saturated and is also near the active recharge zone for the Chilson. The ore in this portion of the Project Area is within the lower Chilson member and localized low permeability confining units are present above the ore zone in that area (Dewey-Burdock TR). The hydraulic response of wellfield BWF7 will be evaluated further once additional hydrologic characterization is performed, prior to finalizing the hydrogeologic wellfield data package for BWF7.

Chilson wellfields BWF4 and DWF4 come into production in stress period 10 at rates of 1,200 gpm (net bleed of 10.5 gpm) and 500 gpm (net bleed of 4.4 gpm), respectively (Figure 6-24). Wellfield BW7 continues production through this stress period and wellfield DWF2 goes into restoration at a net extraction rate of 20.9 gpm. Stress period 11 simulates the continuation of the previous production except that wellfield BW7 goes into restoration at a net extraction of 16.7 gpm (Figure 6-25). The final stress period simulates restoration of wellfields BWF4 and DWF4 at net extraction rates of 24.1 gpm and 7.4 gpm, respectively (Figure 6-26).

Results of the simulation of the fourteen anticipated wellfields indicate that wellfield interference can be effectively managed through appropriate scheduling and balancing of the production and restoration phases of the wellfields. Wellfield interference between concurrently operating wellfields can be reduced by maximizing distance and balancing net extraction between the wellfields. The simulated scenario does not represent the only acceptable or even a preferred sequence of production and restoration and only serves to illustrate that hydraulic containment can be maintained during simultaneous operation of multiple wellfields in the Dewey-Burdock Project. The Dewey-Burdock model simulates entire wellfields operating during a single stress period. In actual operation, wellfields are produced and restored on the scale of header houses and individual well patterns and monitored accordingly. Use of a numerical model can assist in this effort. However, real time monitoring of water levels during operations and adjustment of flow rates in response to water level changes provides the best engineering control to minimize wellfield interference.

6.3 Fall River and Chilson Hydraulic Head Assessment

Monitor points were placed at strategic locations within the Project Area to illustrate the changes that occur to the potentiometric surface during the life of production and restoration operations and during post mining recovery (Figure 6-27). Monitor points were selected at the Project Area boundary downgradient of the Dewey and Burdock Production Areas and within the wellfields for both Production Areas. Hydrographs are provided for both the Fall River and Chilson at each location.

The hydrographs for the Dewey Production Area downgradient monitor point (D-1) are shown on Figure 6-28A. Hydrographs for monitor point D-1 indicate that the maximum drawdown simulated during ISR operations is less than 10 feet at the edge of the Project Area and that the hydraulic head stays several hundred feet above the top of the Fall River (at 3,079 ft amsl). One year after termination of all production and restoration operations, the water level at that location recovers to within one foot of pre-ISR levels (Figure 6-28A).

The hydrographs for the Burdock Production Area downgradient monitor point (B-1) are shown on Figure 6-28B. The hydrographs for monitor location B-1 indicate that the potentiometric surface of both the Fall River and Chilson stay above ground surface (at 3,592 ft amsl) for the duration of the ISR operations. Figure 6-28B also shows the recovery of water levels to near pre-ISR levels within the first year following termination of all production and restoration operations.

The hydrographs for the Dewey Production Area wellfield monitor point (D-2) are shown on Figure 6-29A. The monitor point is located in the middle of wellfield DWF1 which is where the greatest amount of drawdown occurred during the production/restoration simulation. The hydrographs for monitor location D-2 indicate that the maximum drawdown in the Fall River is less than 10 feet during the simulation and approximately 15 feet in the Chilson.

The hydrographs for the Burdock Production Area wellfield monitor point (B-2) are shown on Figure 6-29B. The monitor point is located in the area where wellfields BWF1, BWF2 and BWF3 overlap which is where the greatest amount of drawdown occurred during the production/restoration simulation. The hydrographs for monitor location B-2 indicate that the maximum drawdown in the Fall River is less than 3 feet during the simulation and approximately 25 feet in the Chilson.

Note that although there is minimal production in the Fall River in the Burdock Production Area there is a noticeable drawdown response in that aquifer at location B-2. Some of that drawdown is induced by the Fall River extraction occurring in the Dewey Production Area. To further evaluate the amount of drawdown occurring within the Fall River that is directly attributable to ISR operations in the Chilson, a simulation was run in which all Fall River wellfields were shut-in (not operating) but the Chilson wellfields were operating under the same rates as in the 4,000 gpm production, 0.875 percent net bleed with groundwater sweep simulation. The head difference in the Fall River at location B-2 between those two simulations is shown on Figure 6-29C. The difference is the effective drawdown in the Fall River induced by Chilson ISR operation under the stated conditions. As shown on the figure, that drawdown is less than 1.4 feet at any time during the simulation. Although there is a slight decrease in the Fall River hydraulic head during the ISR simulation, the head within the Chilson remains lower throughout the simulation, indicating there would be no groundwater flow from the Chilson into the Fall River.

6.4 Recovery Simulation and Assessment

Recovery of the Fall River and Chilson following termination of ISR operations was simulated by extending the model out an additional one year with no production or restoration. Results of the simulations show that residual drawdown has largely dissipated in both the Fall River and Chilson aquifers within that time period (Figures 6-30 and 6-31). The hydrographs presented in Figures 6-28A, 6-28B, 6-29A and 6-29B also illustrate the recovery of the Fall River and Chilson aquifers to near pre-ISR levels within one year after termination of ISR operations.

6.5 Triangle Pit Assessment

The Triangle Pit location is indicated in each of the figures that illustrate drawdown in the Fall River during the simulation of the 4,000 gpm production-0.875 percent bleed with GWS (Figure 6-3 through 6-15). As previously described, the base of Triangle Pit is beneath the top of the Fall River and it is apparent that water in the pit is connected to groundwater. A component of this evaluation is to assess potential hydraulic impacts to the Triangle Pit as a result of ISR operations at the rates proposed for the Dewey-Burdock Project. The Fall River drawdown figures indicate that the area of the Triangle Pit will have less than one foot of drawdown throughout the operational period of the mine. Multiple factors have a bearing on the limited drawdown simulated by the model. First, with the exception of wellfield BWF10, all of the Fall River production occurs at a distance of over 2 miles from the Triangle Pit. The Triangle Pit is located approximately 3,300 feet from wellfield BWF10 but the net extraction from that wellfield is simulated (and anticipated to be) at less than 3 gpm at any time during mining operations. Second, the Triangle Pit is located near an area where the Fall River is exposed at or near the surface. The conceptual hydrologic model is that active recharge is occurring in the area where the Fall River is present in outcrop. Third, the Triangle Pit is located in an area where the Fall River is partially saturated and is the water table aquifer. Drawdown resulting from pumping from a well or wells that is/are hydrologically unconfined is typically much less than would occur from a well in a fully saturated (hydrologically confined) system when pumping at the same rate.

6.6 Variable Operational Rate Simulations

Additional simulations were run using the same schedule of wellfield production/restorations previously presented but with variable production rates, net bleed percentages and restoration rates. The 4,000 and 8,000 gpm cases were each simulated using a net bleed (overproduction) of 0.5, 0.875 and 1 percent of the production rate. Additionally, the two restoration cases previously described (No GWS and with GWS) were run for each production rate/net bleed simulation. Table 6-2 summarizes the rates and parameters for each of the simulations. Table 6-3 shows the total flow rate over time for each of the simulations. Table 6-4 indicates the net extraction rates over time for each of the operational simulations. Comparisons of the effect of varying these operational parameters are described below.

Figure 6-32 compares the relative drawdown in the Fall River between the 0.5, 0.875 and 1.0 percent bleed for the 4,000 gpm production, with GWS simulations. The figure shows the drawdown at the end of stress period 5 which is when the maximum drawdown occurs because the extraction rates are largest during that period. The same comparison is made for the Chilson in Figure 6-33 at the end of stress period 8 when the maximum production is occurring in that unit. As anticipated, the increase in the bleed percentage results in slightly greater drawdown at the end of the stress period.

Figure 6-34 is a comparison of the drawdown in the Fall River at the end of stress period 5 from the 4,000 and 8,000 gpm production simulations with 1.0 percent bleed and GWS. Figure 6-35 is a comparison of the drawdown in the Chilson for the same simulation and stress period. Although the drawdown is greater for the 8,000 gpm simulation in both cases, the overall hydraulic effect to the Fall River and Chilson is still negligible compared to the total available head in those aquifers.

Figure 6-36 is a comparison of the drawdown in the Fall River at the end of stress period 5 from the 4,000 gpm for the 0.875 percent bleed simulation with and without GWS. The simulation of GWS increases the drawdown in the Fall River because of the higher net restoration extraction rate of 29.2 gpm compared to 5.0 gpm for the simulation of only RO. Figure 6-37 is a comparison of the drawdown in the Chilson for the same simulation for stress period 8. The drawdown in the Chilson is greater for the simulation of GWS because of the increase in the net restoration extraction rate from 15.0 gpm to 48.4 gpm.

The maximum drawdown for all of the simulations was under the 8,000 gpm case with a 1 percent bleed and application of GWS. The maximum drawdown occurred at the end of stress period 5 for the Fall River and the end of stress period 8 for the Chilson. Figure 6-38 and 6-39 represent the drawdown from that simulation for the Fall River and Chilson, respectively. Maximum drawdown outside the Project area during the simulation was slightly greater than 12 feet within the Fall River and approximately 10 feet in the Chilson.

7 Evaluation of a Hypothetical Breccia Pipe

Gott et al. (1974) hypothesized that breccia pipes sourced from the underlying Paleozoic formations may discharge into overlying geologic units. Concerns have been expressed by interested parties that there may be breccia pipe releases into either the Fall River or Chilson aquifers within the Dewey-Burdock Project Area and that such a release could conceivably compromise proposed ISR operations. Powertech has extensively surveyed the Project Area and has found no direct evidence of a breccia pipe or breccia pipe release in that area. There is no direct evidence from either visual observation or water level data of the presence of a breccia pipe release into the Fall River or Chilson aquifers within the Project Area.

The calibrated numerical model developed for the Dewey-Burdock ISR Project was used to assess the potential hydraulic impacts of a hypothetical breccia pipe release. A breccia pipe release into the Fall River and or Chilson was simulated by placing an injection well into the model layers representing those hydrostratigraphic units and running a steady state simulation. A value of 200 gpm was selected for the simulations. Much higher flow rates have been documented at known breccia pipe locations. Discharge rates much lower than 200 gpm would probably have minimal impact on ISR operations and could be controlled using engineering practices.

The result of the simulation of a hypothetical breccia pipe discharge into the Fall River within the Project Area is shown on Figure 7-1. The potentiometric surface shows a large recharge mound resulting from the hypothetical discharge. A hydraulic profile showing the potentiometric surface resulting from the hypothetical breccia pipe discharge is shown on Figure 7-2. The simulation of a breccia pipe discharge into the Chilson is shown on Figures 7-3 and 7-4. A large recharge mound occurs within the Chilson in this simulation.

Because of the large change in the potentiometric surface, the occurrence of discharge from a breccia pipe into either the Fall River or Chilson should be observable with the existing monitor well network and would definitely be noticed once a monitor ring has been installed around a proposed production unit. No such recharge mound has been observed to date. If a breccia pipe release were identified during additional characterization for the wellfield, engineering controls could be applied to ensure that the discharge did not compromise the ISR operations.

8 Summary

A numerical model was developed to evaluate the response of the Fall River and Chilson aquifers to hydraulic stresses imposed by operation of the Dewey-Burdock ISR uranium project. The model was developed using site-specific data regarding top and bottom aquifer elevations, saturated thickness, potentiometric surface and hydraulic gradient, hydraulic conductivity, specific yield, storativity and porosity of the Fall River and Chilson aquifers. The model was calibrated to existing conditions and to three pumping tests.

The calibrated model was used to simulate the complete operational cycle of the Dewey-Burdock ISR uranium project, from production through restoration, of fourteen delineated wellfields and recovery after the conclusion of restoration. Simulations were run using a range of production/restoration rates and net bleeds ranging from 0.5 to 1.0 percent. Results of the modeling indicated the following:

- Simulated production at the projected rates of up to 8,000 gpm (40 gpm per well pattern) with a 0.5 to 1.0 percent bleed for a period of 8.5 years did not result in dewatering of the aquifer;
- Maximum drawdown outside of the Project Area was simulated as less than 12 feet throughout the entire life cycle of the ISR project;
- Restoration using RO at the projected rates of up to 500 gpm per wellfield with a 1 percent reject rate can be sustained throughout the restoration cycle of 6 PVs of removal;
- Groundwater sweep simulated at rates to remove one PV within 6 to 18 months per wellfield did not result in localized dewatering of the aquifer;
- Wellfield interference can be managed for the simulated production/restoration and net bleed rates through sequencing of wellfields to maximize distance between concurrently operating units;
- Model simulations indicate limited drawdown will occur within the Fall River as a result of ISR operations within the Chilson;
- Simulated hydraulic impact (drawdown) at the Triangle Pit was less than 1 foot;
- Simulation of a hypothetical breccia pipe discharge to the Fall River or Chilson results in large changes in the potentiometric surface such that existing and proposed monitoring would detect such an occurrence; and,
- Water levels recover to near pre-operational elevations within 1 year after ISR operation cease.

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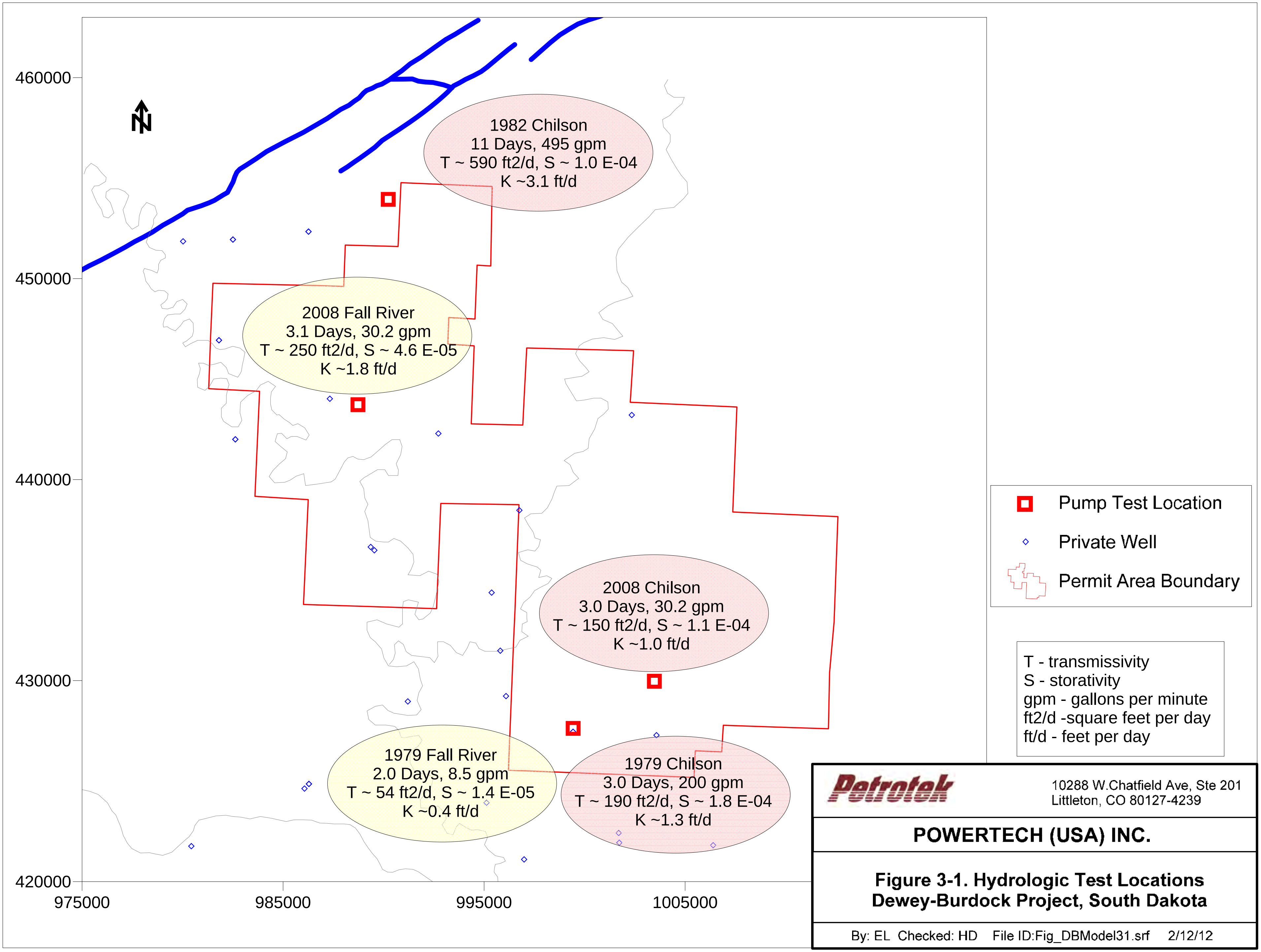
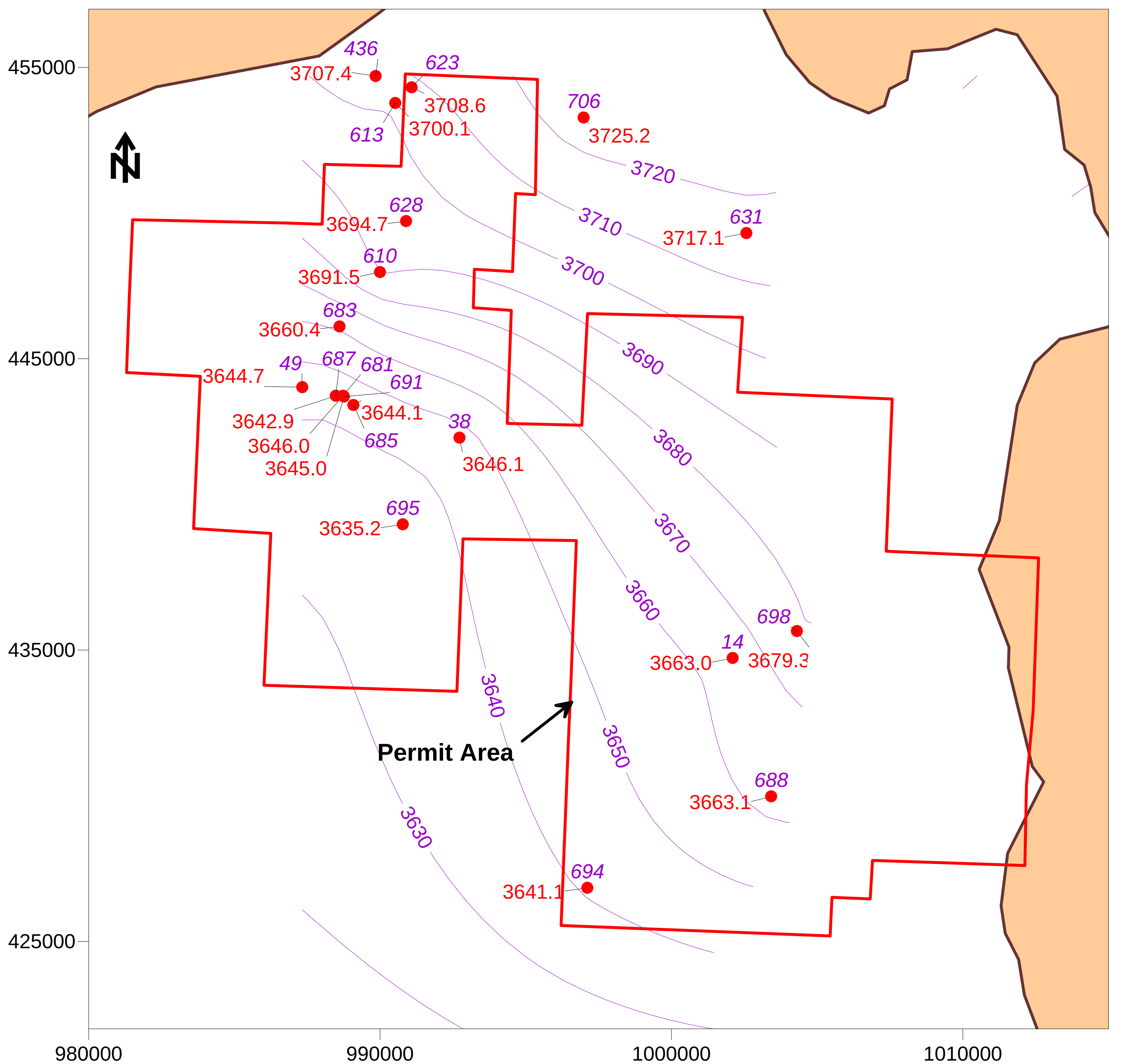


Figure 3-1. Hydrologic Test Locations
Dewey-Burdock Project, South Dakota



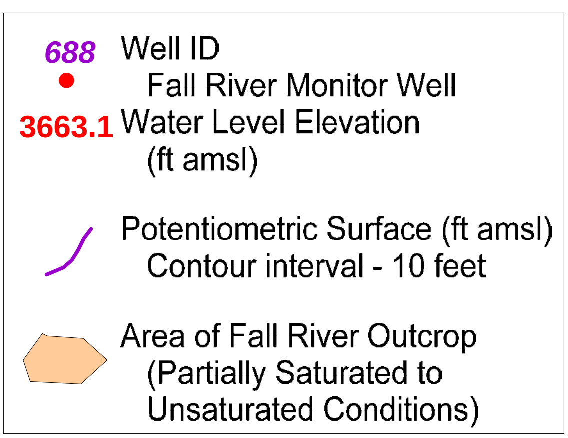


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Figure 3-2. Fall River Potentiometric Surface
2010-2011 Average
Dewey-Burdock Project, South Dakota

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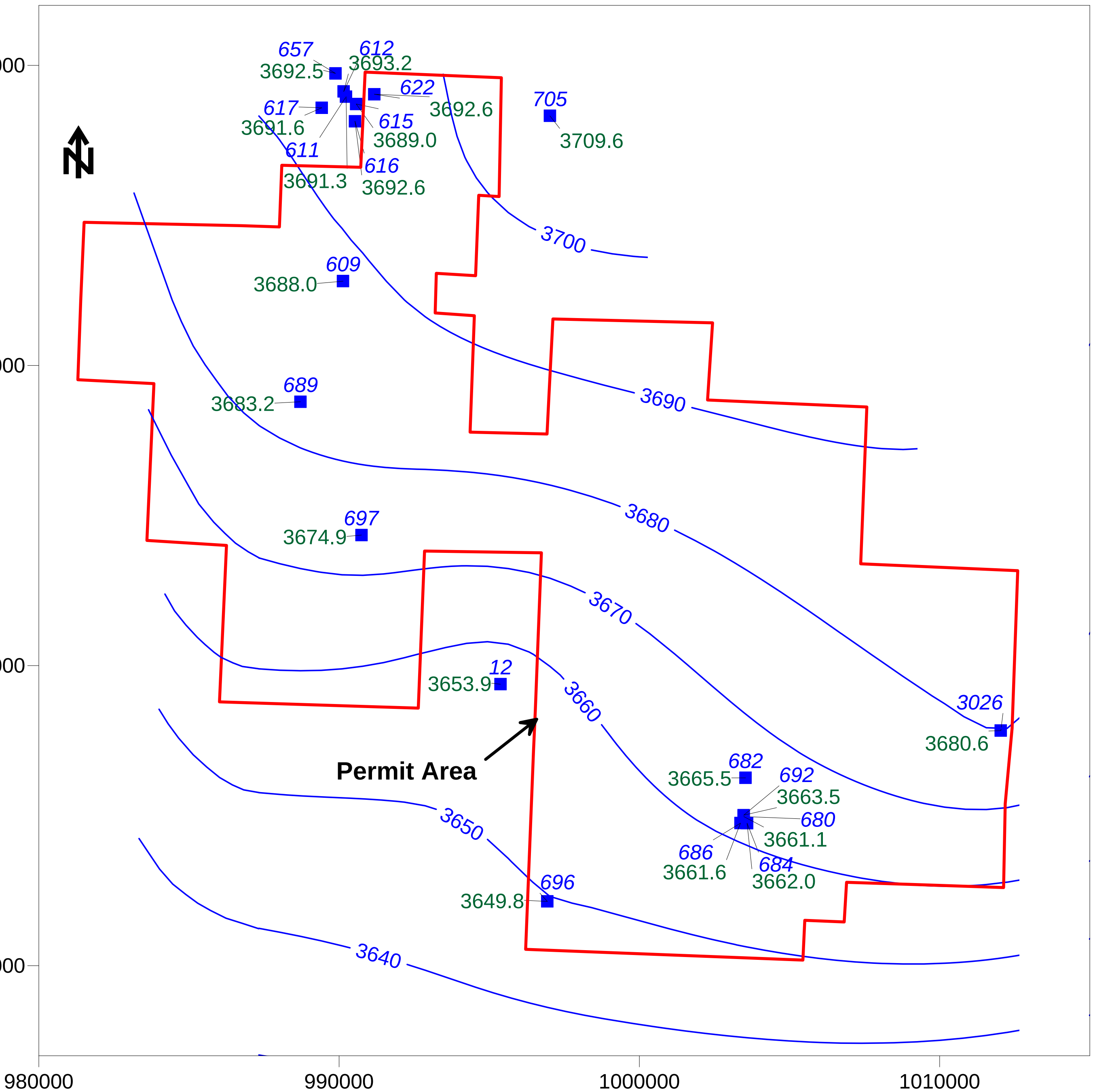

697 Well ID

■ Chilson Monitor Well

3674.9 Water Level Elevation (ft amsl)

Potentiometric Surface (ft amsl)
Contour interval - 10 feet

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Figure 3-3. Chilson Potentiometric Surface 2010-2011 Average Dewey-Burdock Project, South Dakota

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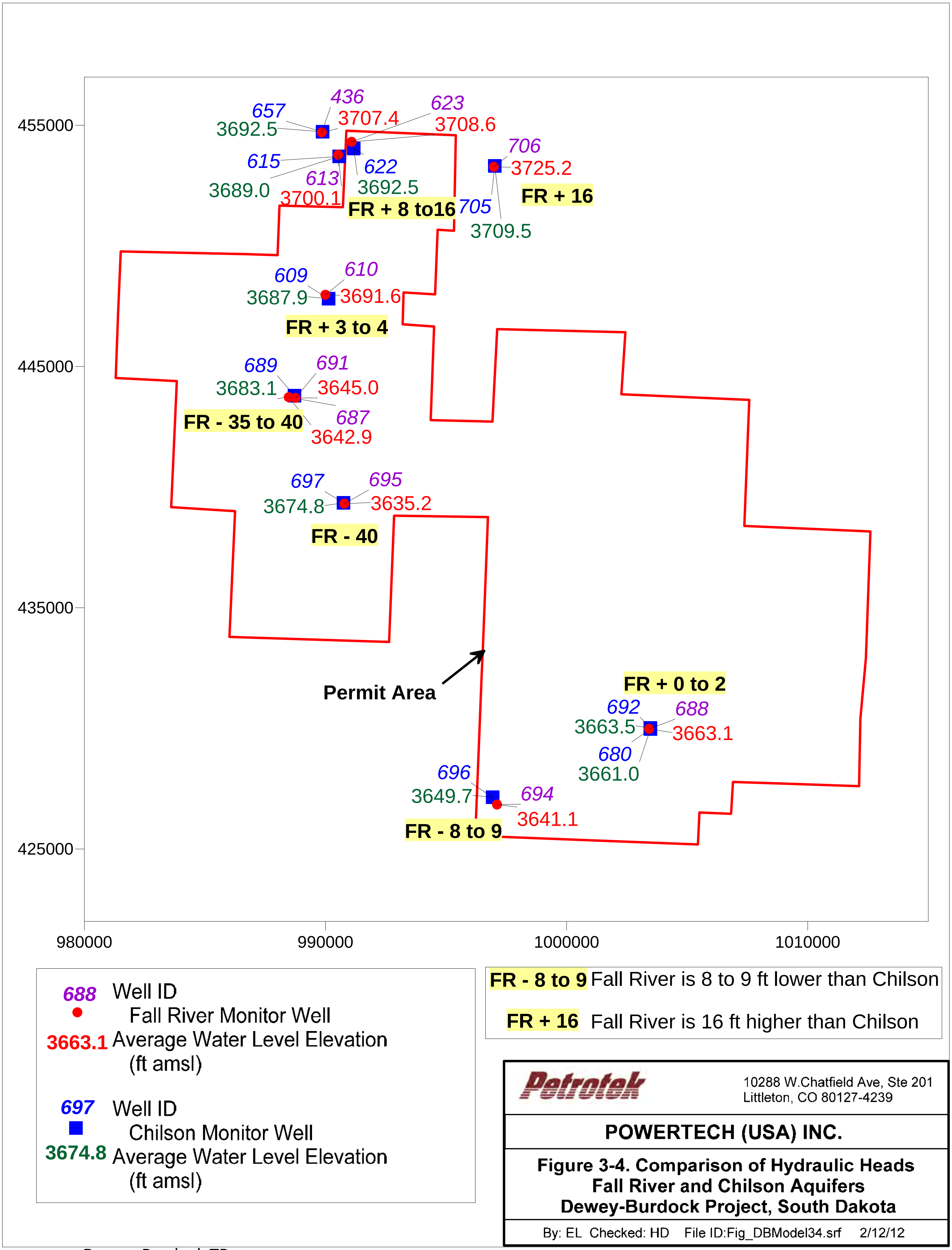

**Figure 3-4. Comparison of Hydraulic Heads
Fall River and Chilson Aquifers
Dewey-Burdock Project, South Dakota**

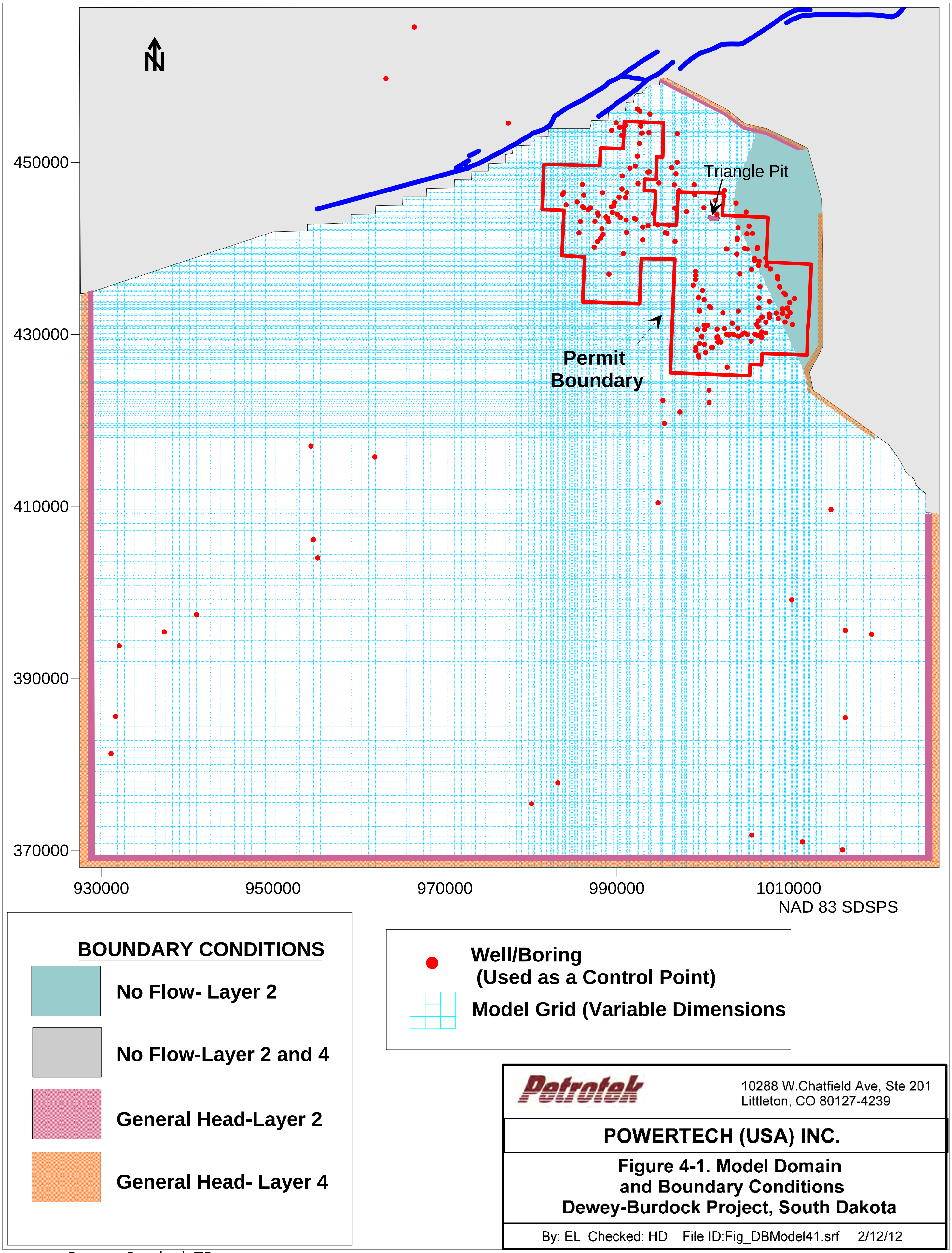

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Figure 4-1. Model Domain and Boundary Conditions Dewey-Burdock Project, South Dakota

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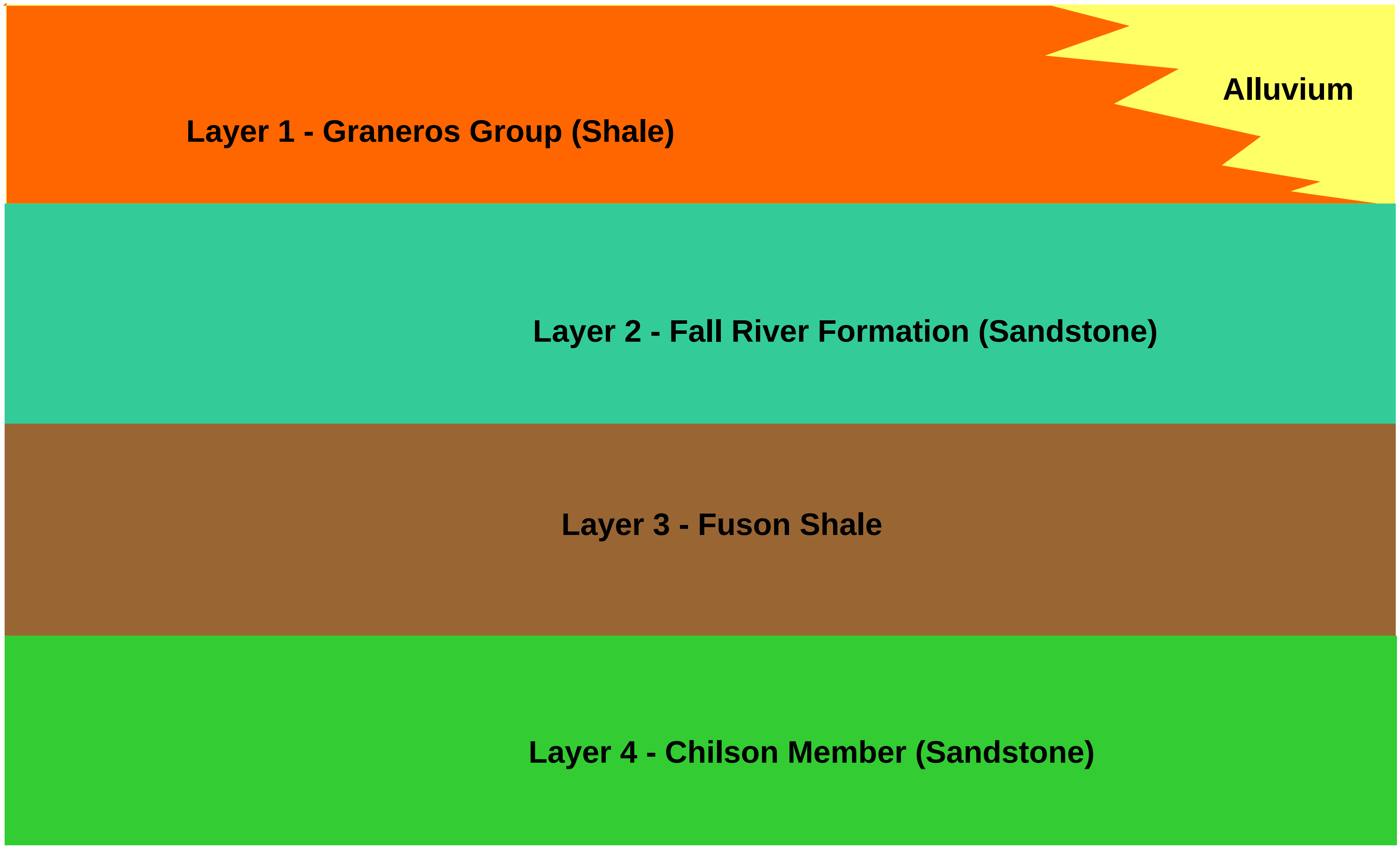

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Figure 4-2. Schematic Diagram of Model Layers
Dewey-Burdock Project, South Dakota

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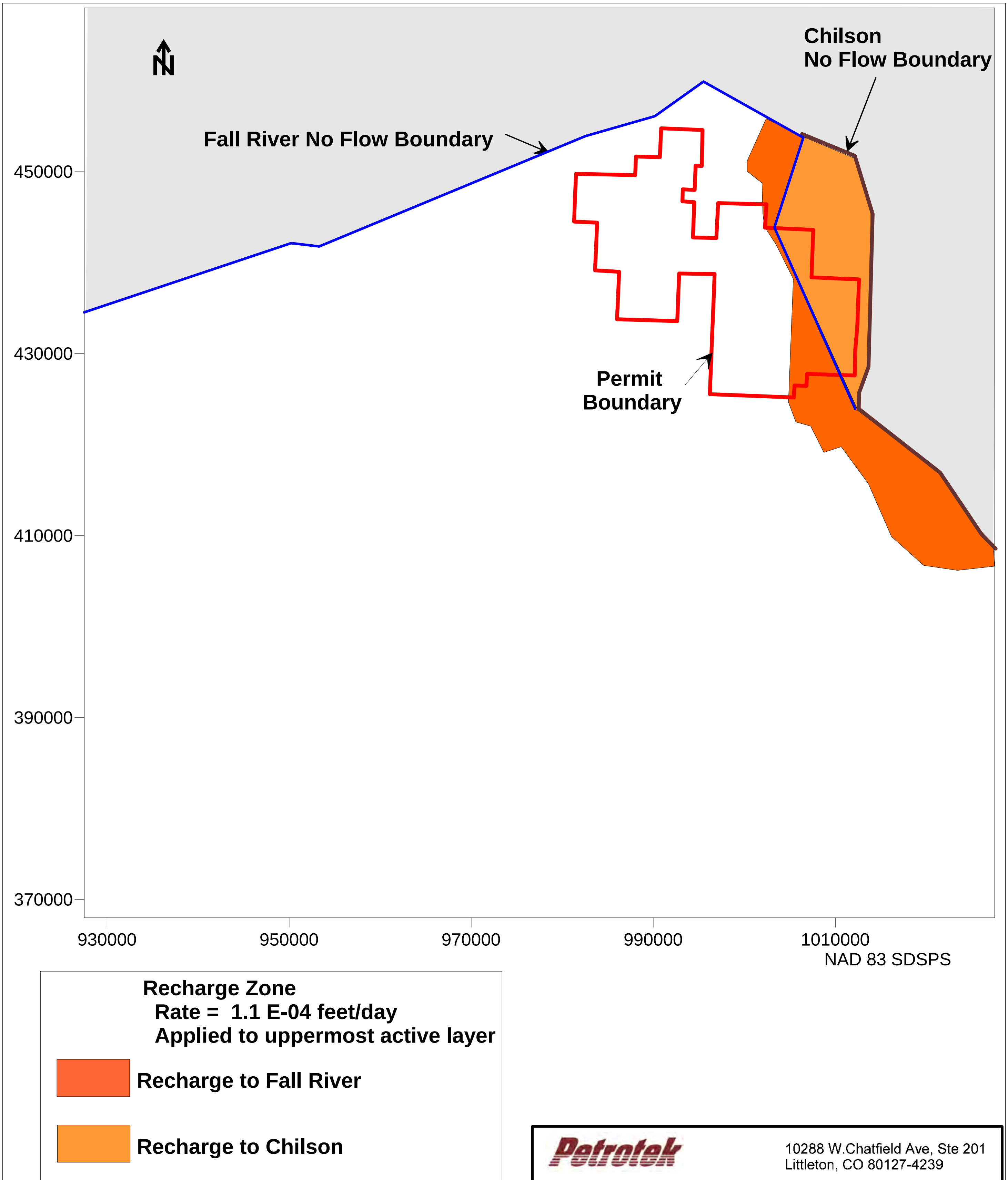

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Figure 4-3. Recharge Zones
Dewey-Burdock Project, South Dakota

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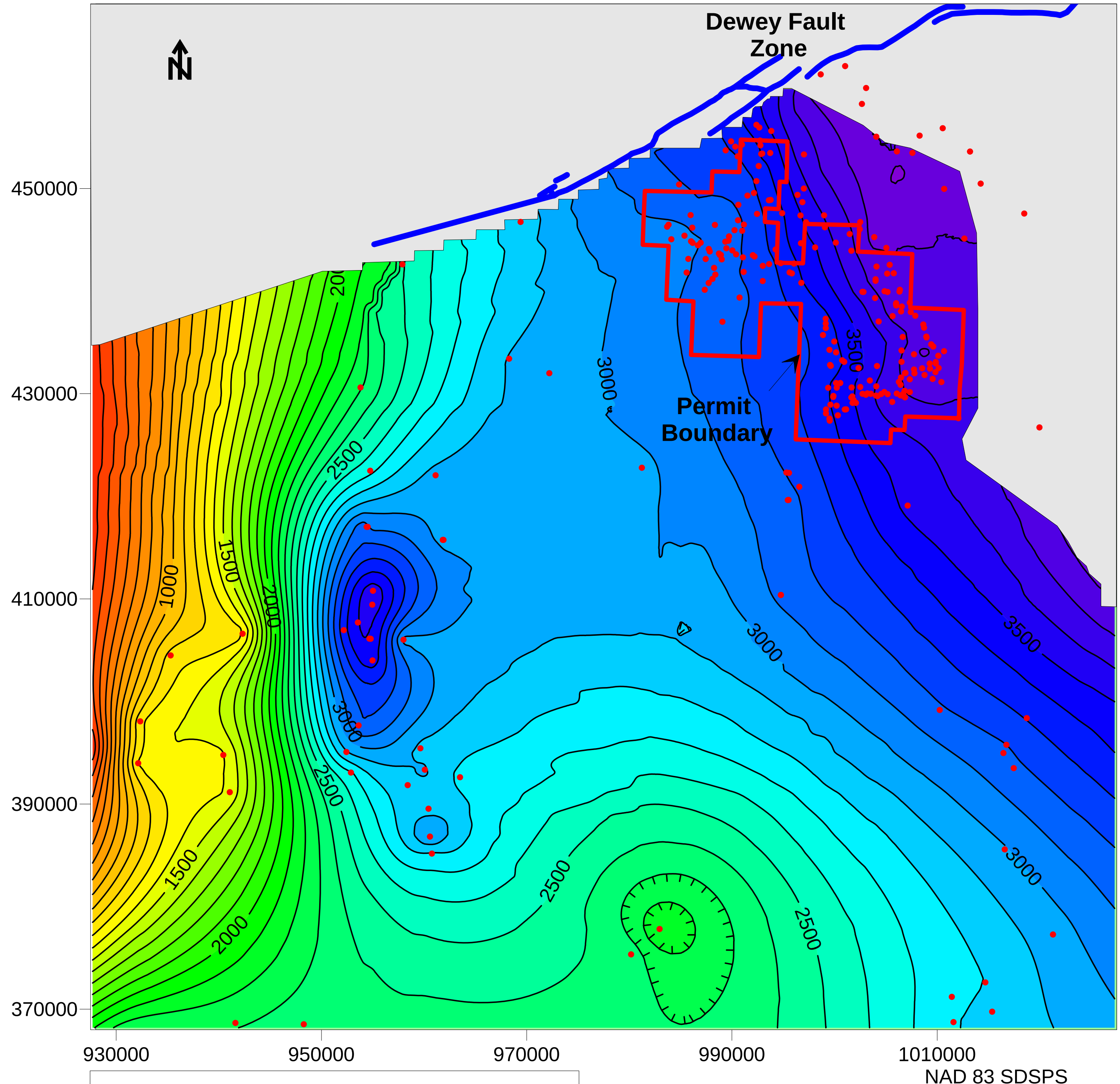

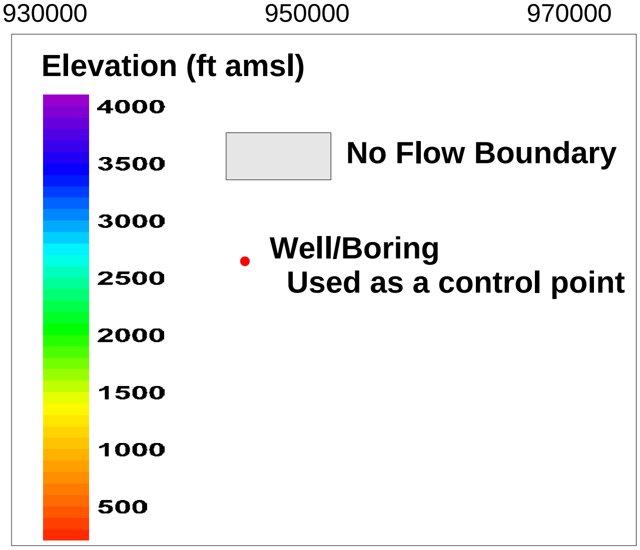

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Figure 4-4. Top of Fall River Model Layer 2 Dewey-Burdock Project, South Dakota

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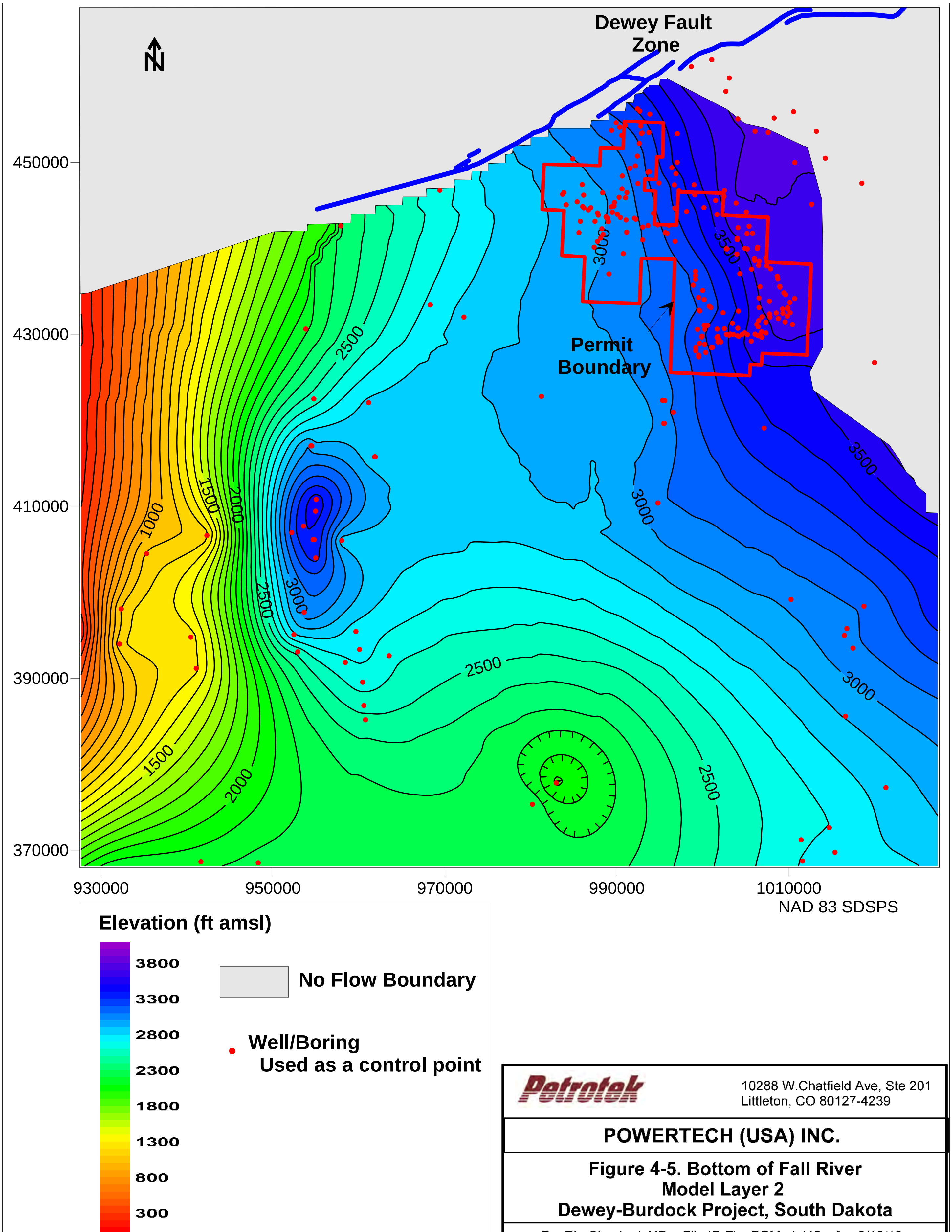

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Figure 4-5. Bottom of Fall River Model Layer 2
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel45.srf 2/12/12

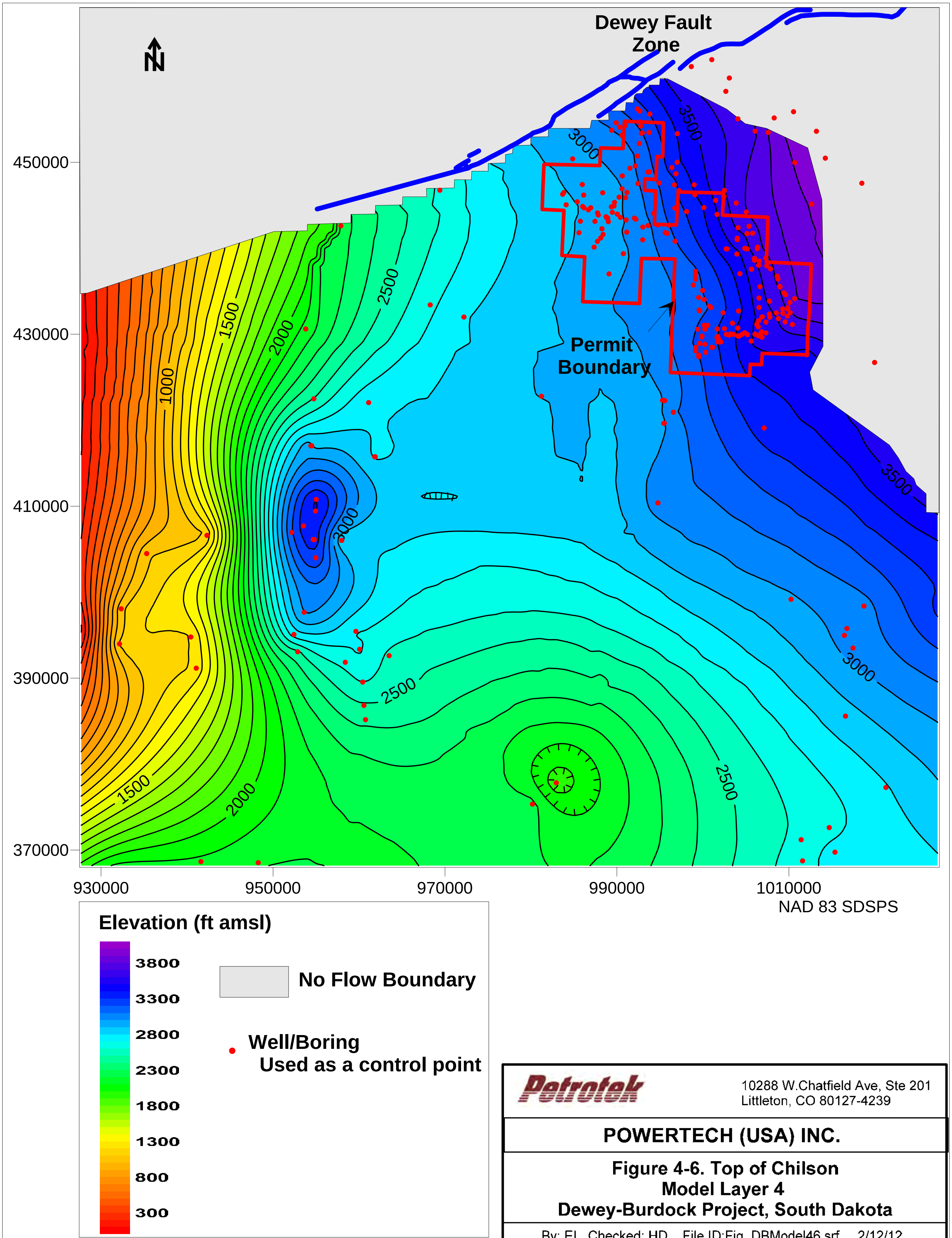

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Figure 4-6. Top of Chilson
Model Layer 4
Dewey-Burdock Project, South Dakota

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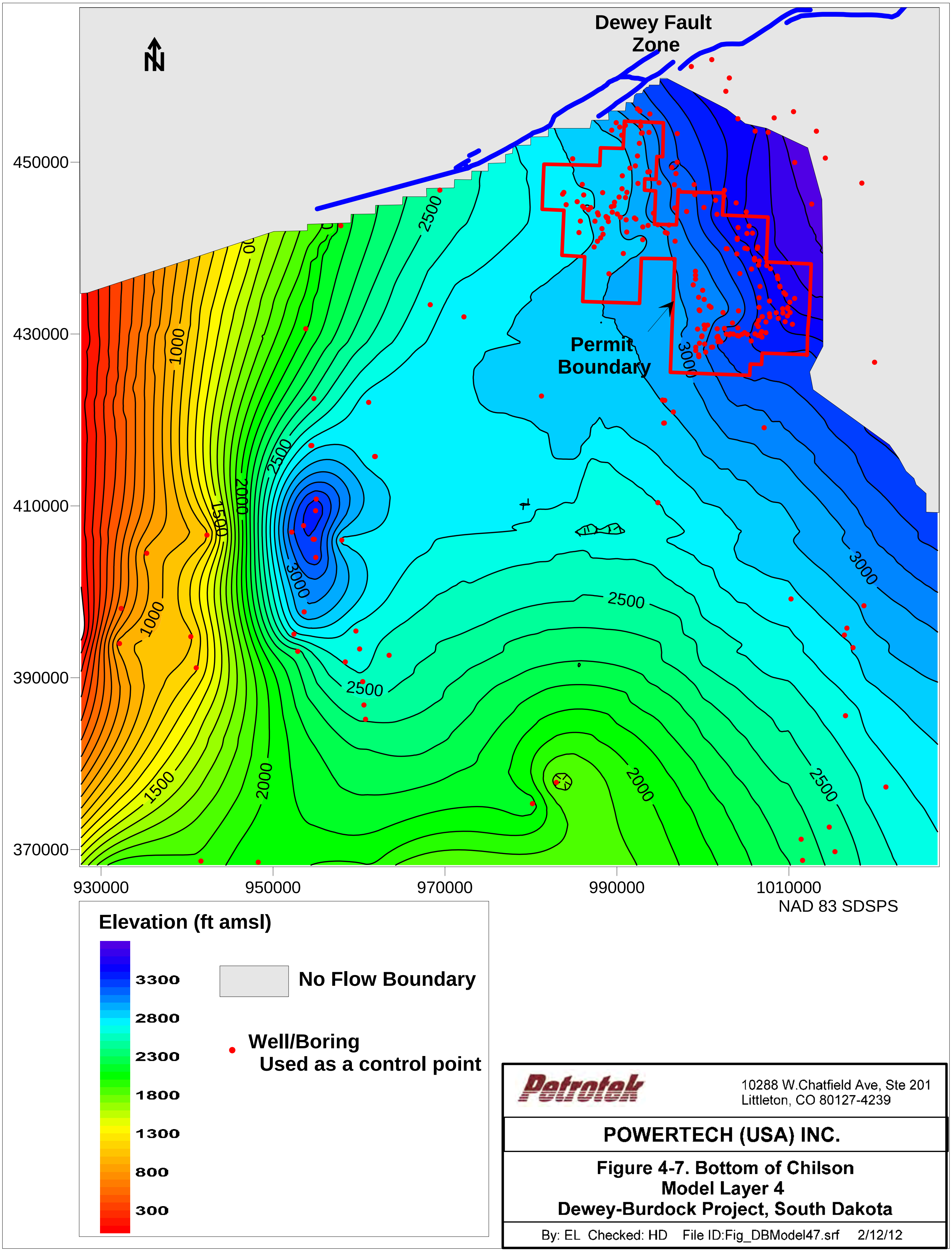

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Figure 4-7. Bottom of Chilson Model Layer 4 Dewey-Burdock Project, South Dakota

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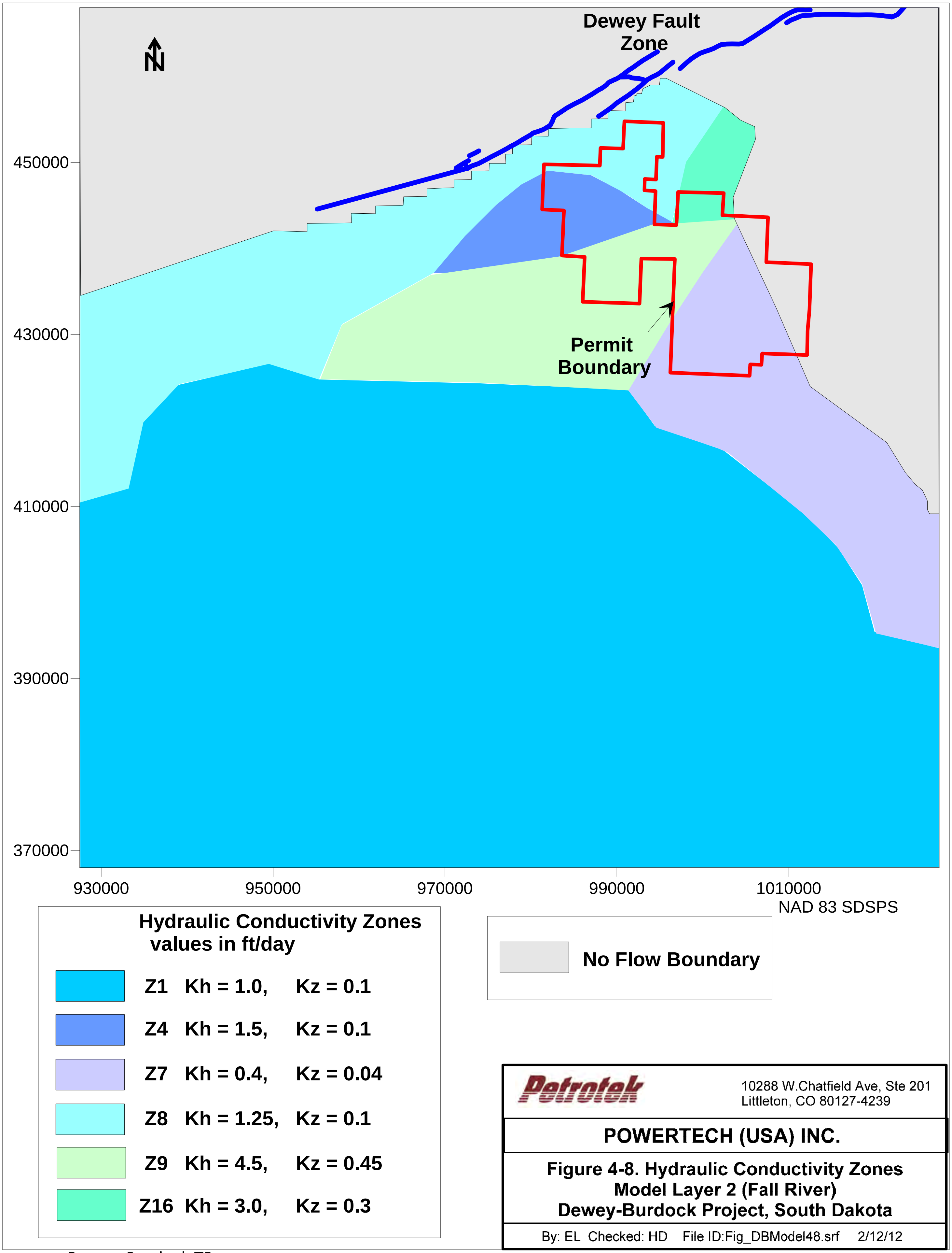

Figure 4-8. Hydraulic Conductivity Zones Model Layer 2 (Fall River) Dewey-Burdock Project, South Dakota

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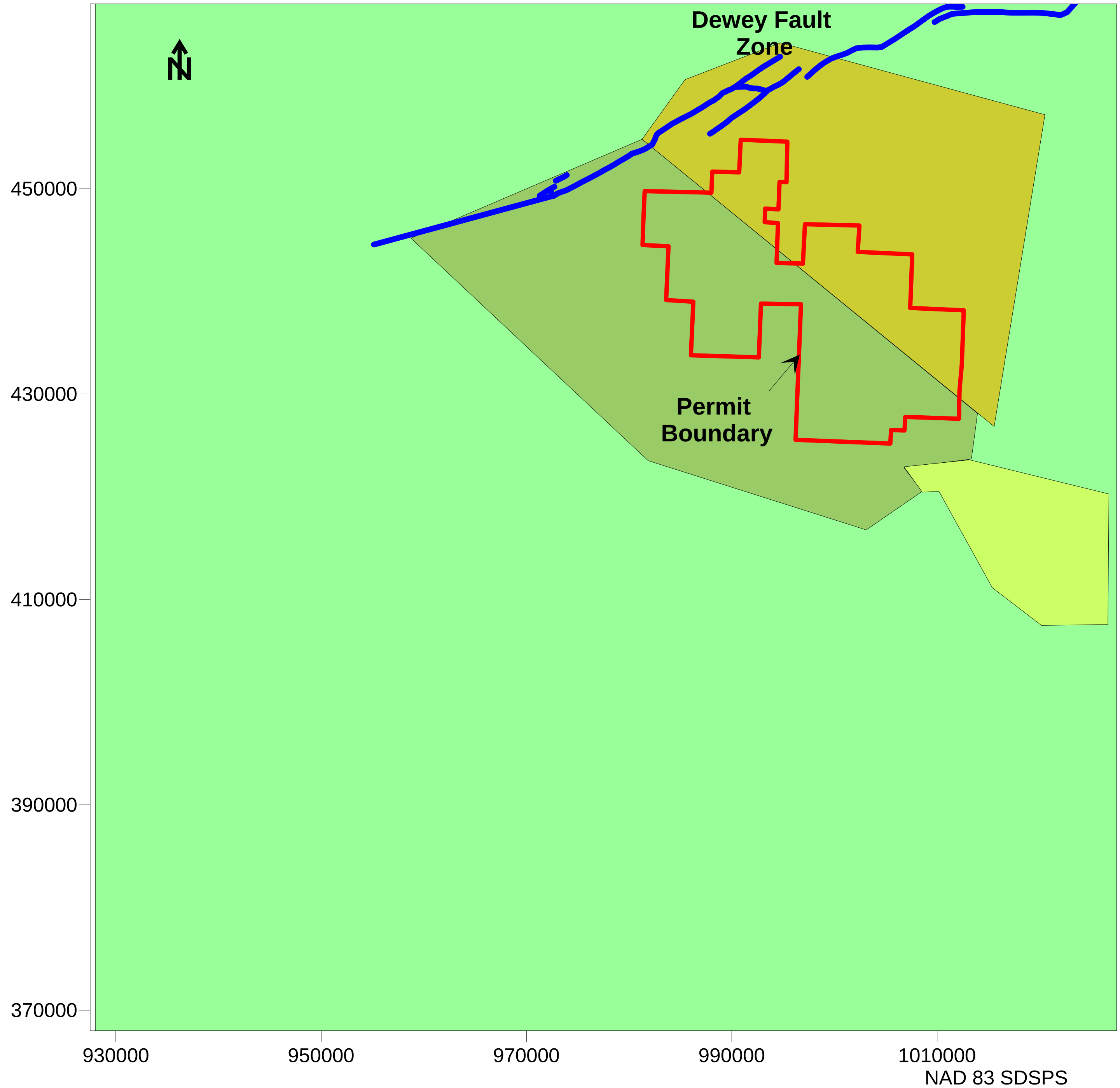

No Flow Boundary

Hydraulic Conductivity Zones values in ft/day

Z3	Kh = 0.002,	Kz = 0.0005
Z12	Kh = 0.02,	Kz = 0.0005
Z13	Kh = 0.02,	Kz = 0.00001
Z14	Kh = 0.02,	Kz = 0.00002

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Figure 4-9. Hydraulic Conductivity Zones Model Layer 3 (Fuson) Dewey-Burdock Project, South Dakota

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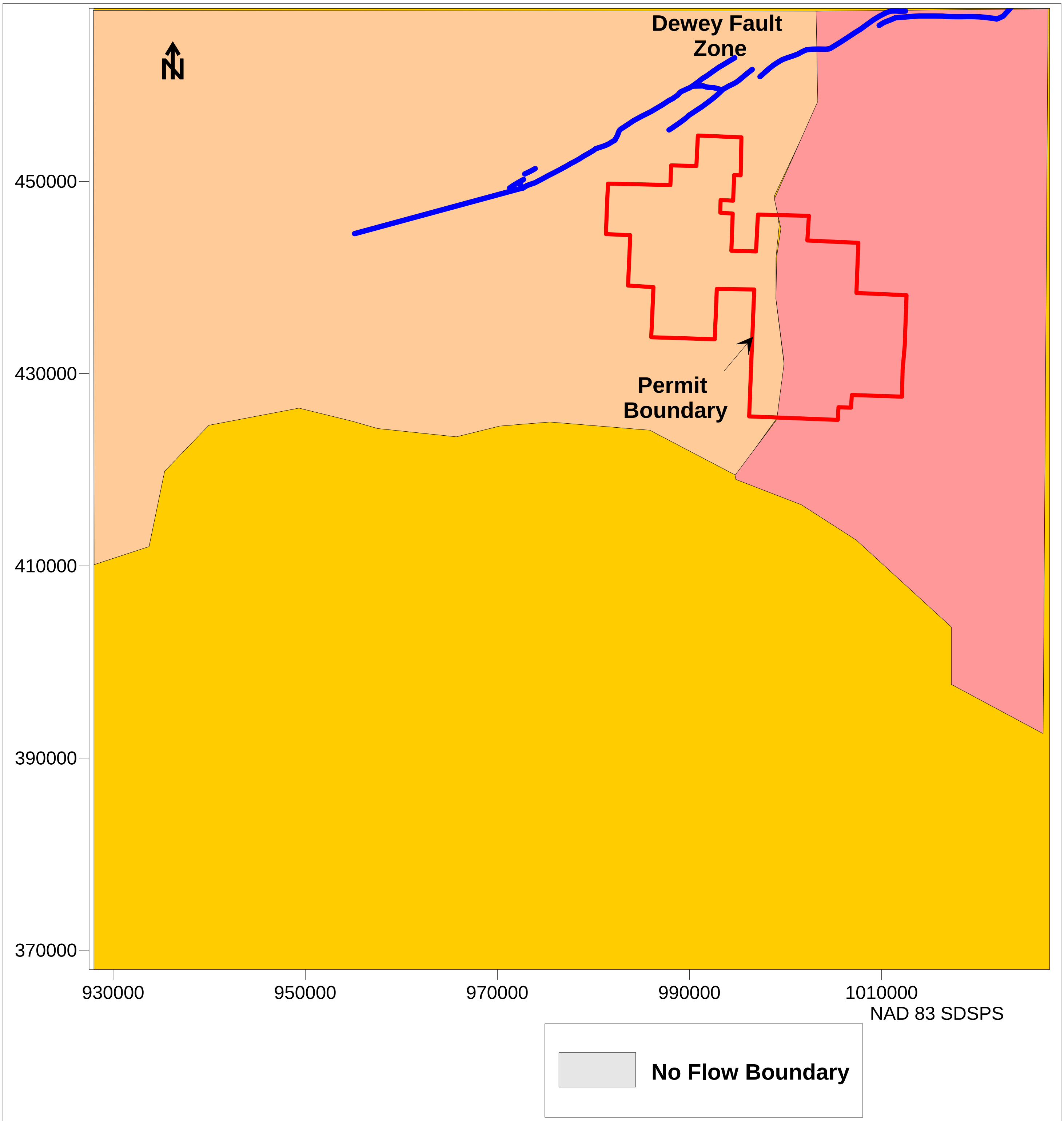

Hydraulic Conductivity Zones
values in ft/day

Z2	Kh = 1.0,	Kz = 0.1
Z5	Kh = 2.87,	Kz = 0.25
Z6	Kh = 3.0,	Kz = 0.3

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Figure 4-10. Hydraulic Conductivity Zones
Model Layer 4 (Chilson)
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel410.srf 2/12/12

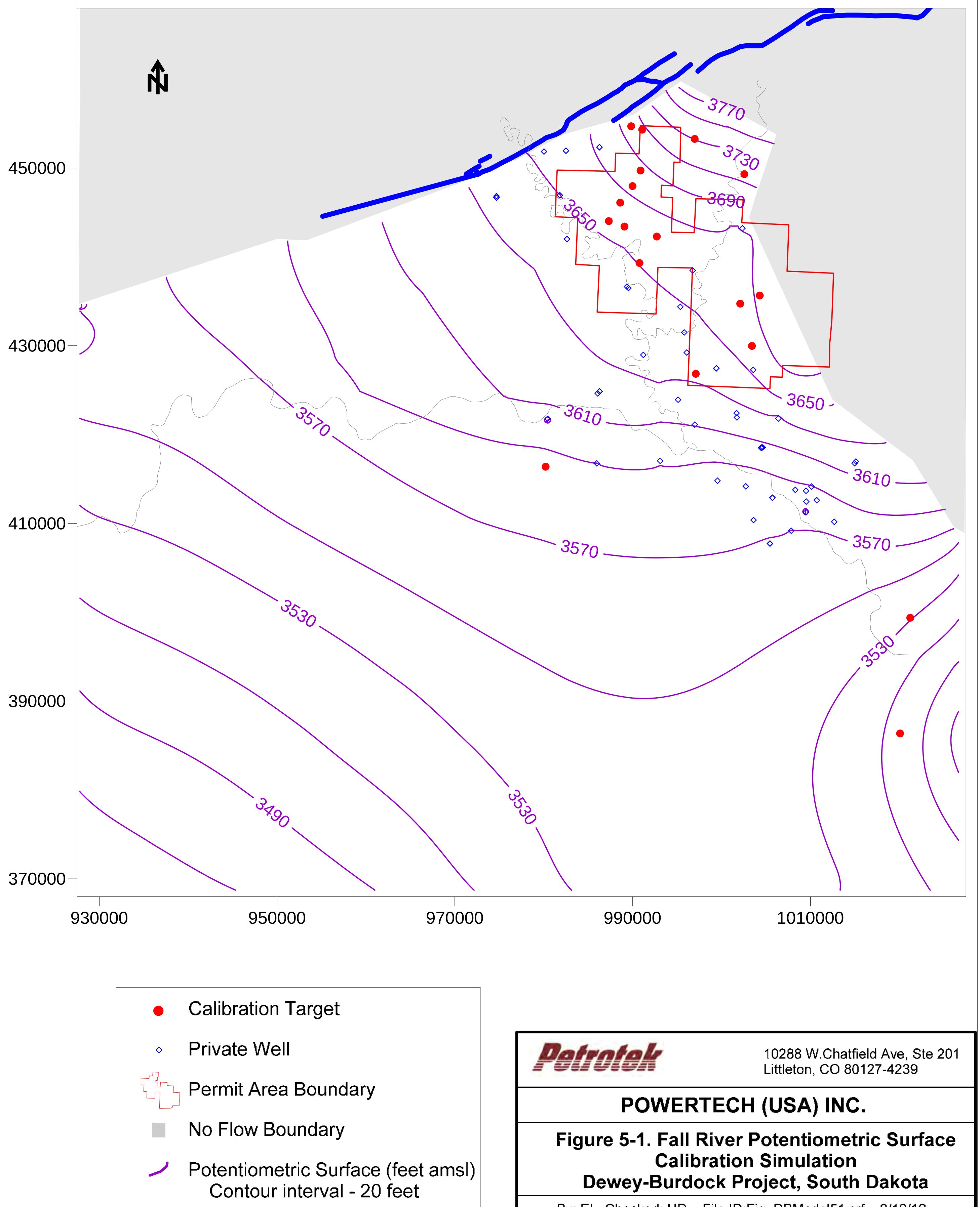

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Figure 5-1. Fall River Potentiometric Surface Calibration Simulation Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel51.srf 2/12/12

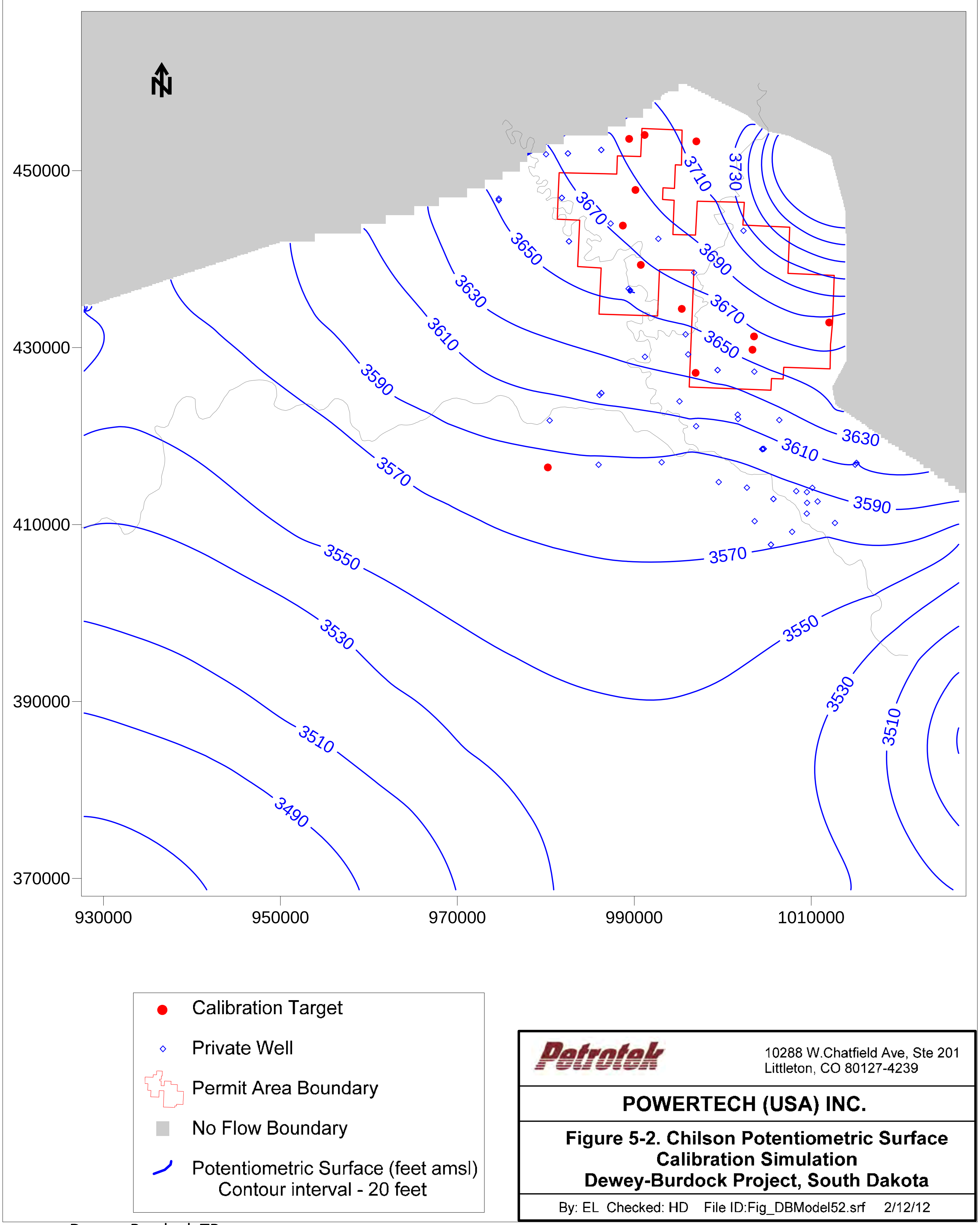

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Figure 5-2. Chilson Potentiometric Surface Calibration Simulation Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel52.srf 2/12/12

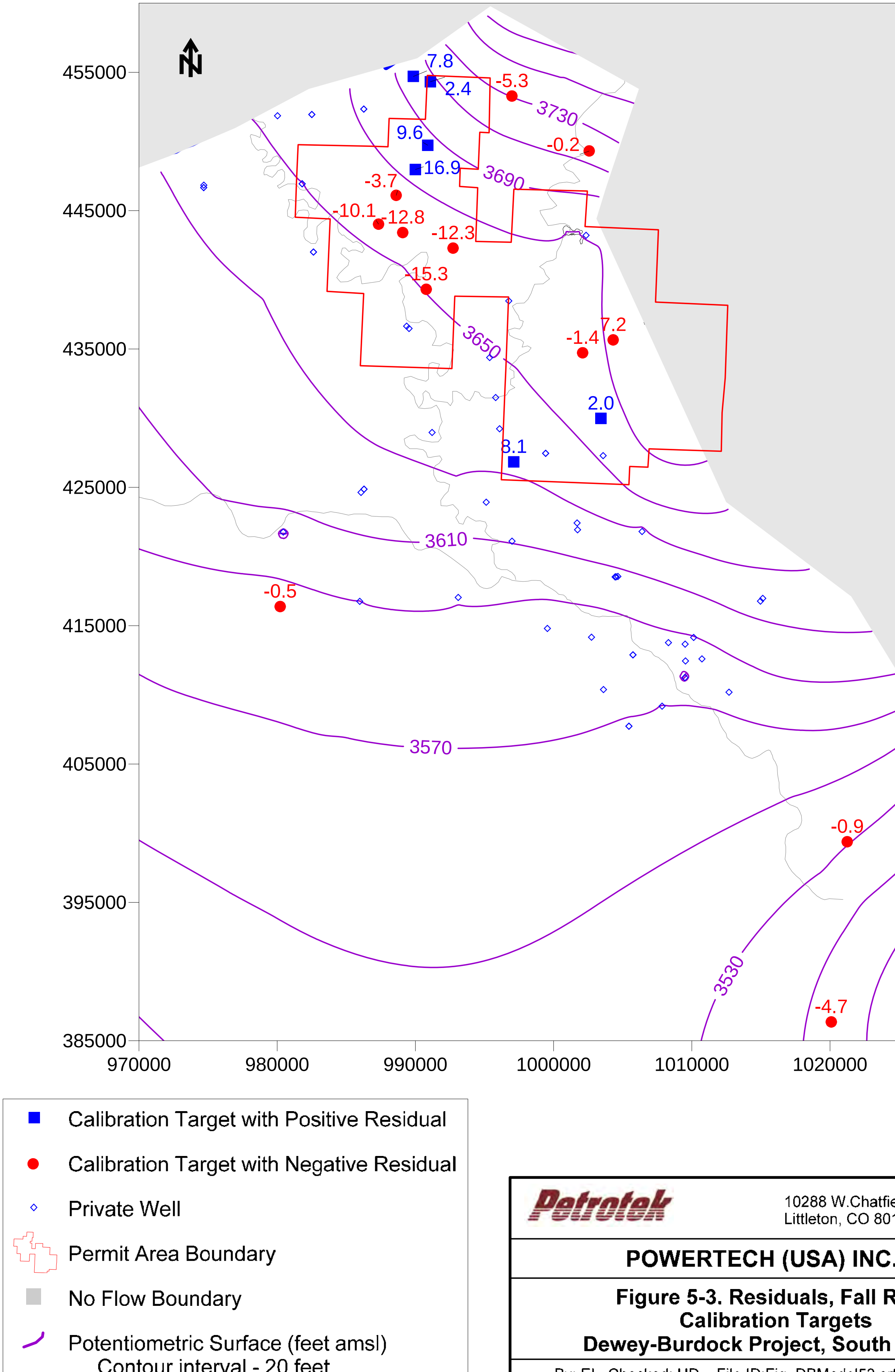

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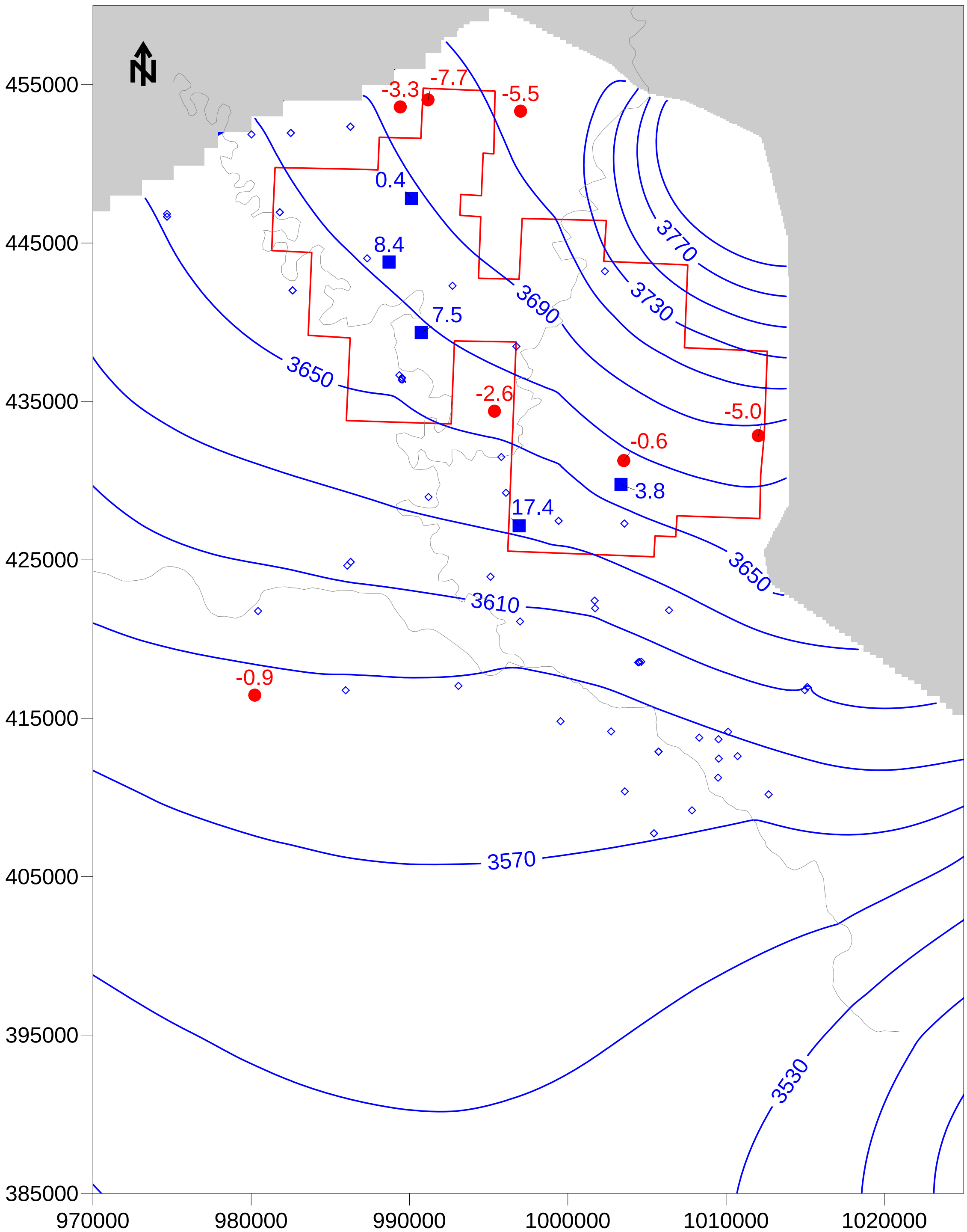
Figure 5-3. Residuals, Fall River Calibration Targets Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel53.srf 2/12/12



■ Calibration Target with Positive Residual
● Calibration Target with Negative Residual
◇ Private Well
Permit Area Boundary
No Flow Boundary
Potentiometric Surface (feet amsl)
Contour interval - 20 feet

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Figure 5-4. Residuals, Chilson Calibration Targets Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel54.srf 2/12/12

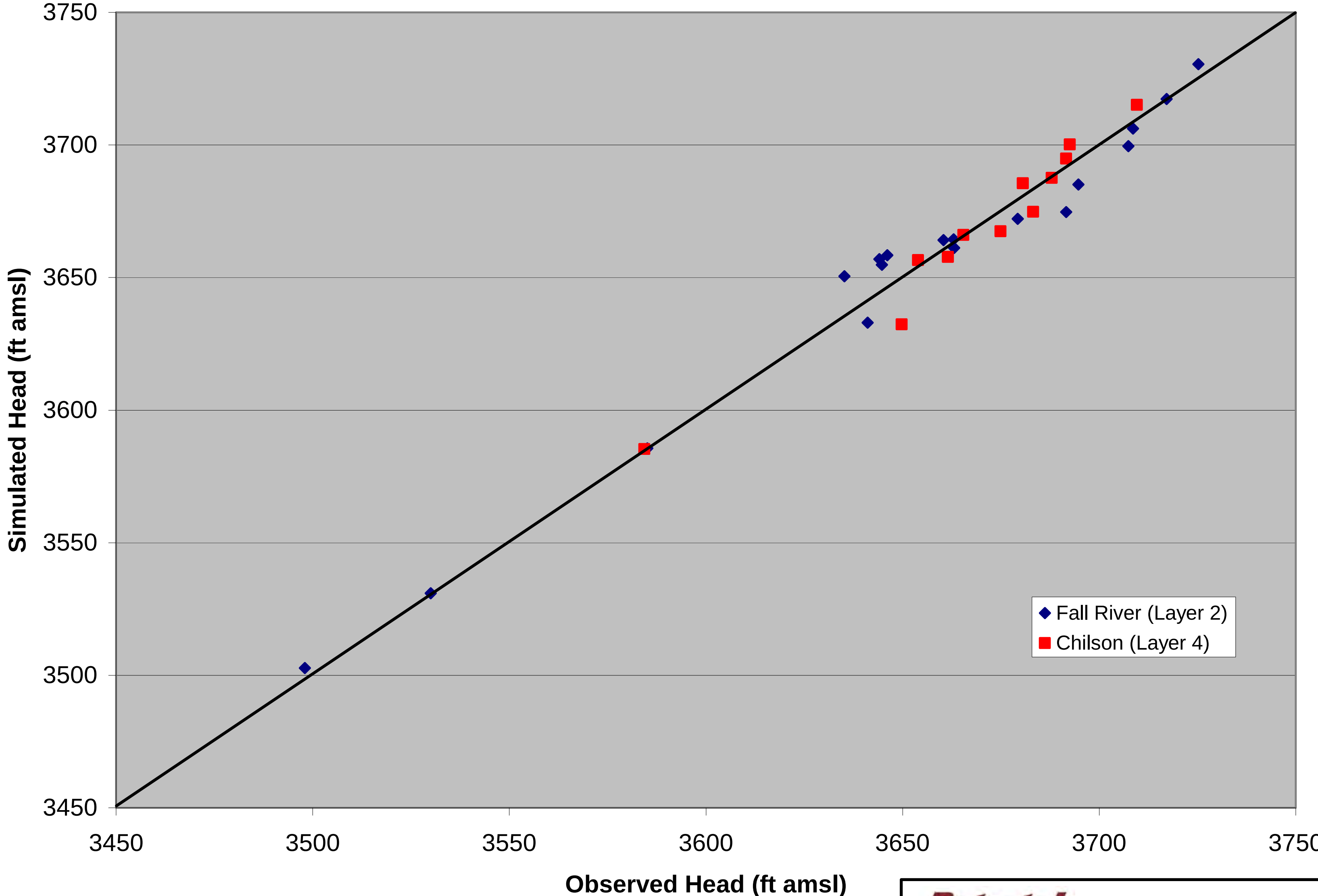

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**Figure 5-5. Observed vs Simulated Heads
Calibration Simulation
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel55.srf Date: 2/12/12

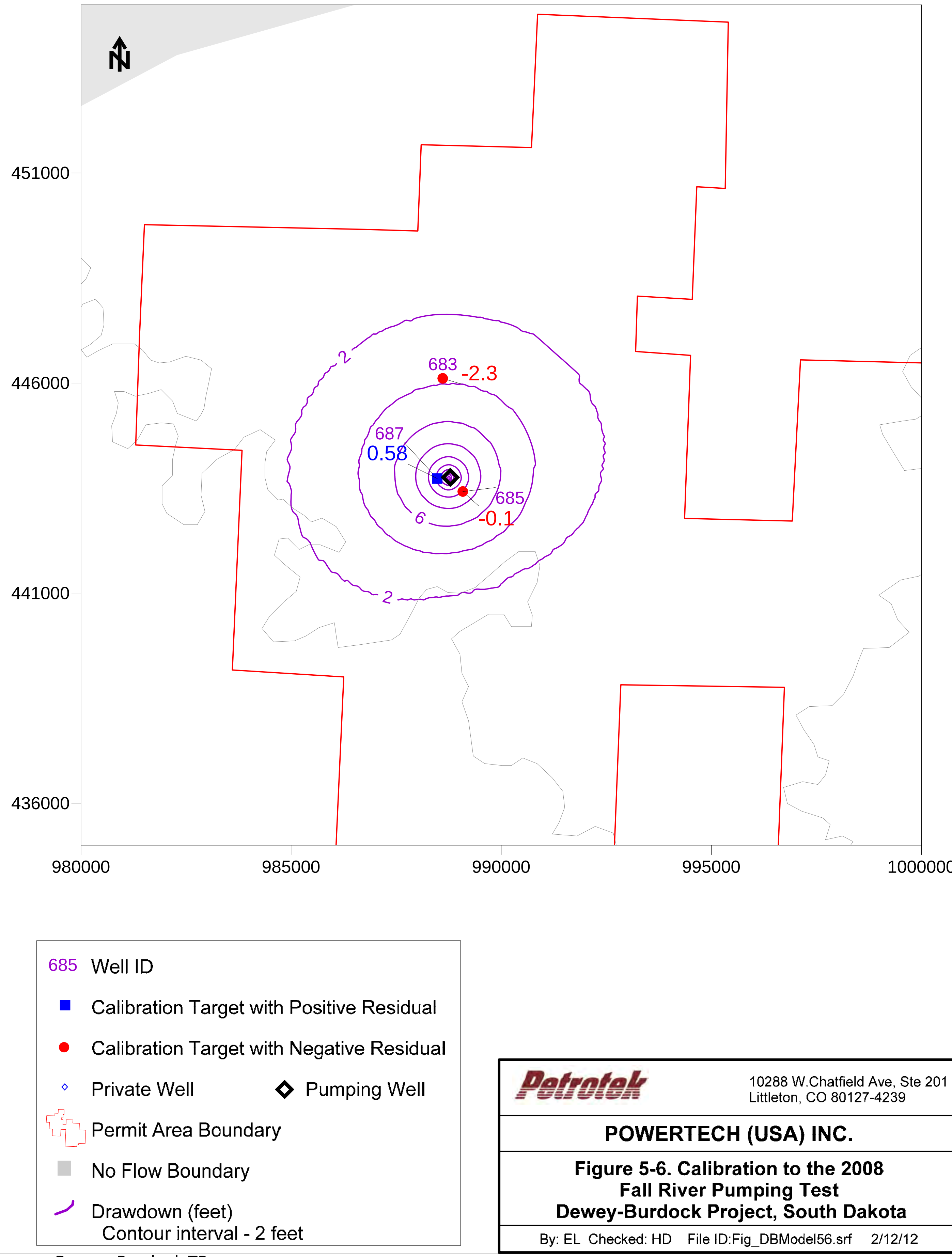

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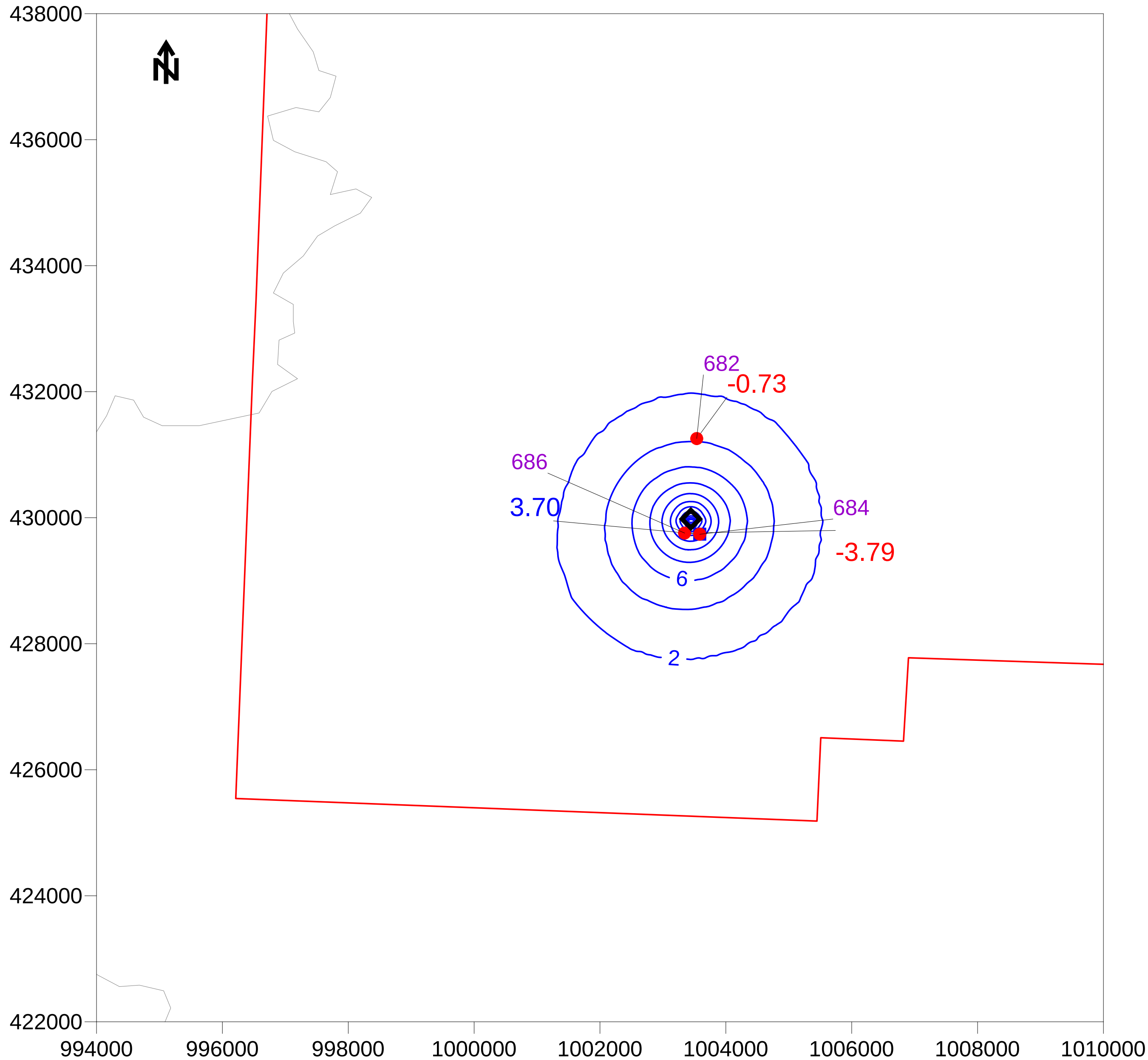
Figure 5-6. Calibration to the 2008 Fall River Pumping Test Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel56.srf 2/12/12



682 Well ID

Calibration Target with Positive Residual

Calibration Target with Negative Residual

Private Well

Pumping Well

Permit Area Boundary

No Flow Boundary

Drawdown (feet)
Countour interval - 2 feet

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Figure 5-7. Calibration to the 2008 Chilson Pumping Test Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel57.srf 2/12/12

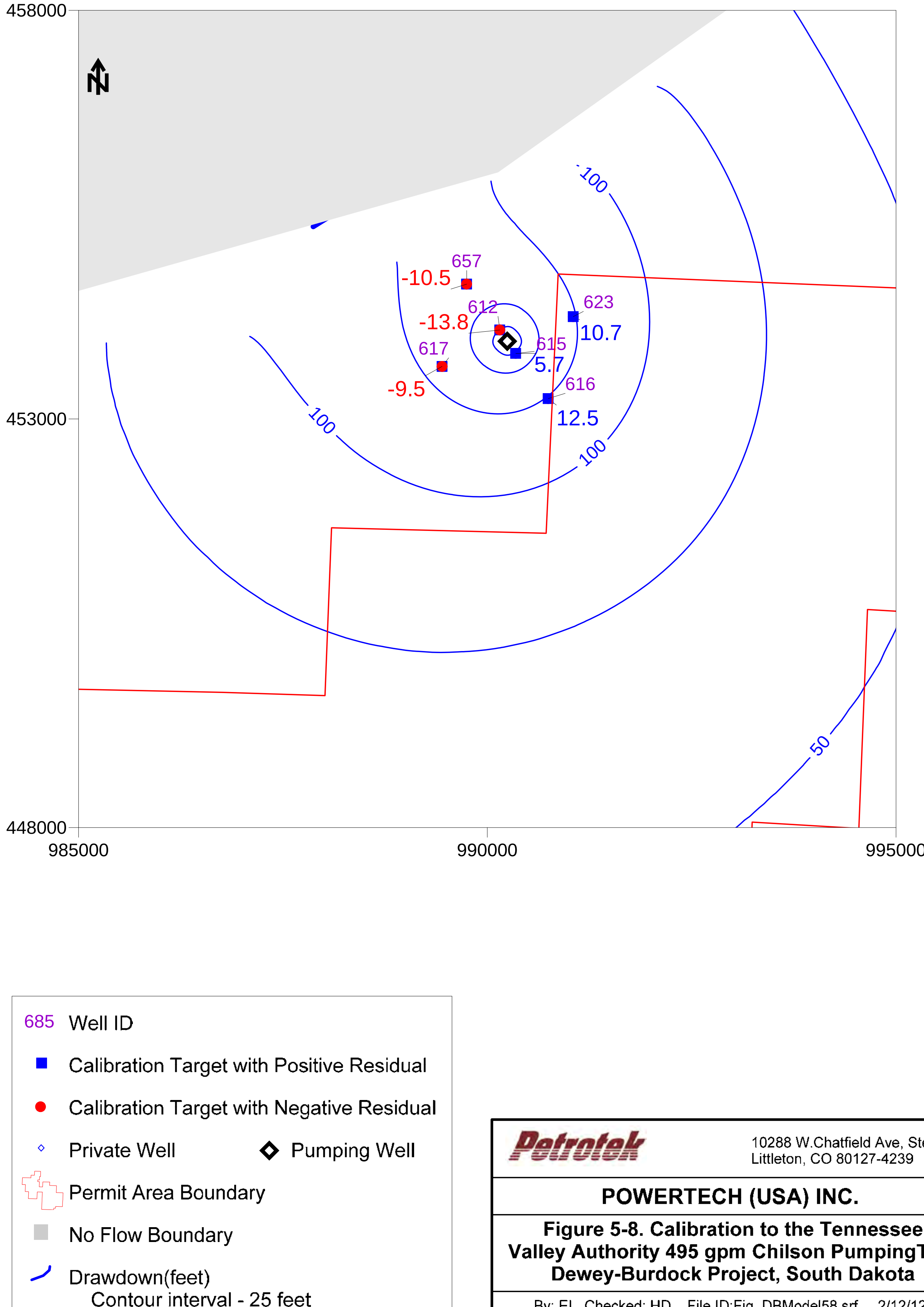

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Figure 5-8. Calibration to the Tennessee Valley Authority 495 gpm Chilson PumpingTest Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel58.srf 2/12/12

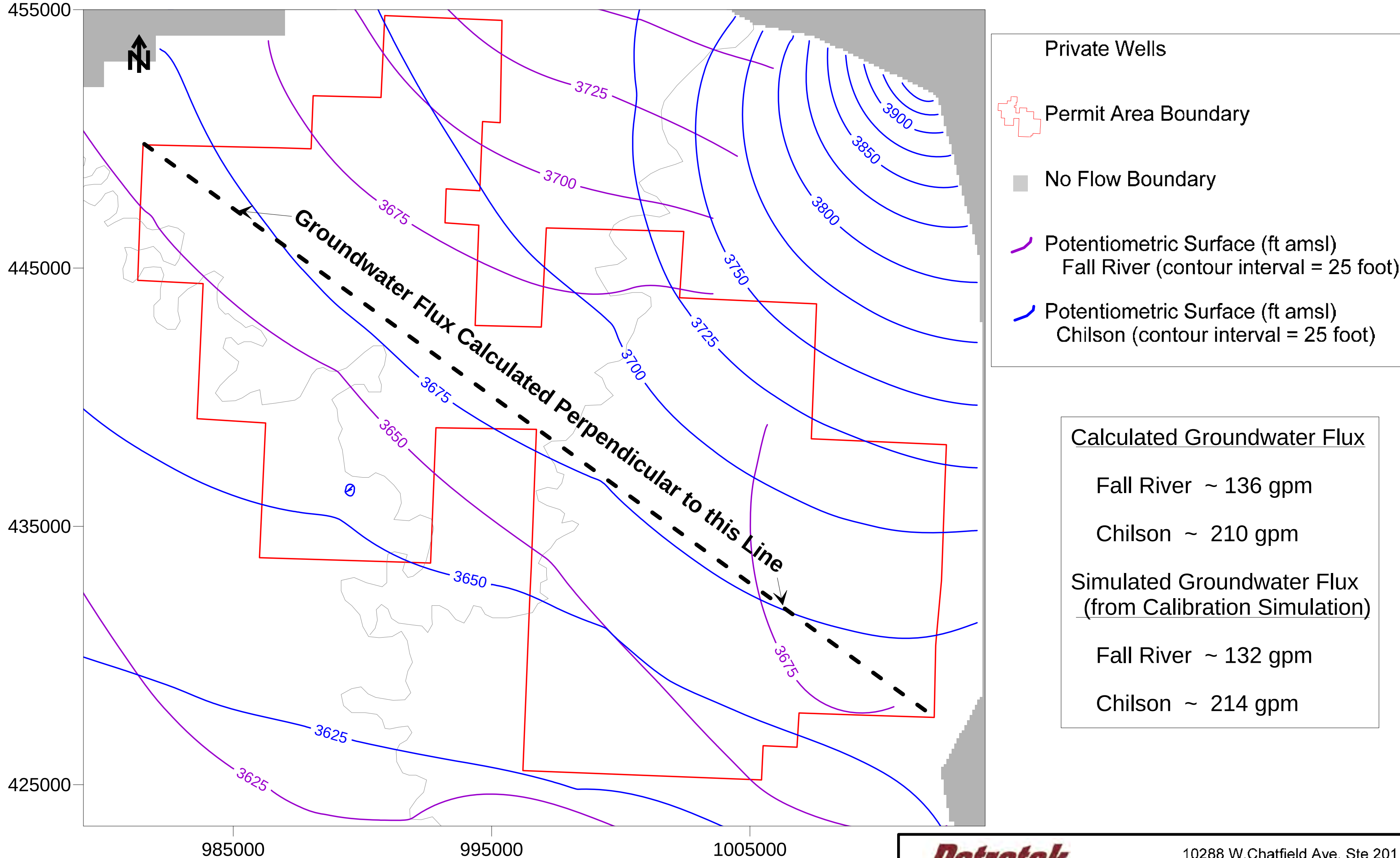

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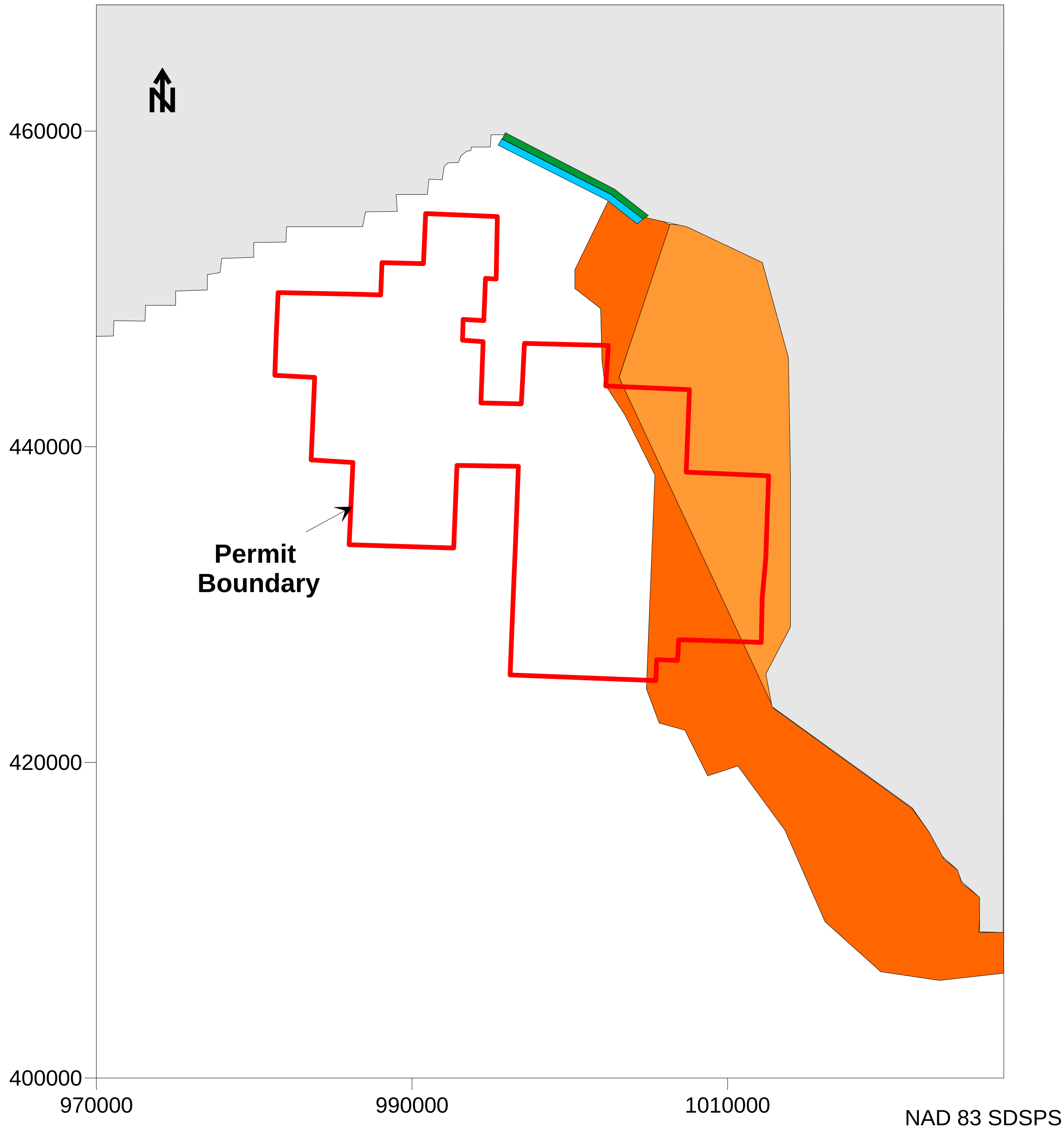
Figure 5-9. Location of Calculated and Simulated Groundwater Flux through the Project Area Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel59.srf Date: 2/12/12



Features Analyzed for Sensitivity

- Recharge to Fall River
- Recharge to Chilson
- General Head Boundary Fall River
- General Head Boundary Chilson

No Flow Boundary

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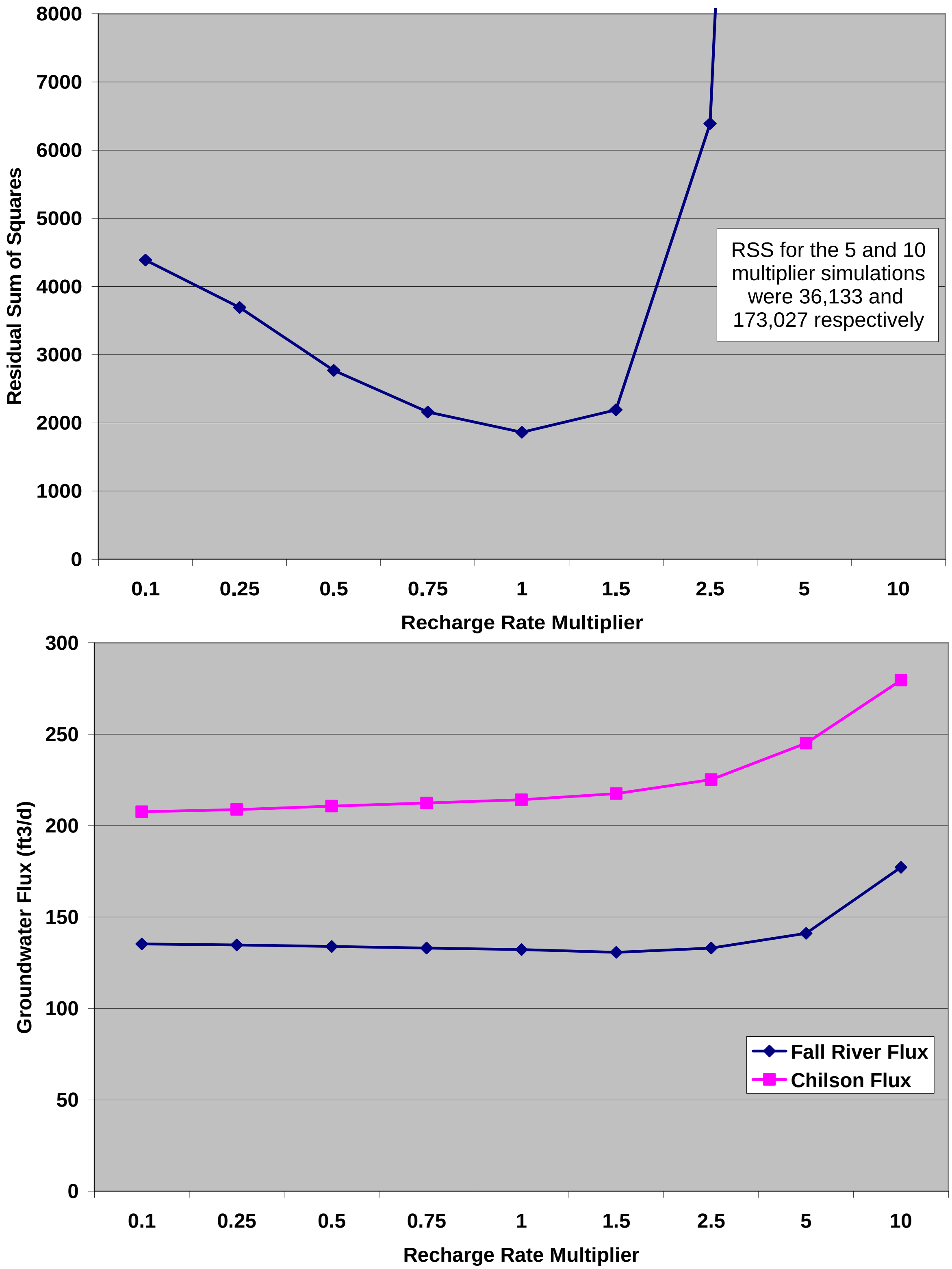
Figure 5-10. Sensitivity Analysis Features
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel510.srf 2/12/12



Groundwater Flux Measured at Location Indicated on Figure 5-9

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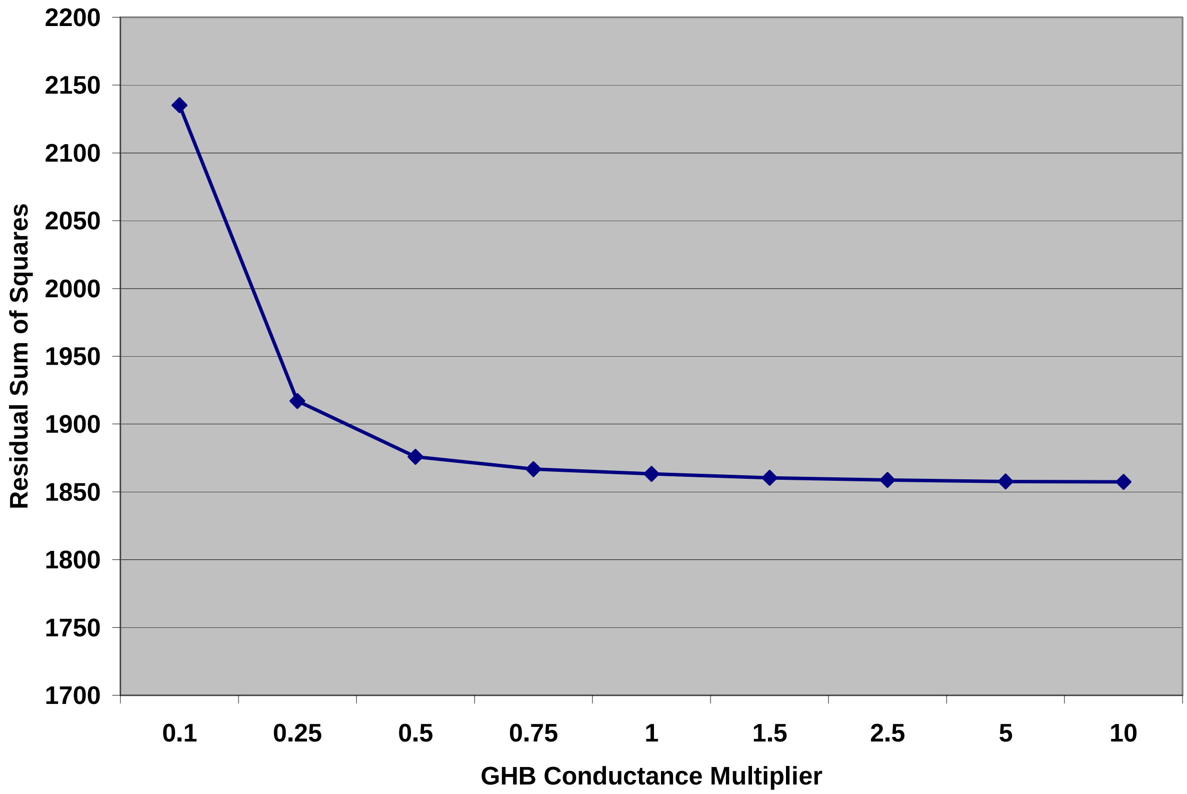
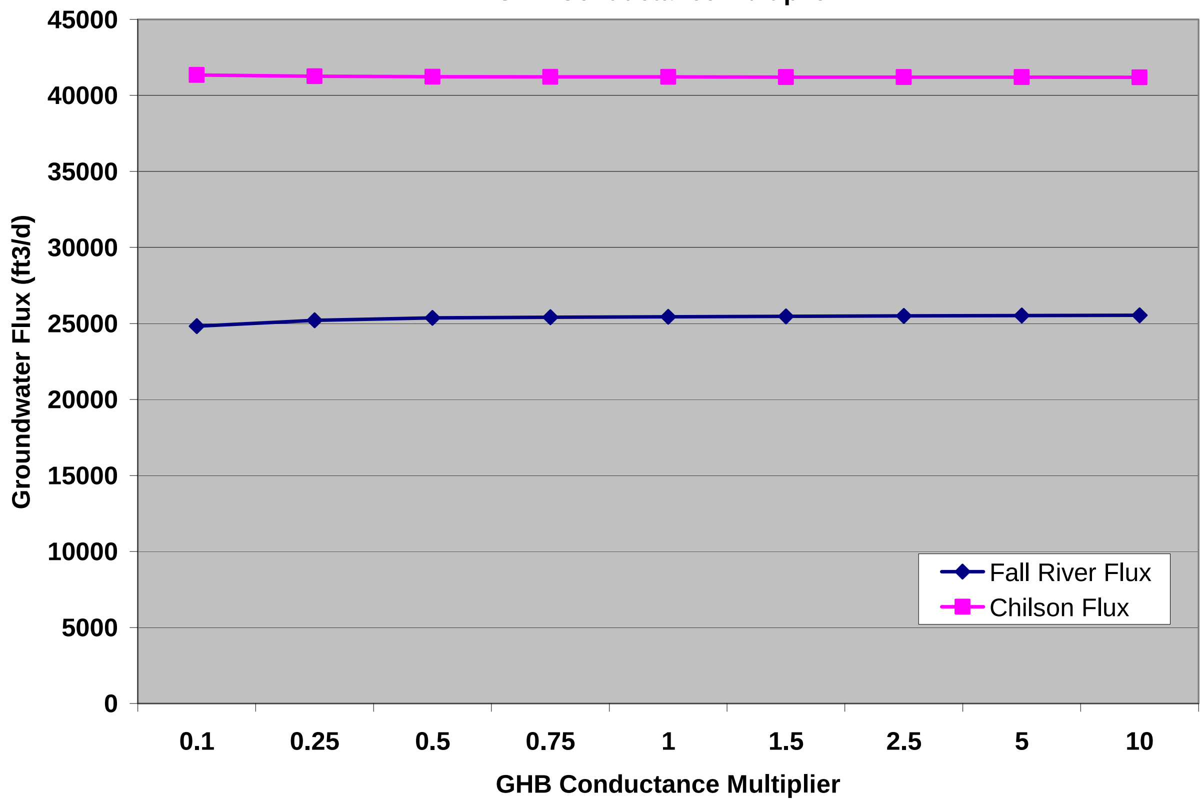
Figure 5-11. Sensitivity Analysis, Recharge Rate
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel511.srf 2/12/12





Groundwater Flux Measured at Location Indicated on Figure 5-9

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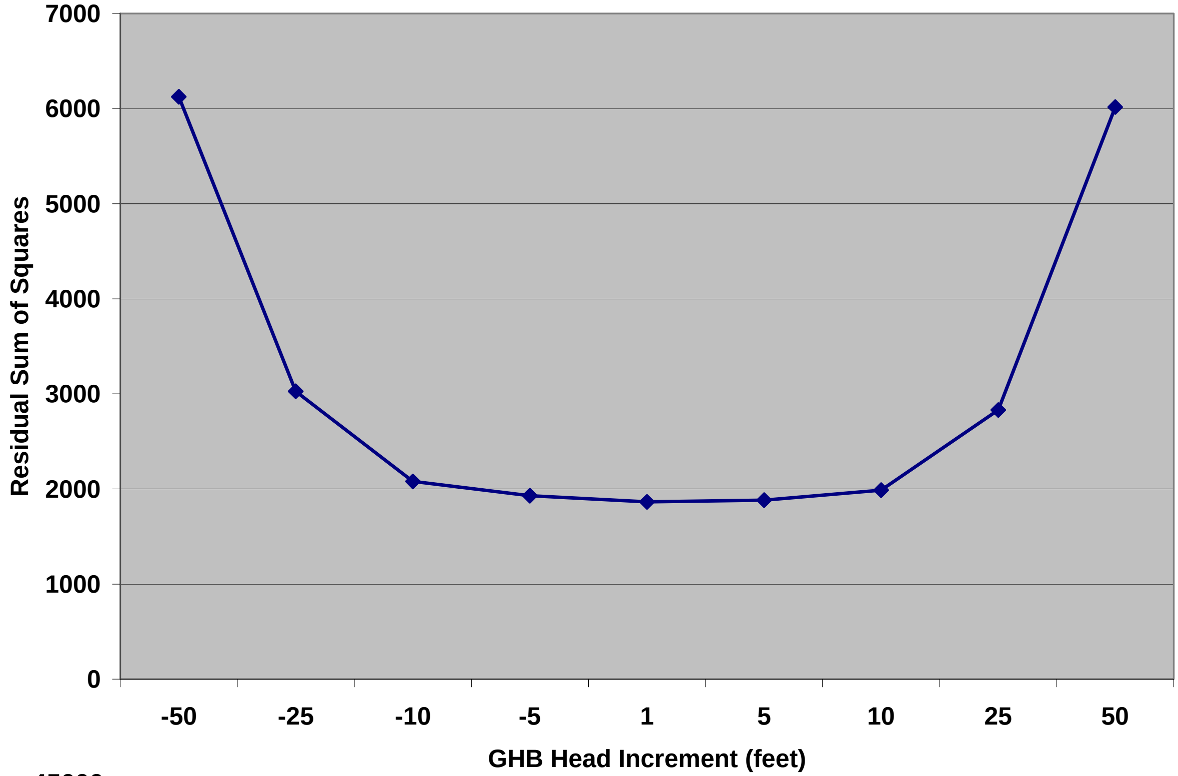
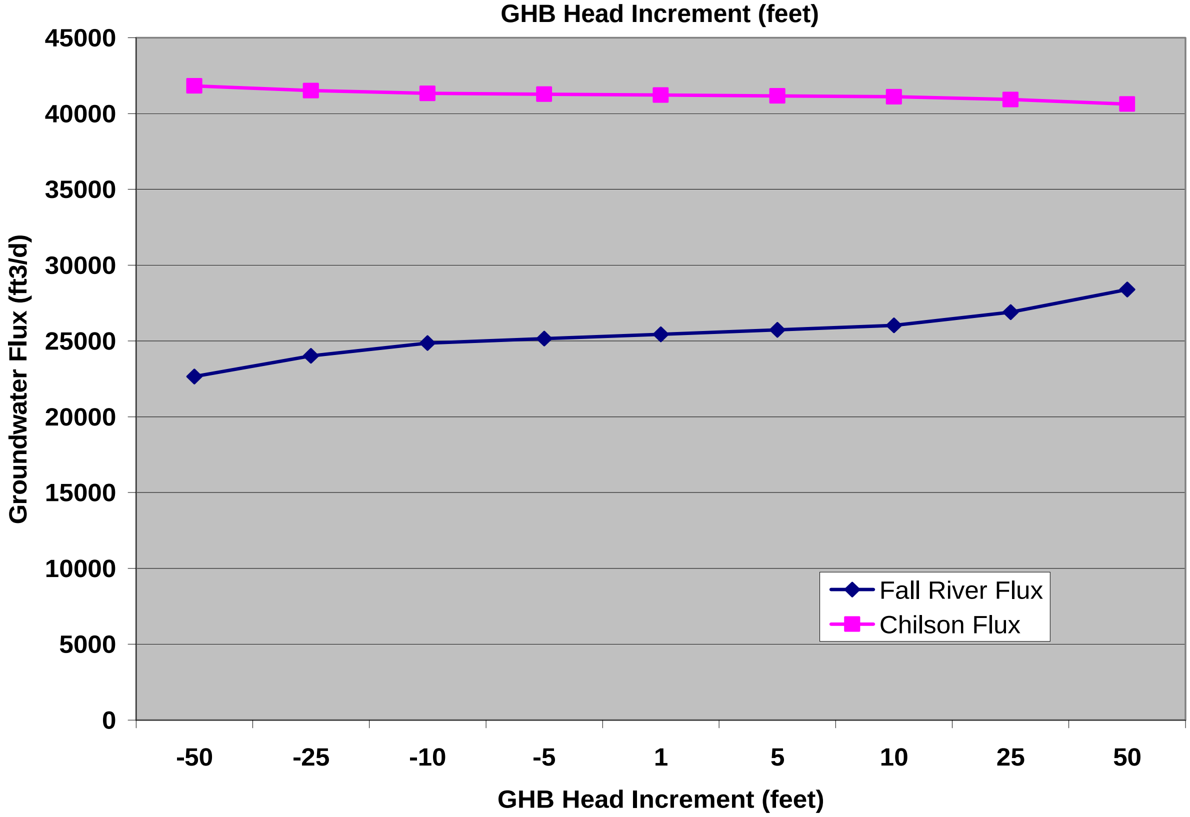
Figure 5-12. Sensitivity Analysis
GHB Conductance, Layer 2 (Fall River)
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel512.srf 2/12/12





Groundwater Flux Measured at Location Indicated on Figure 5-9

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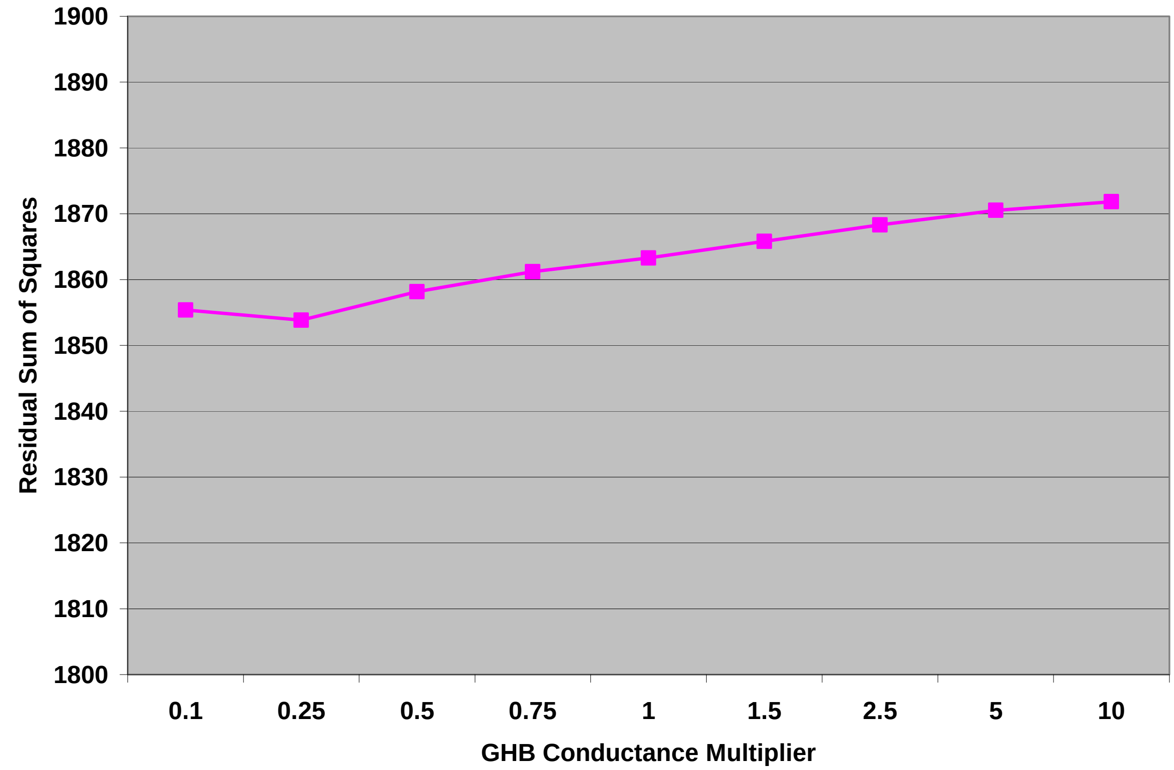
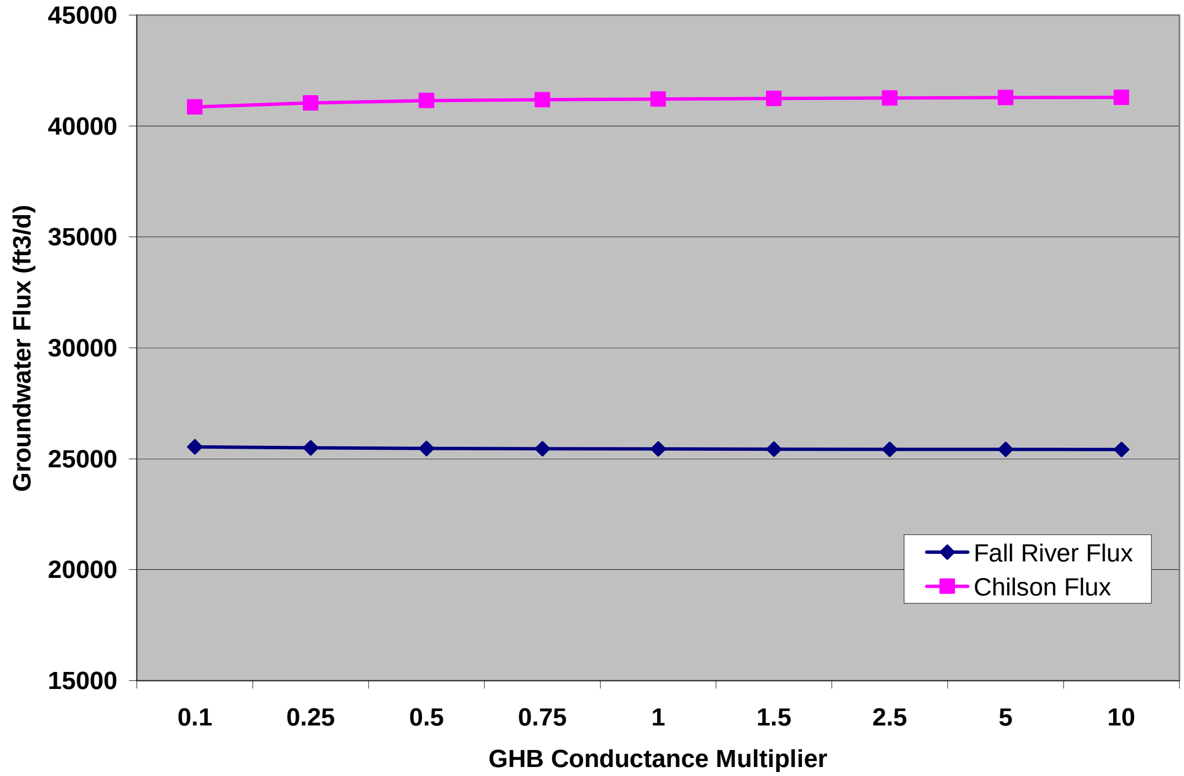
Figure 5-13. Sensitivity Analysis GHB Head, Layer 2 (Fall River) Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel513.srf 1/12/12





Groundwater Flux Measured at Location Indicated on Figure 5-9

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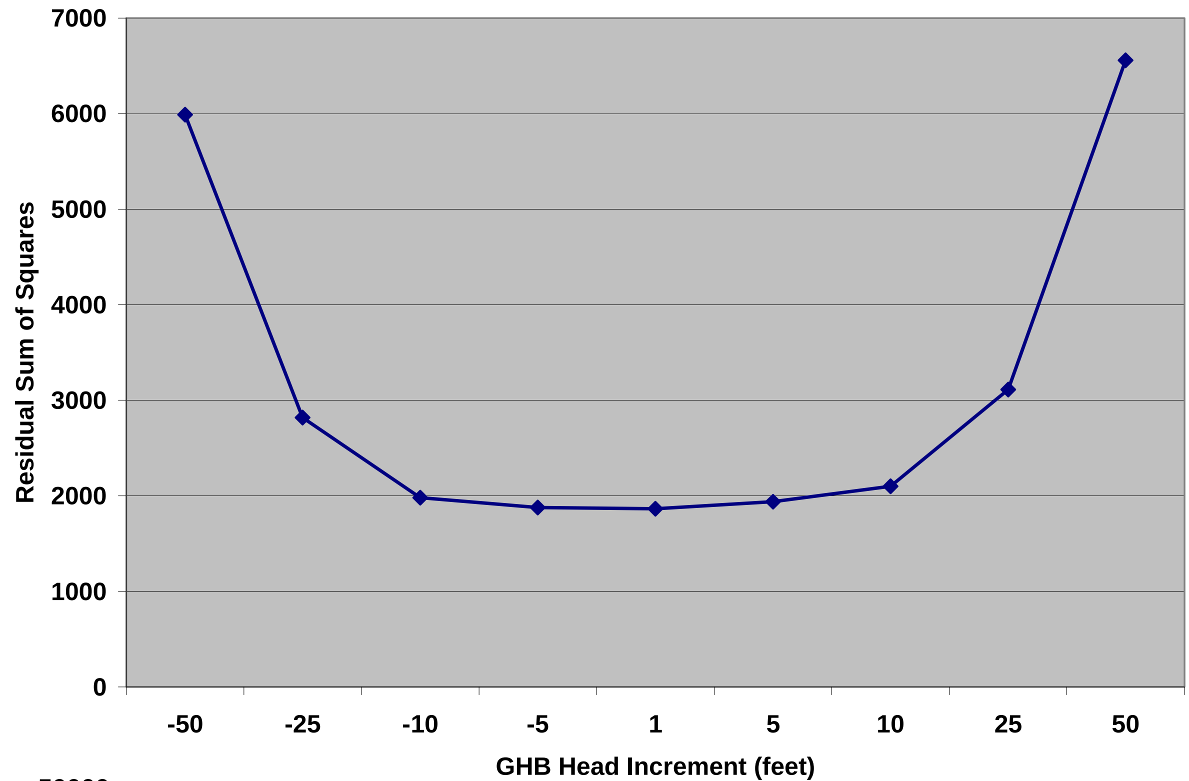
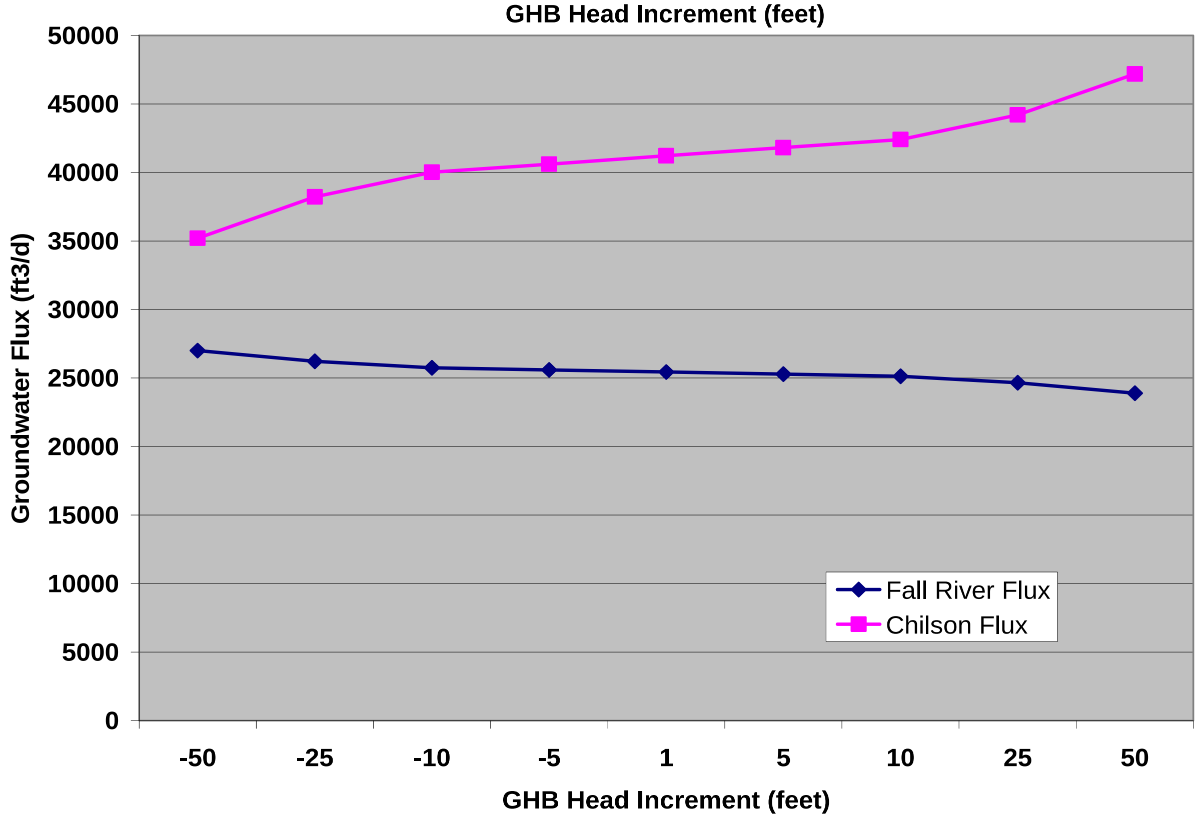
Figure 5-14. Sensitivity Analysis
GHB Conductance, Layer 4 (Chilson)
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel514.srf 2/12/12





Groundwater Flux Measured at Location Indicated on Figure 5-9

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Figure 5-15. Sensitivity Analysis
GHB Head, Layer 4 (Chilson)
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel513.srf 2/12/12

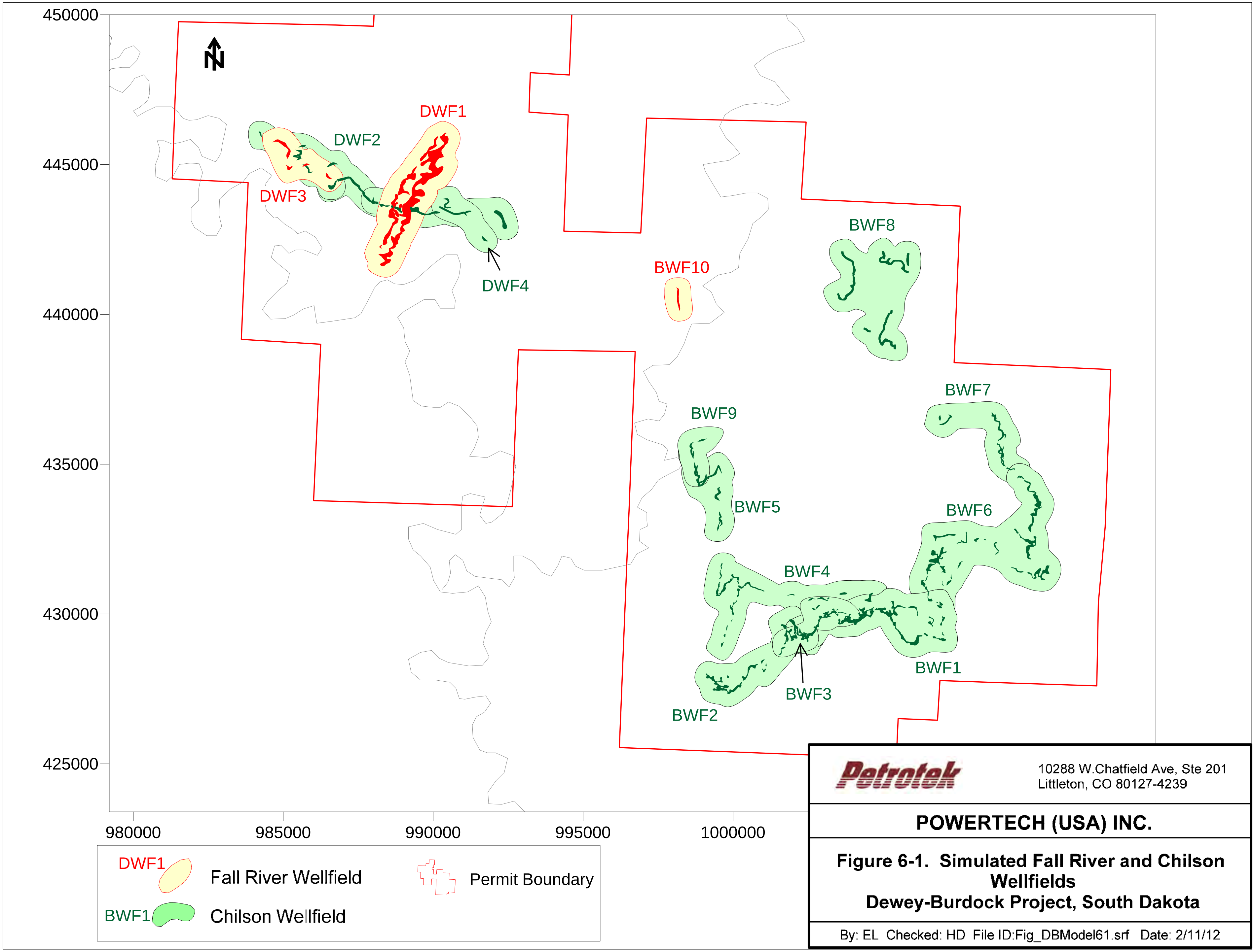

Figure 6-1. Simulated Fall River and Chilson Wellfields
Dewey-Burdock Project, South Dakota

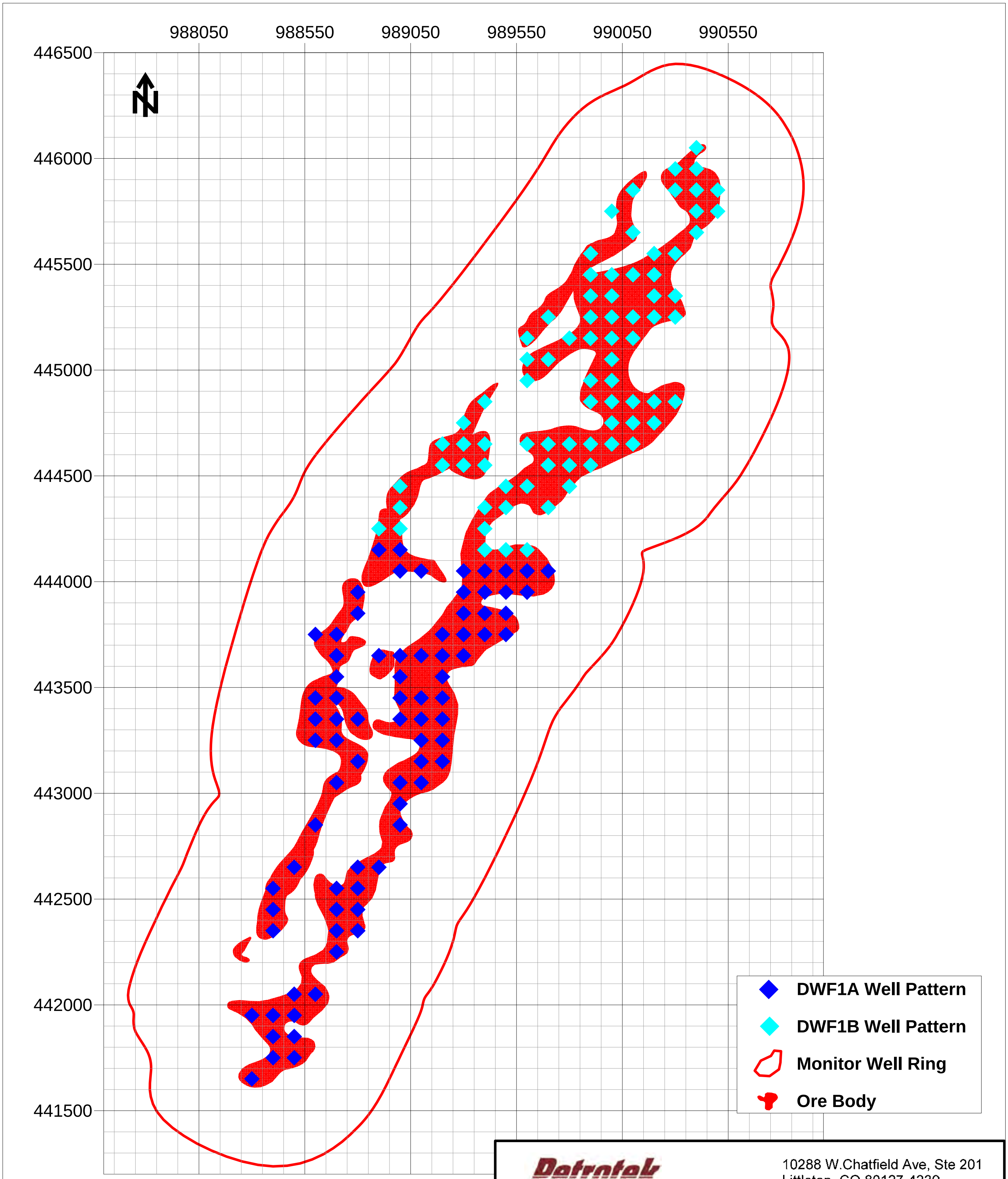

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Figure 6-1A. Simulated Wellfields DWF1A and DWF1B Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel61A.srf Date: 2/11/12

Figure 6-2. Production and Restoration Schedule and Net Rates of Extraction for Simulation of 4000 gpm Production, 0.875 % Net Bleed with Groundwater Sweep
Dewey Burdock Project, South Dakota

Wellfield	No. Patterns	Production Rate (gpm)				Yr 1				Yr 2				Yr 3				Yr 4				Yr 5				Yr 6				Yr 7				Yr 8		
										SP1		SP2		SP3		SP4		SP5				SP6				SP7		SP8		SP9		SP10		SP11		SP12
Burdock Mine																																				
BWF1	120	2400	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	26.7	26.7	26.7	26.7																						
BWF2	60	1200																					10.5	10.5	10.5	10.5	18.9	18.9	18.9	18.9						
BWF3	20	400																					3.5	3.5	3.5	3.5	8.6	8.6								
BWF4	60	1200																													10.5	10.5	10.5	10.5	24.1	24.1
BWF5	40	800									7.0	7.0	7.0	7.0	12.0	12.0	12.0	12.0																		
BWF6	120	2400													21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	20.9	20.9	20.9	20.9	20.9	20.9								
BWF7	37	740																											9.1	9.1	9.1	9.1	16.7	16.7		
BWF8	68	1360									11.9	11.9	11.9	11.9	19.4	19.4	19.4	19.4																		
BWF9	11	220									1.9	1.9	1.9	1.9	6.6	6.6	6.6	6.6																		
BWF10	9	180																													1.6	1.6	1.6	1.6	7.4	7.4
Burdock Total			**21.0**	**21.0**	**21.0**	**21.0**	**21.0**	**21.0**	**21.0**	**21.0**	**47.5**	**47.5**	**47.5**	**47.5**	**59.0**	**59.0**	**59.0**	**59.0**	**21.0**	**21.0**	**21.0**	**21.0**	**34.9**	**34.9**	**34.9**	**34.9**	**48.4**	**48.4**	**28.0**	**28.0**	**21.2**	**21.2**	**28.8**	**28.8**	**31.5**	**31.5**
Dewey Mine																																				
DWF1a	80	1600	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	29.2	29.2	29.2	29.2																		
DWF1b	80	1600													14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	29.2	29.2	29.2	29.2						
DWF2	80	1600																									14.0	14.0	14.0	14.0	20.9	20.9	20.9	20.9		
DWF3	15	300																													2.6	2.6	2.6	2.6	11.8	11.8
DWF4	25	500																													4.4	4.4	4.4	4.4	11.6	11.6
Dewey Total			**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**43.2**	**43.2**	**43.2**	**43.2**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**14.0**	**43.2**	**43.2**	**43.2**	**43.2**	**27.9**	**27.9**	**27.9**	**27.9**	**23.4**	**23.4**
Project Total			**35.0**	**35.0**	**35.0**	**35.0**	**35.0**	**35.0**	**35.0**	**35.0**	**61.5**	**61.5**	**61.5**	**61.5**	**102.2**	**102.2**	**102.2**	**102.2**	**35.0**	**35.0**	**35.0**	**35.0**	**48.9**	**48.9**	**48.9**	**48.9**	**91.6**	**91.6**	**71.2**	**71.2**	**49.1**	**49.1**	**56.7**	**56.7**	**54.9**	**54.9**
Days in Stress Period										730		183		183		183		183				366				366		183		183		183		183		183
Minutes in Stress Period										1051200		263520		263520		263520		263520				527040				527040		263520		263520		263520		263520		263520

Restoration in gpm

SP - Stress Period Yr - Year gpm - gallons per minute
Values in Columns are the Net Extraction Rate per Stress Period (in gpm)
Net Extraction Rate During Production is Calculated by Multiplying the Production Rate for the Wellfield by the Net Bleed Rate of 0.875 %
Net Extraction Rate During Restoration is the Sum of Net Extraction from Reverse Osmosis (RO) and Groundwater Sweep (GWS)
Net extraction from RO is equal to 1% of the 500 gpm RO rate (5 gpm)
GWS rate is Calculated by Dividing One Wellfield Pore Volume by the Number of Minutes in the Stress Period
Wellfield Pore Volume Calculation is Provided in Table 6-1

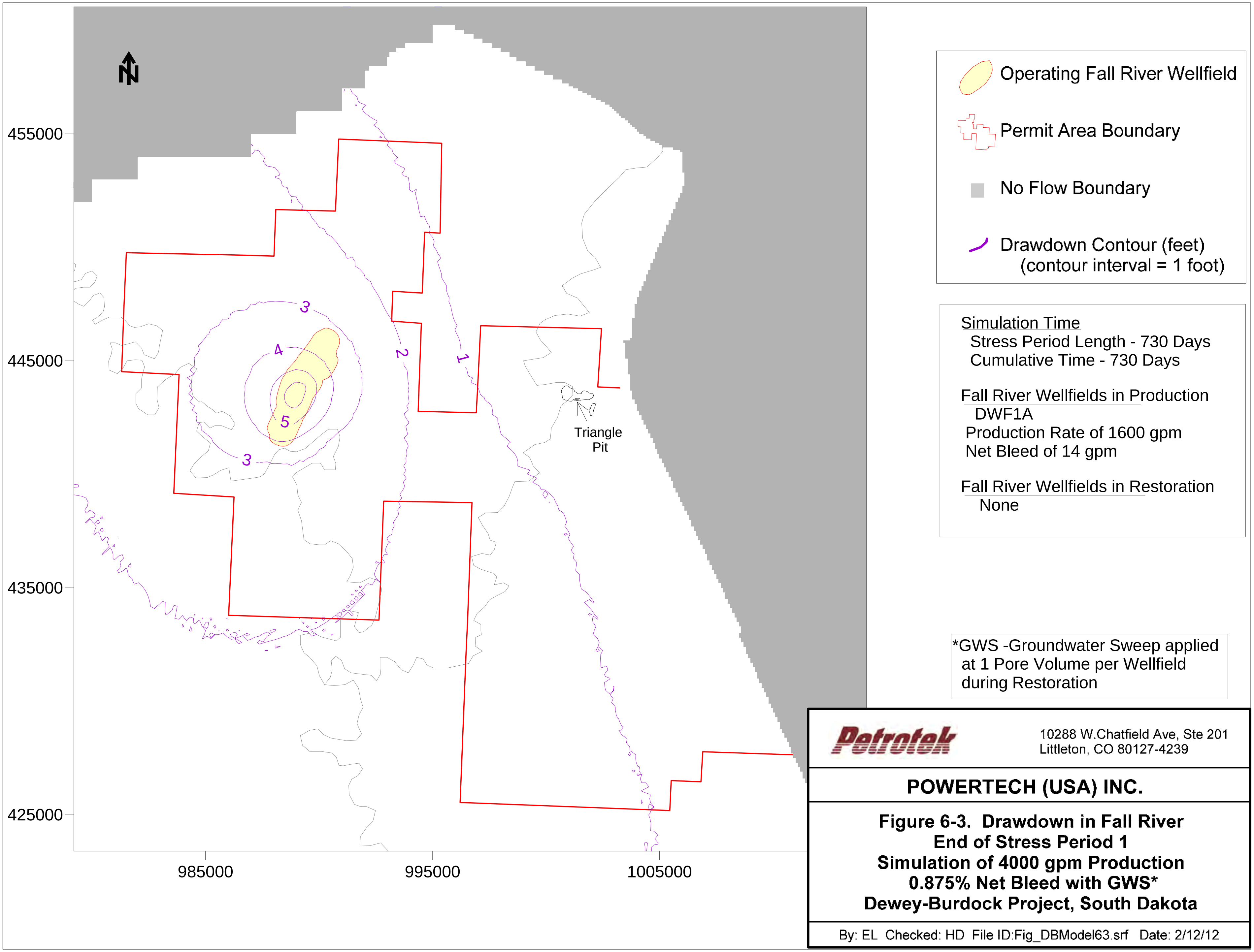


Figure 6-3. Drawdown in Fall River End of Stress Period 1 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel63.srf Date: 2/12/12

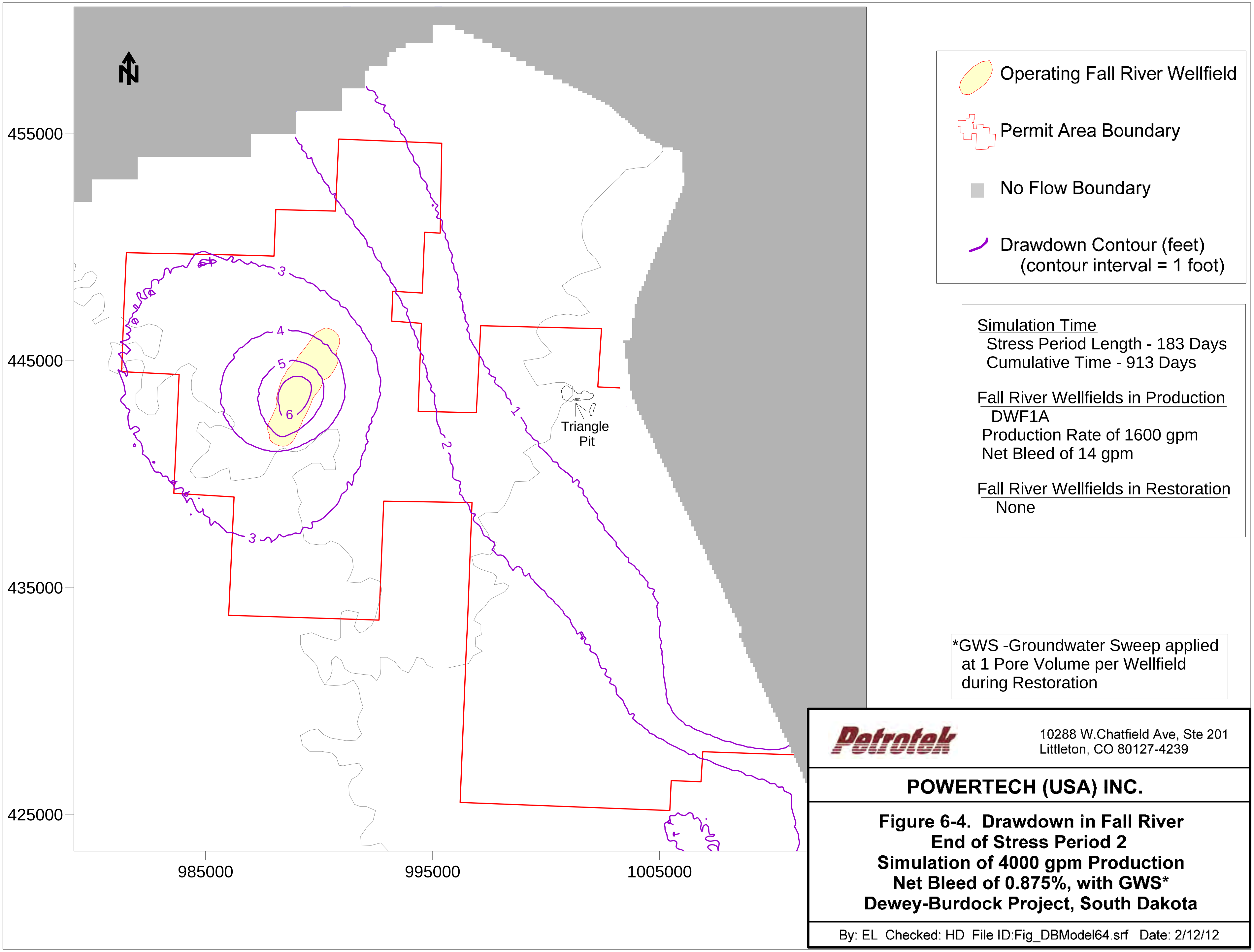
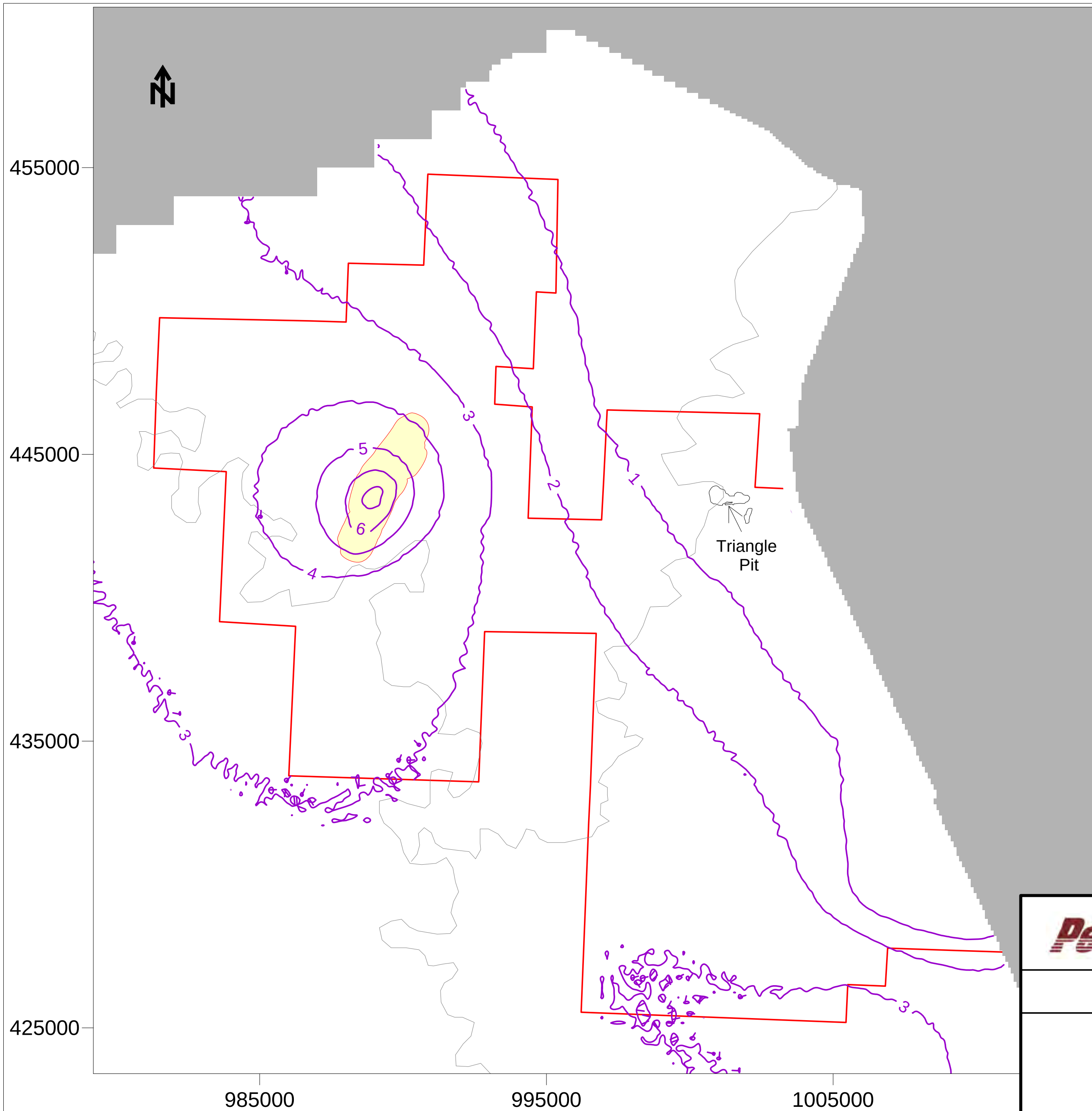


**Figure 6-4. Drawdown in Fall River
End of Stress Period 2
Simulation of 4000 gpm Production
Net Bleed of 0.875%, with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel64.srf Date: 2/12/12



Operating Fall River Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 1096 Days

Fall River Wellfields in Production
DWF1A
Production Rate of 1600 gpm
Net Bleed of 14 gpm

Fall River Wellfields in Restoration
None

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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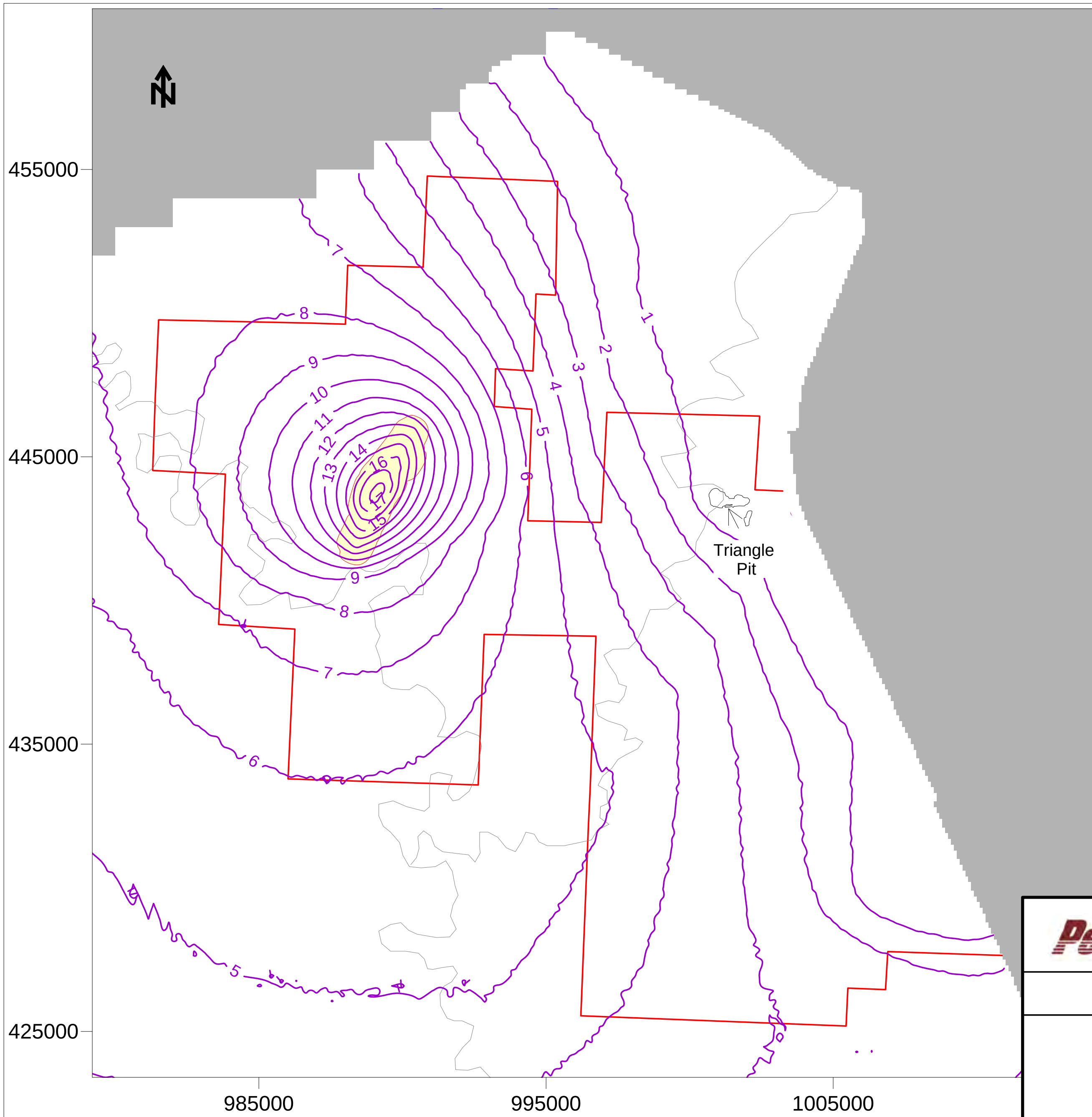
**Figure 6-5. Drawdown in Fall River
End of Stress Period 3
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel65.srf Date: 2/12/12



Operating Fall River Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 1279 Days

Fall River Wellfields in Production
DWF1B
Production Rate of 1600 gpm
Net Bleed of 14 gpm

Fall River Wellfields in Restoration
DWF1A
Net Withdrawal Rate of 29.2 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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Figure 6-6. Drawdown in Fall River End of Stress Period 4 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel66.srf Date: 2/12/12

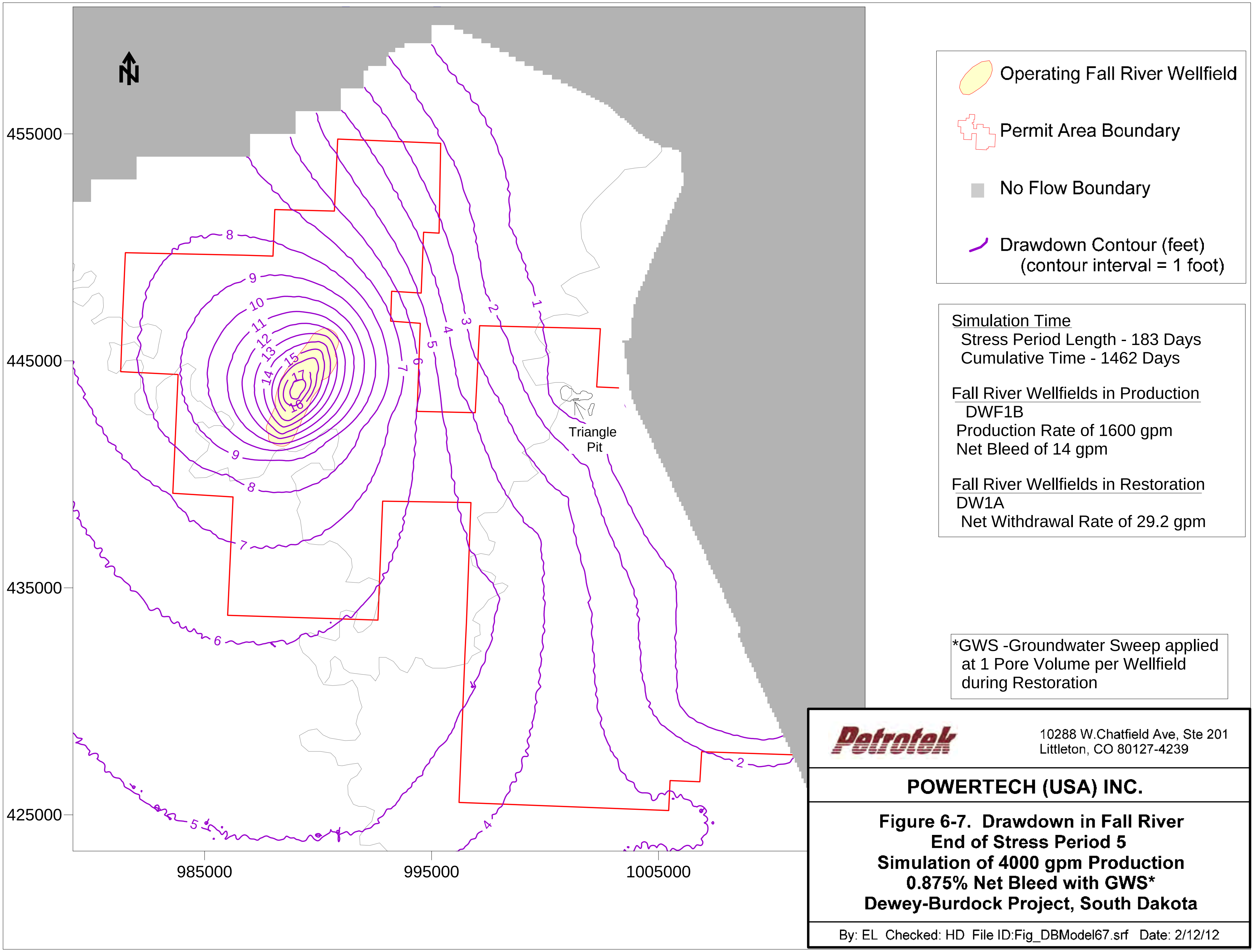

**Figure 6-7. Drawdown in Fall River
End of Stress Period 5
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel67.srf Date: 2/12/12

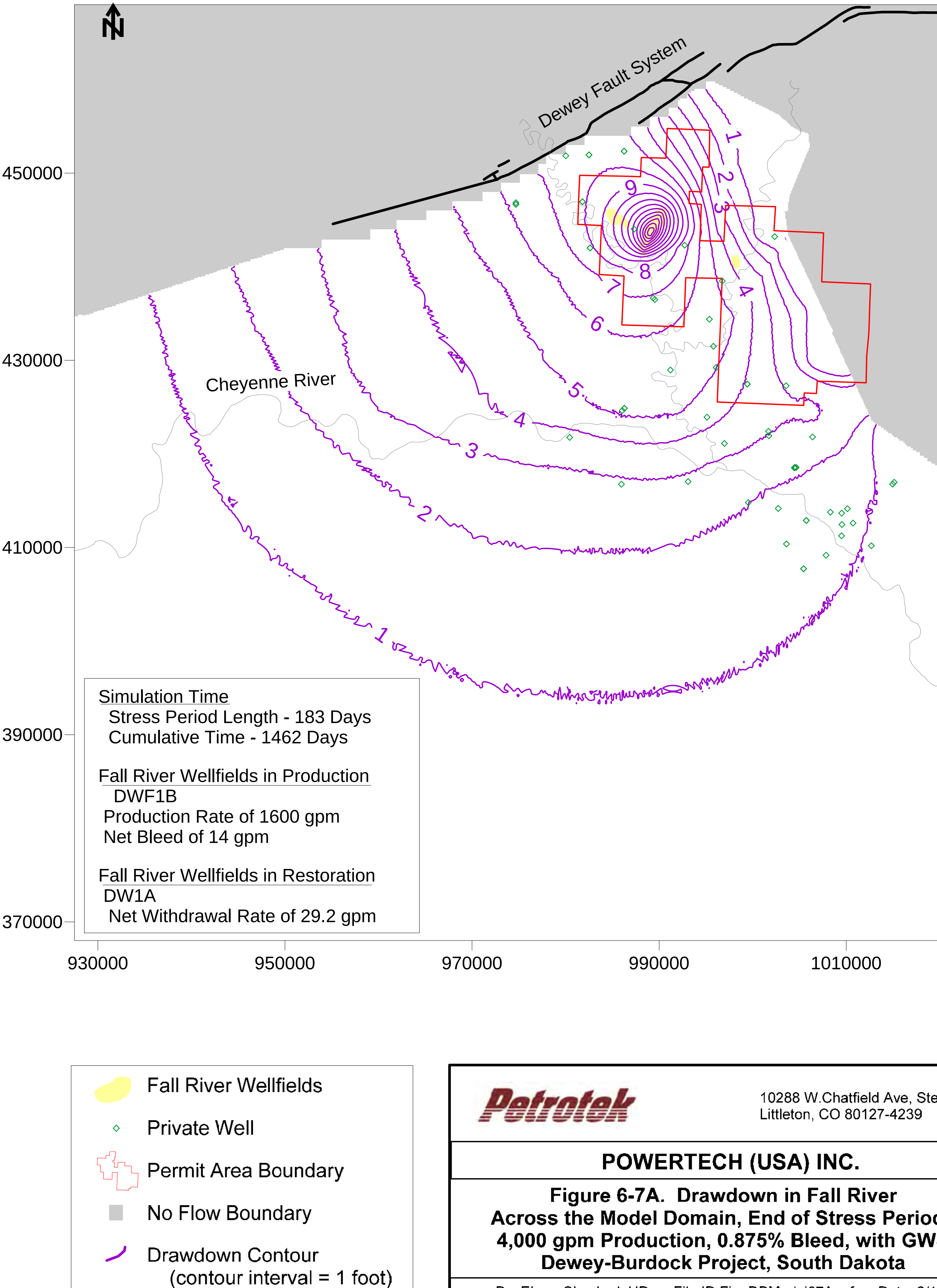

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Figure 6-7A. Drawdown in Fall River Across the Model Domain, End of Stress Period 5 4,000 gpm Production, 0.875% Bleed, with GWS Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel67A.srf Date: 2/12/12

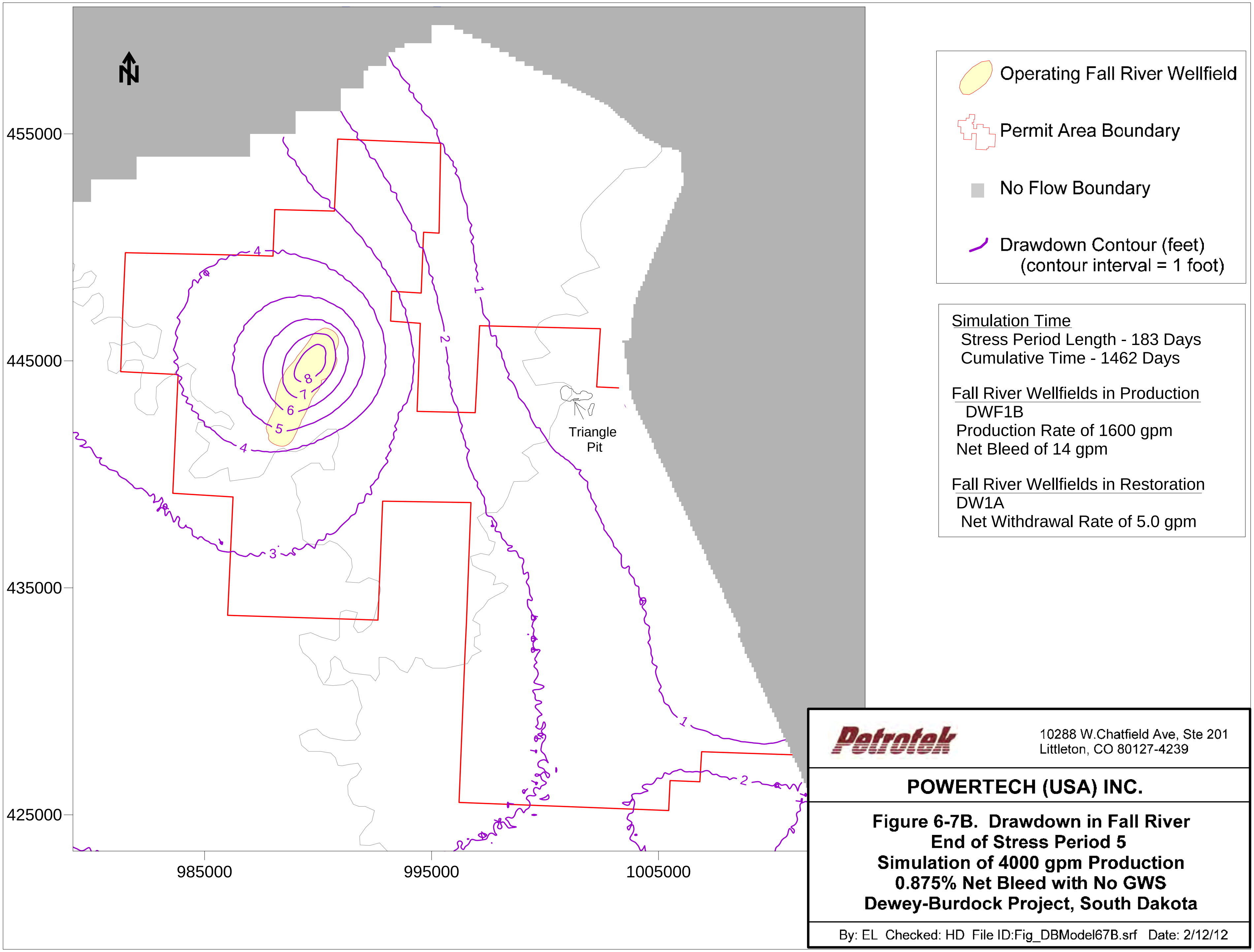
Operating Fall River Wellfield
Permit Area Boundary
No Flow Boundary
Drawdown Contour (feet)
(contour interval = 1 foot)
Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 1462 Days
Fall River Wellfields in Production
DWF1B
Production Rate of 1600 gpm
Net Bleed of 14 gpm
Fall River Wellfields in Restoration
DW1A
Net Withdrawal Rate of 5.0 gpm
Triangle Pit
455000
445000
435000
425000
985000
995000
1005000
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Figure 6-7B. Drawdown in Fall River
End of Stress Period 5
Simulation of 4000 gpm Production
0.875% Net Bleed with No GWS
Dewey-Burdock Project, South Dakota
By: EL Checked: HD File ID:Fig_DBModel67B.srf Date: 2/12/12

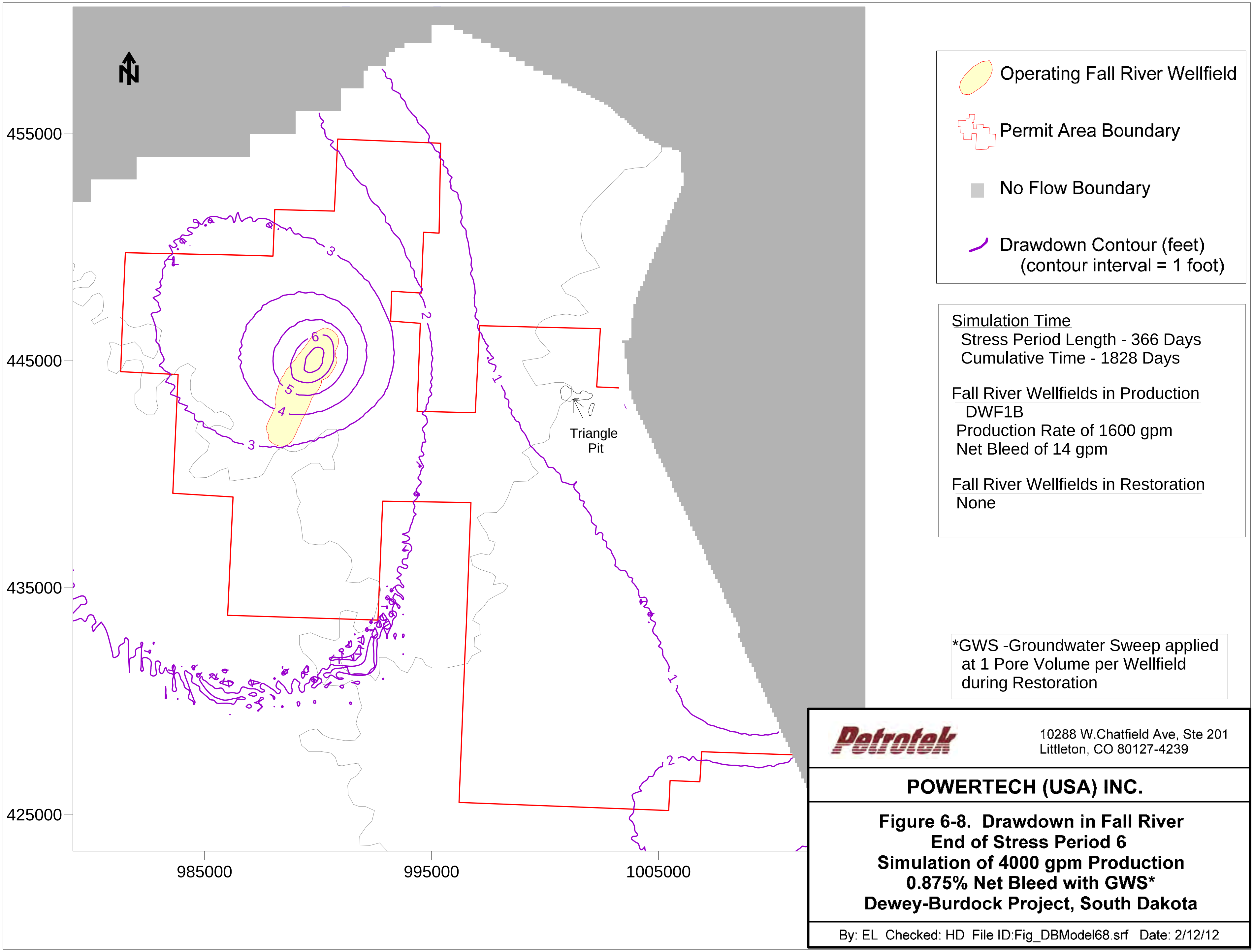

**Figure 6-8. Drawdown in Fall River
End of Stress Period 6
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel68.srf Date: 2/12/12

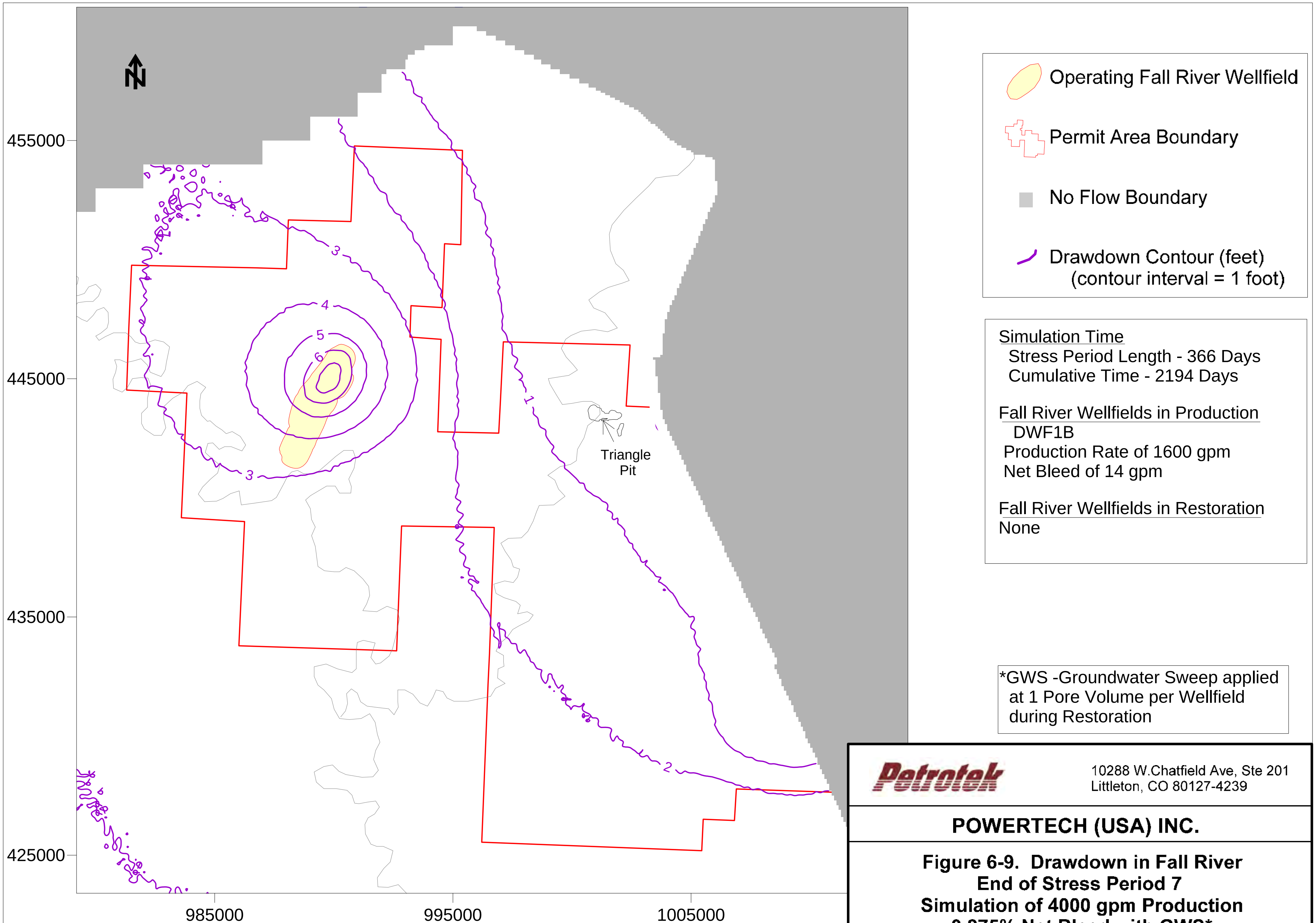

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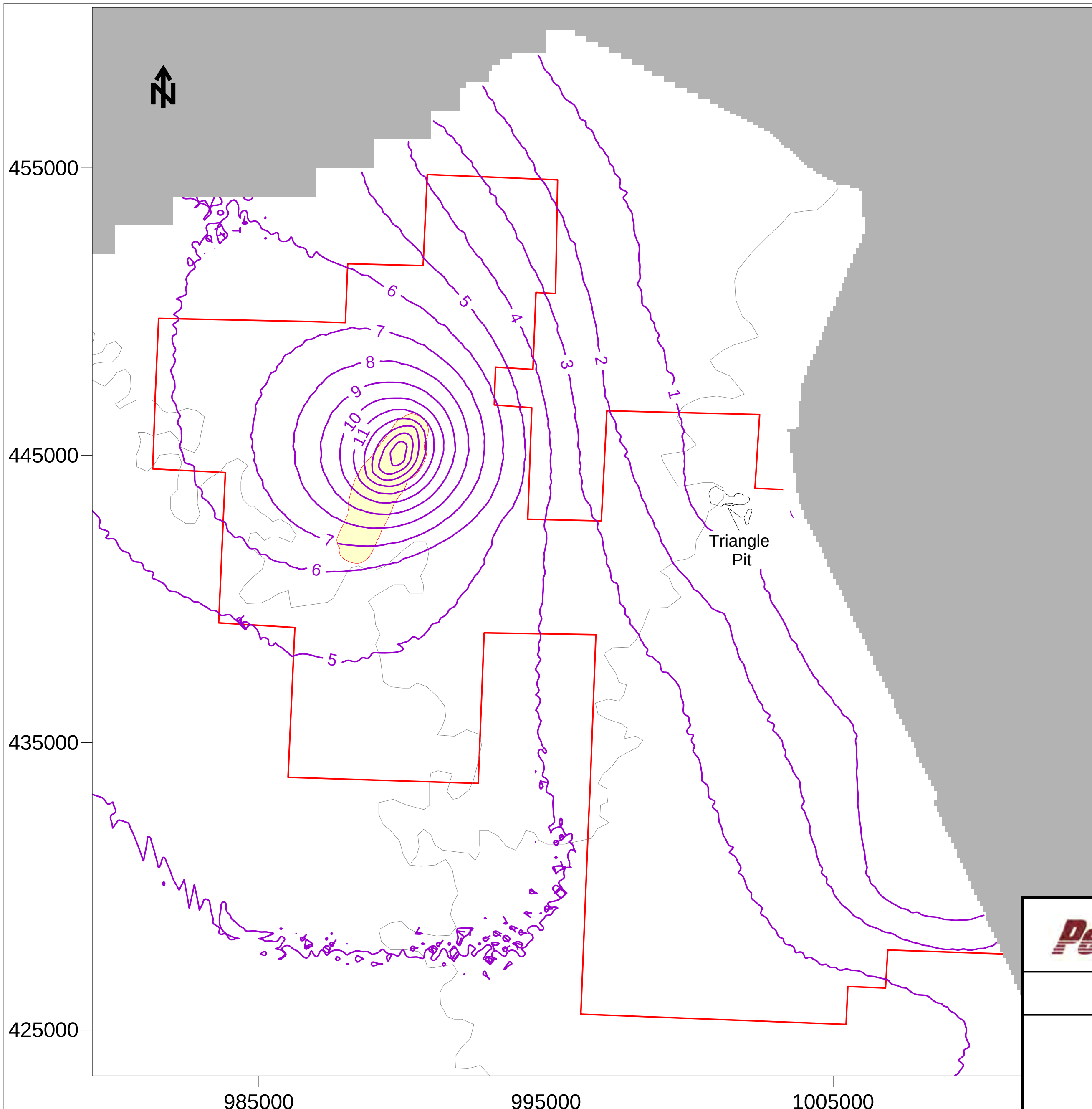
Figure 6-9. Drawdown in Fall River End of Stress Period 7 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel69.srf Date: 2/12/12



Operating Fall River Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 2377 Days

Fall River Wellfields in Production
None

Fall River Wellfields in Restoration
DWF1B
Net withdrawal rate of 29.2 gpm

*GWS -Groundwater Sweep applied
at 1 Pore Volume per Wellfield
during Restoration

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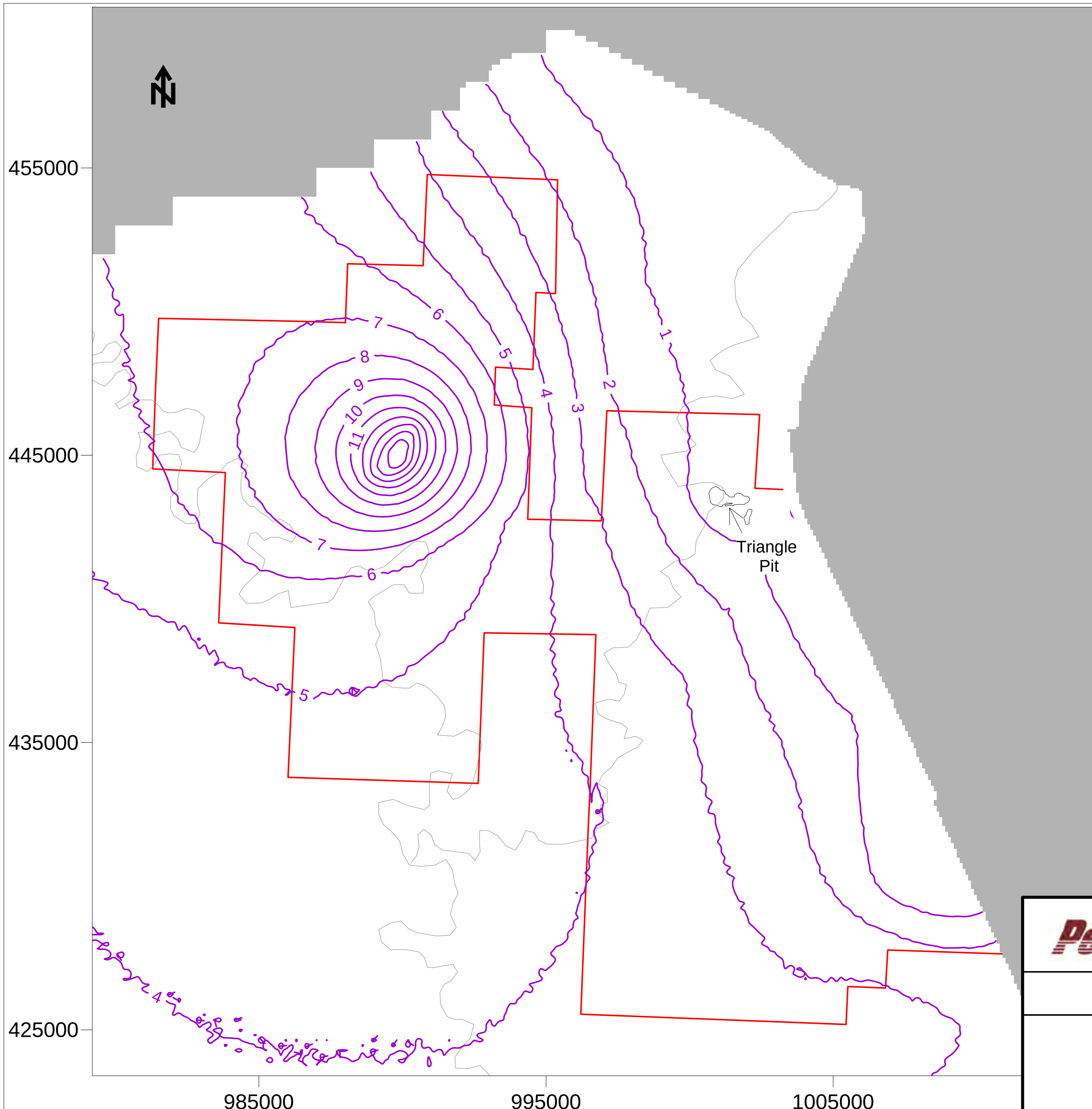
Figure 6-10. Drawdown in Fall River End of Stress Period 8 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel610.srf Date: 2/12/12



Operating Fall River Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 2560 Days

Fall River Wellfields in Production
None

Fall River Wellfields in Restoration
DWF1B
Net Withdrawal Rate of 29.2 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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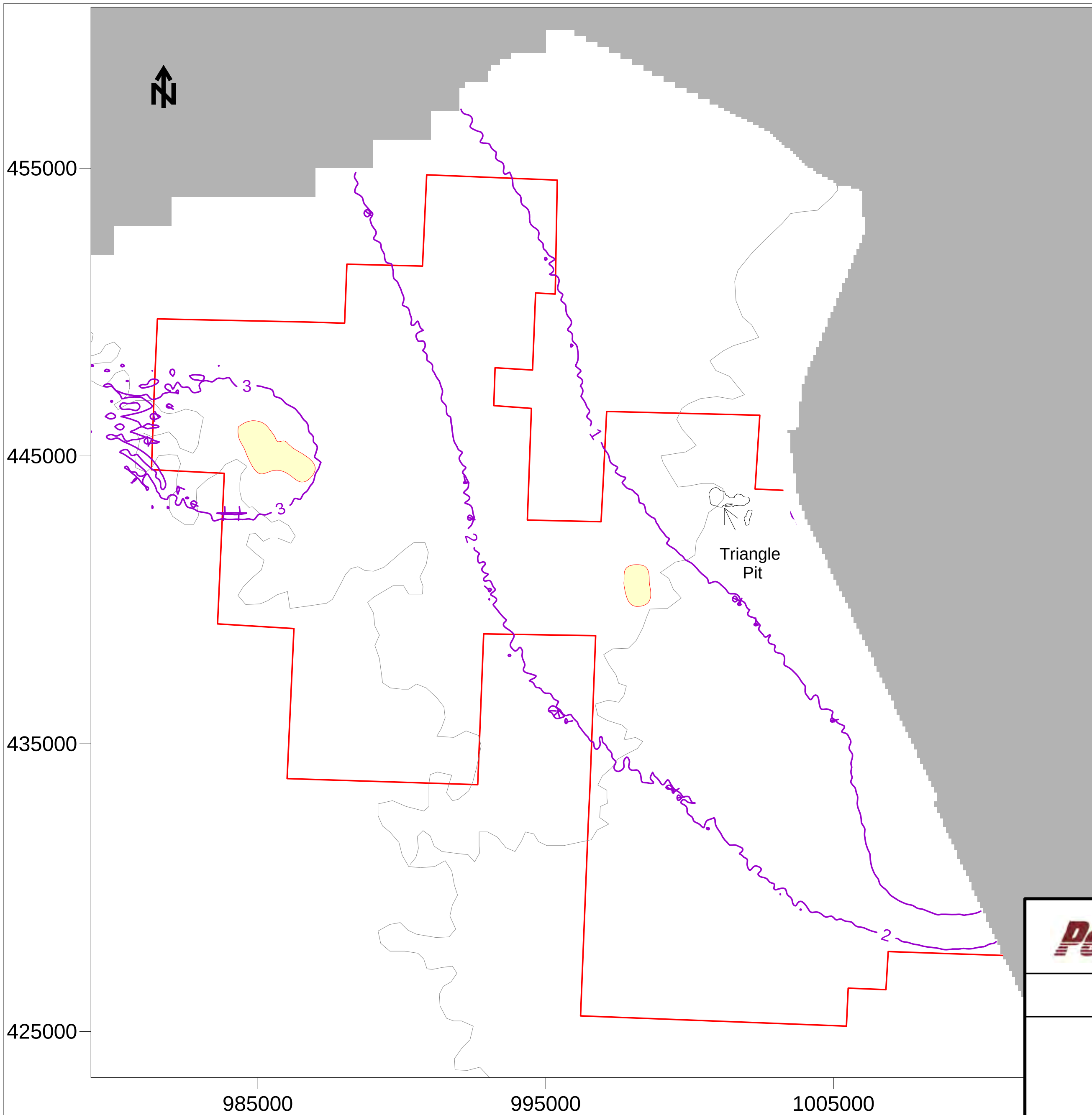
Figure 6-11. Drawdown in Fall River
End of Stress Period 9
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel611.srf Date: 2/12/12



Operating Fall River Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 2743 Days

Fall River Wellfields in Production
DWF3
Production Rate of 300 gpm
Net Bleed of 2.6 gpm
BWF10
Production Rate of 180 gpm
Net Bleed of 1.6 gpm

Fall River Wellfields in Restoration
None

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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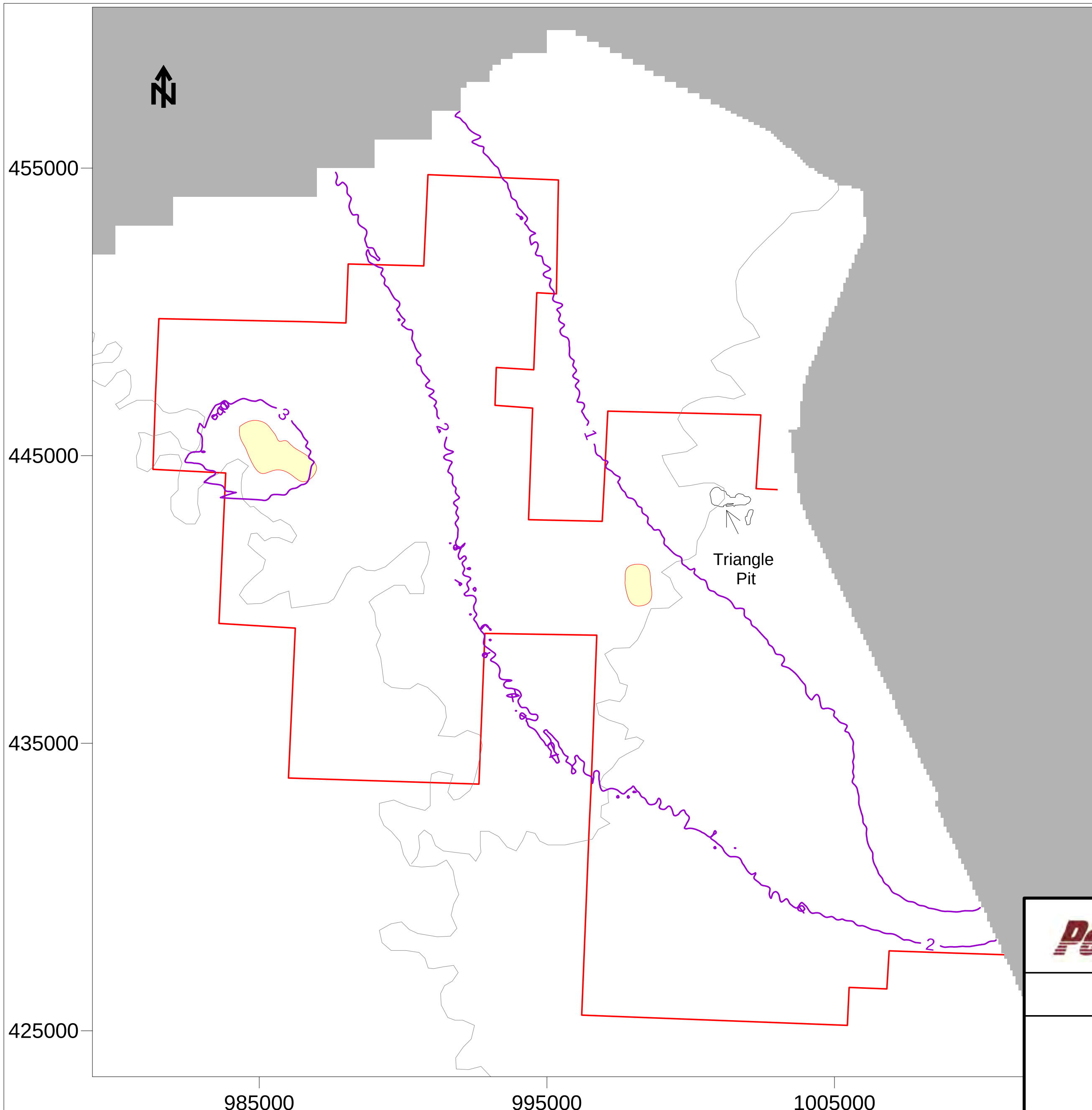
**Figure 6-12. Drawdown in Fall River
End of Stress Period 10
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel612.srf Date: 2/12/12



Operating Fall River Wellfield
Permit Area Boundary
No Flow Boundary
Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 2926 Days

Fall River Wellfields in Production
DWF3
Production Rate of 300 gpm
Net Bleed of 2.6 gpm
BWF10
Production Rate of 180 gpm
Net Bleed of 1.6 gpm

Fall River Wellfields in Restoration
None

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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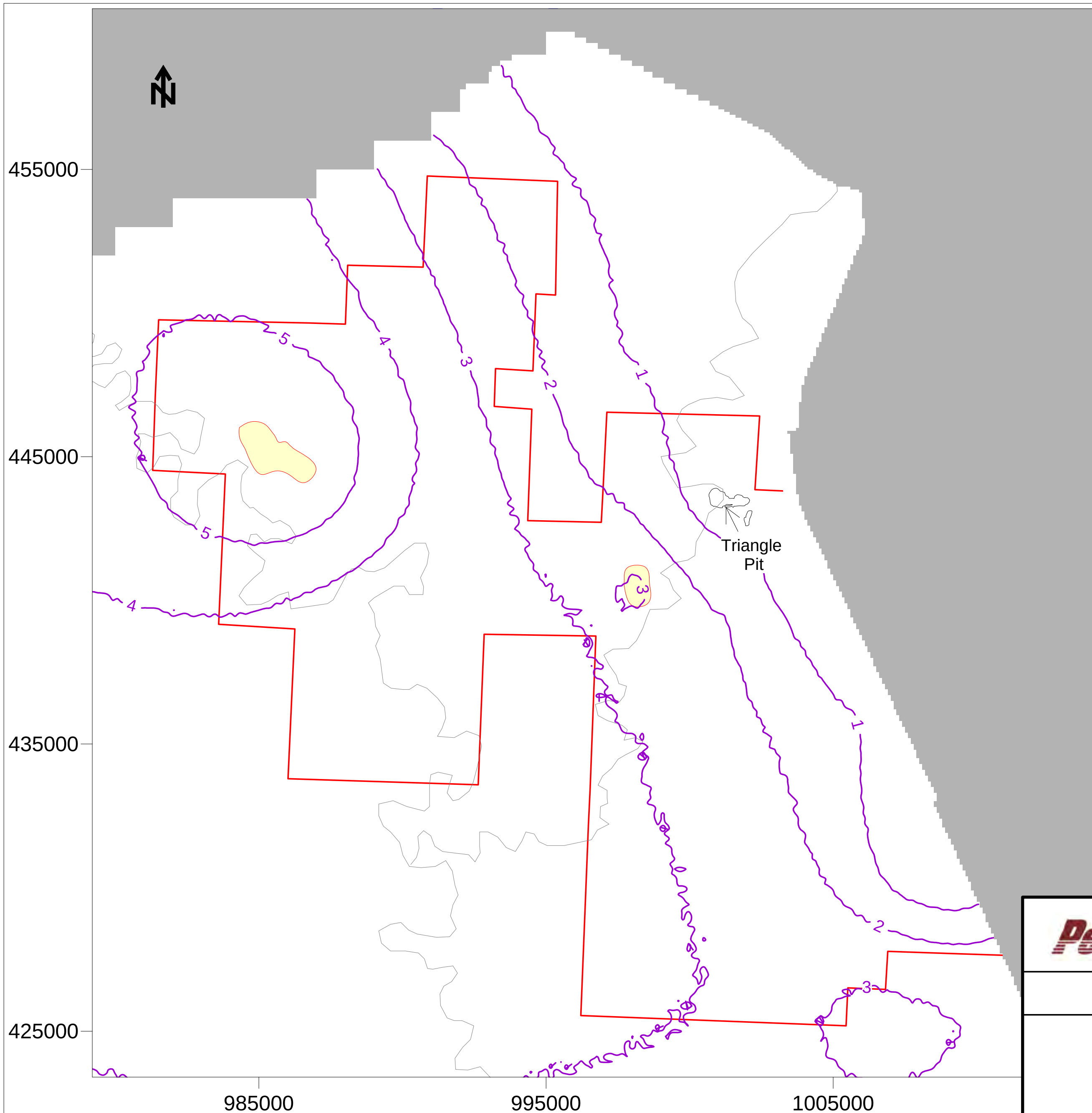
Figure 6-13. Drawdown in Fall River
End of Stress Period 11
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel613.srf Date: 2/12/12



Operating Fall River Wellfield
Permit Area Boundary
No Flow Boundary
Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 3109 Days

Fall River Wellfields in Production
None

Fall River Wellfields in Restoration
DWF3
Net withdrawal rate of 11.8 gpm
BWF10
Net withdrawal rate of 7.4 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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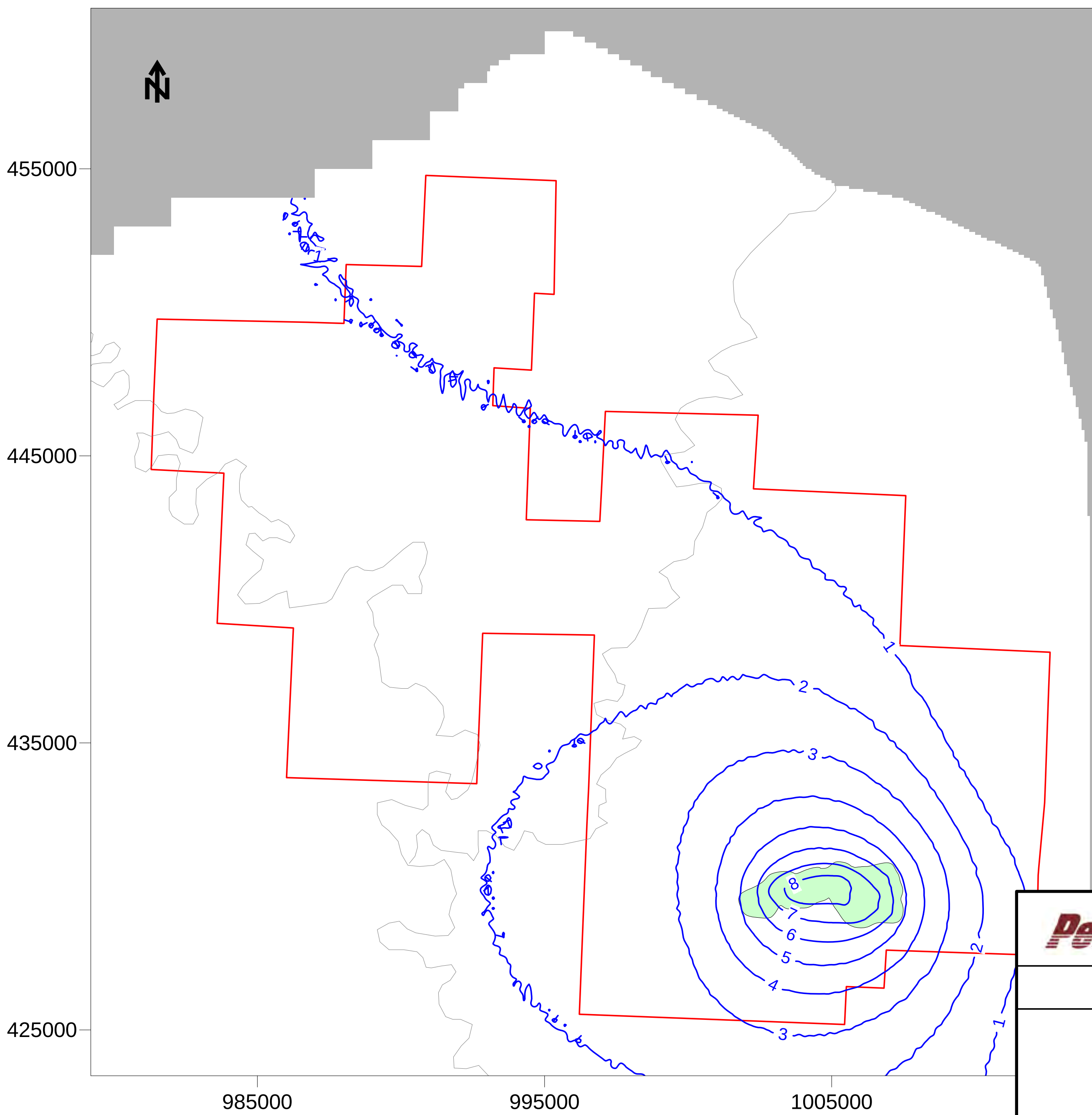
Figure 6-14. Drawdown in Fall River End of Stress Period 12 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel614.srf Date: 2/12/12



Operating Chilson Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 730 Days
Cumulative Time - 730 Days

Chilson Wellfields in Production
BWF1
Production Rate of 2400 gpm
Net Bleed of 21 gpm

Chilson Wellfields in Restoration
None

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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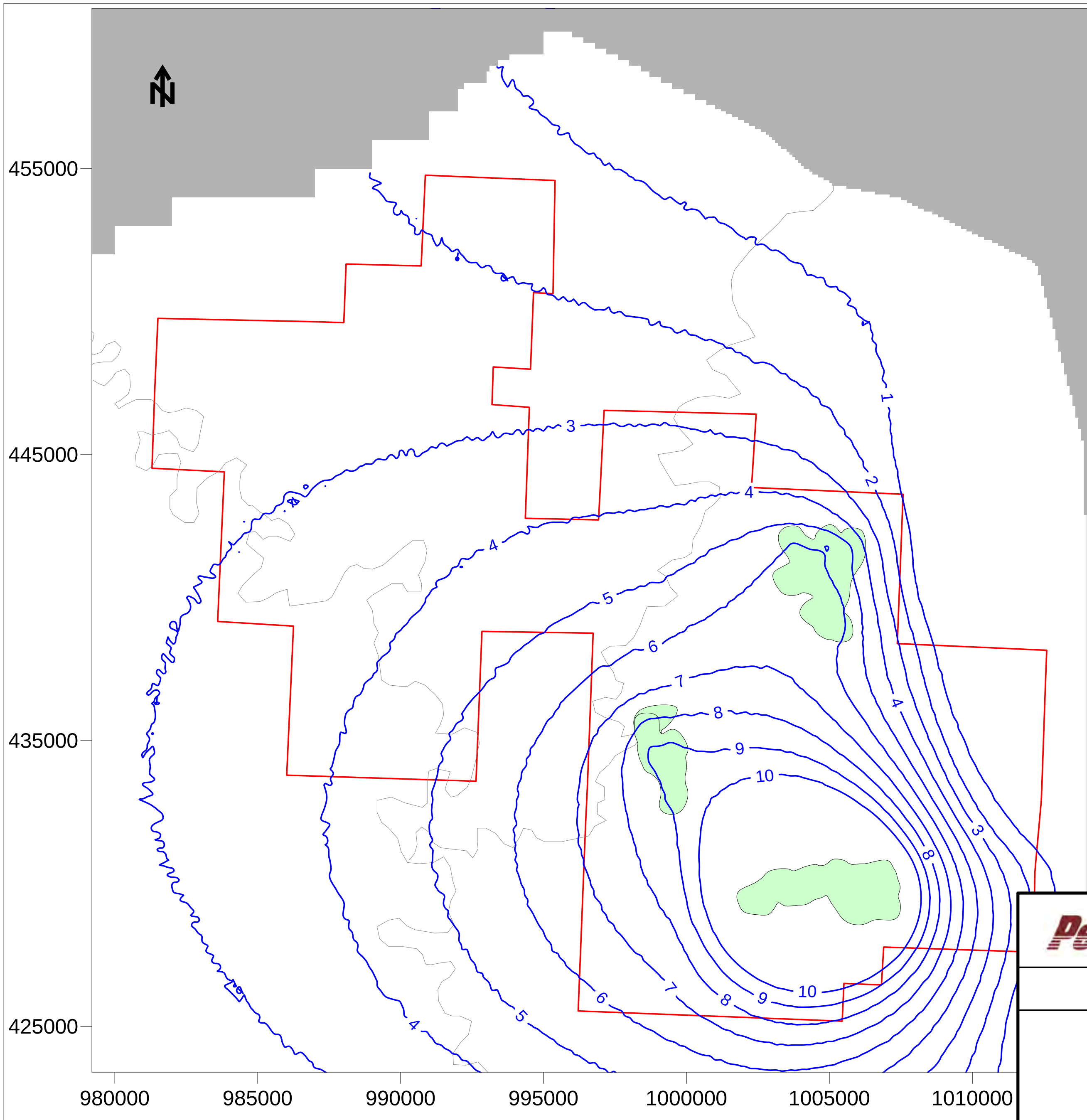
Figure 6-15. Drawdown in Chilson End of Stress Period 1 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel615.srf Date: 2/12/12



Operating Chilson Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 913 Days

Chilson Wellfields in Production
BWF5
Production Rate of 800 gpm
Net Bleed of 7.0 gpm
BWF8
Production Rate of 1360 gpm
Net Bleed of 11.9 gpm
BWF9
Production Rate of 220 gpm
Net Bleed of 1.9 gpm

Chilson Wellfields in Restoration
BWF1
Net Withdrawal Rate of 26.7 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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**Figure 6-16. Drawdown in Chilson
End of Stress Period 2
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel616.srf Date: 2/12/12

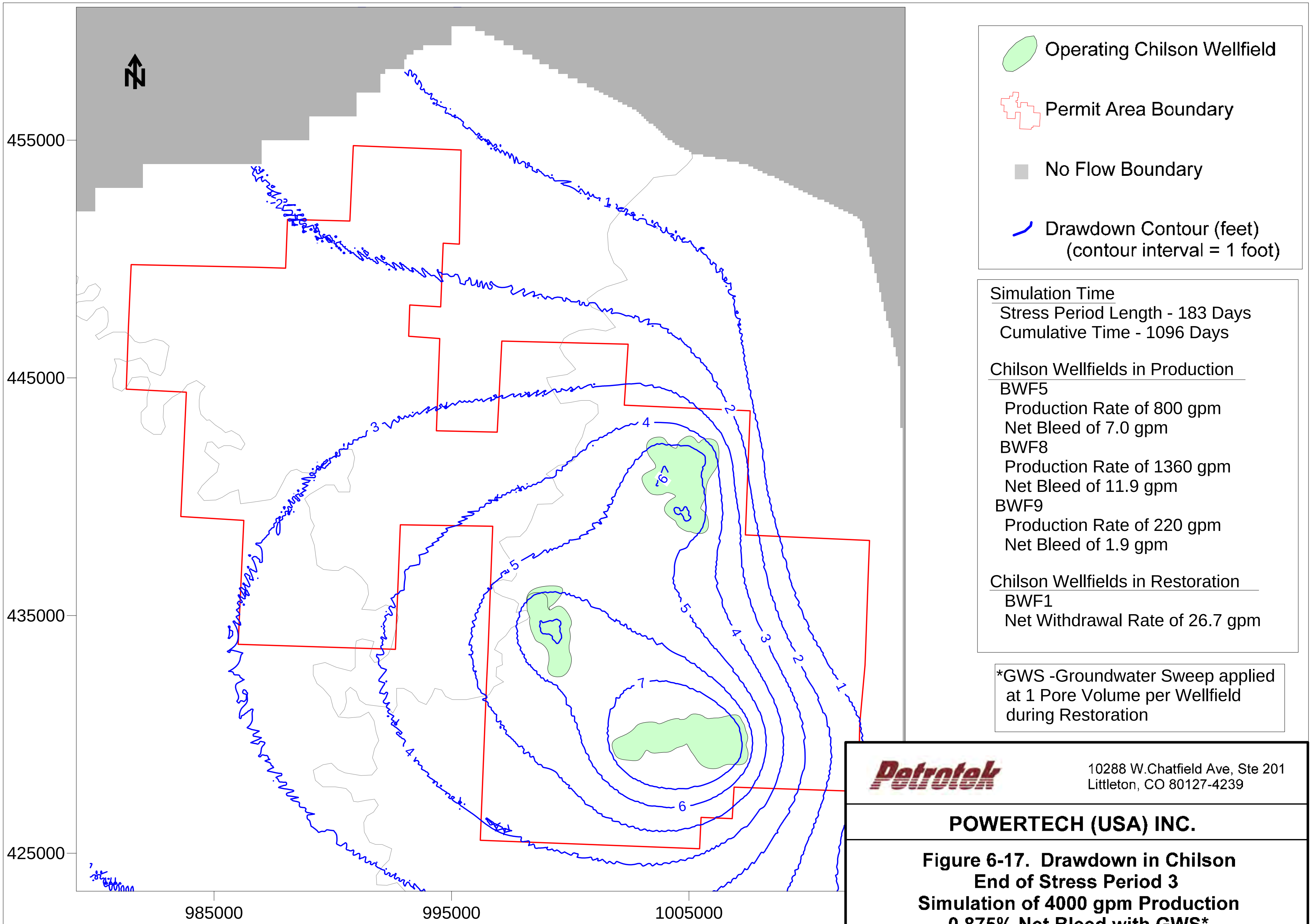

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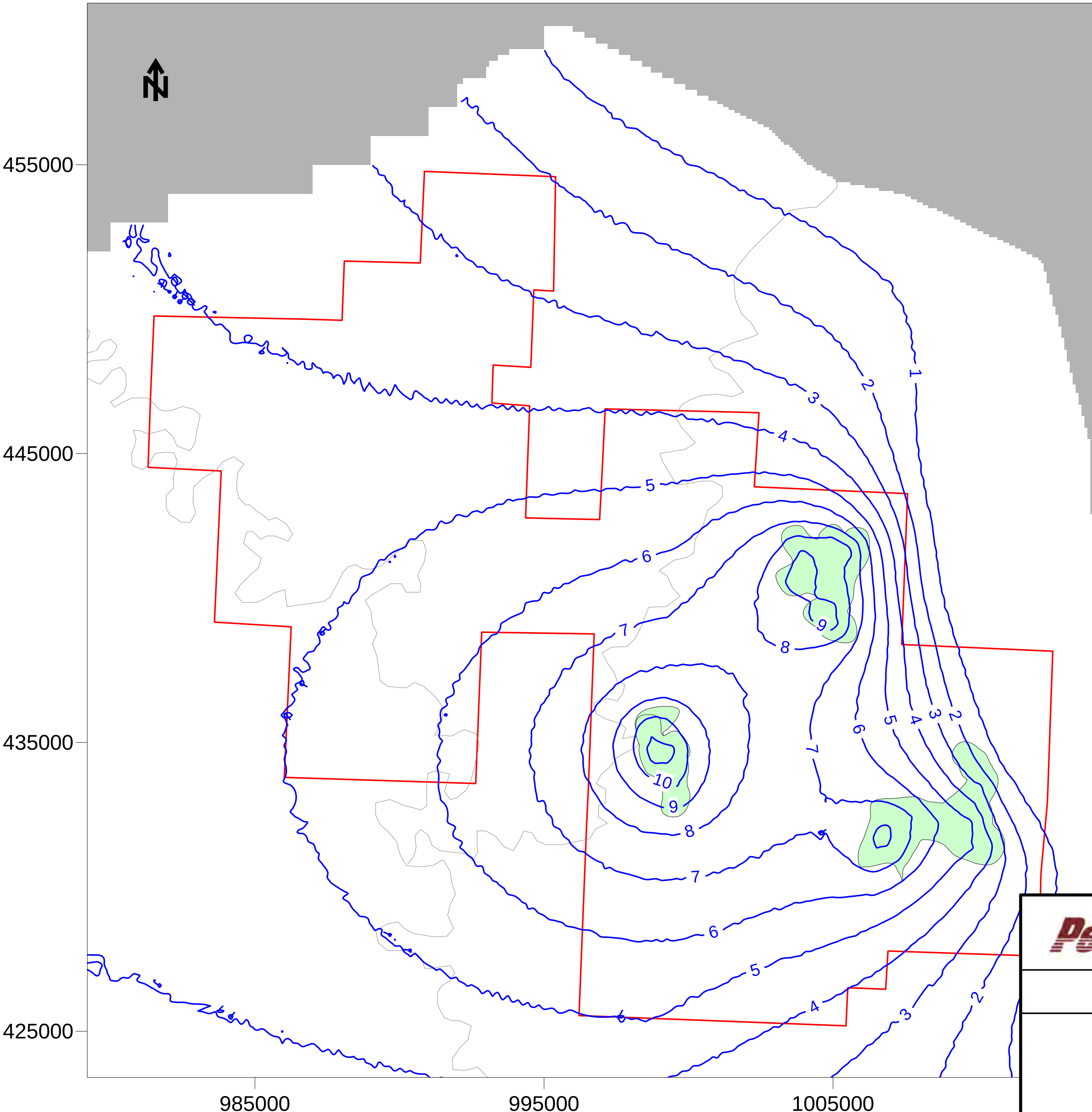
Figure 6-17. Drawdown in Chilson
End of Stress Period 3
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel617.srf Date: 2/12/12



Operating Chilson Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 1279 Days

Chilson Wellfields in Production
BWF6
Production Rate of 2400 gpm
Net Bleed of 21.0 gpm

Chilson Wellfields in Restoration
BWF5
Net Withdrawal Rate of 12.0 gpm
BWF8
Net withdrawal Rate of 19.4 gpm
BWF9
Net Withdrawal Rate of 6.6 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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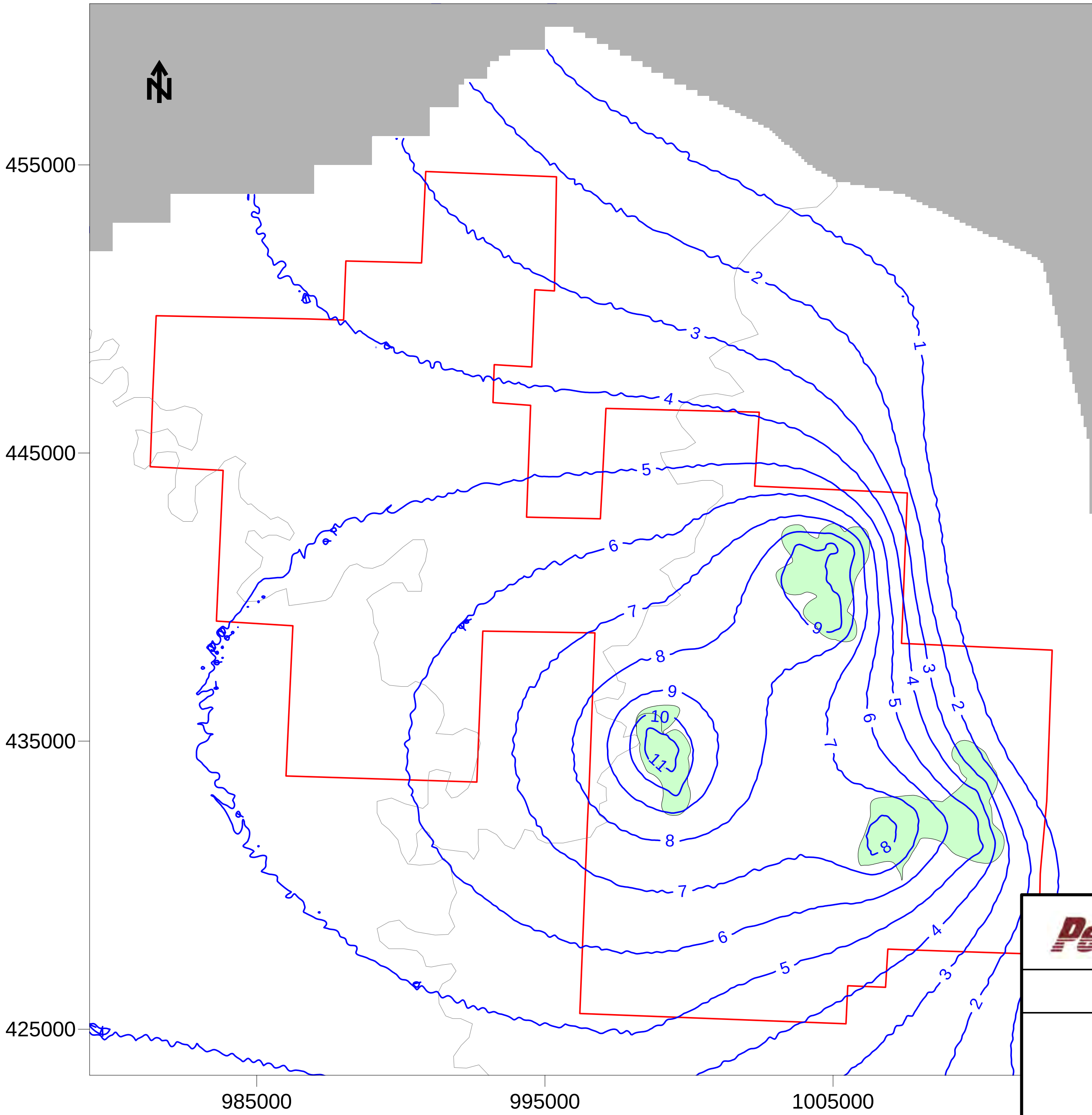
**Figure 6-18. Drawdown in Chilson
End of Stress Period 4
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel618.srf Date: 2/12/12



Operating Chilson Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 366 Days
Cumulative Time - 1462 Days

Chilson Wellfields in Production
BWF6
Production Rate of 2400 gpm
Net Bleed of 21.0 gpm

Chilson Wellfields in Restoration
BWF5
Net Withdrawal Rate of 12.0 gpm
BWF8
Net withdrawal Rate of 19.4 gpm
BWF9
Net Withdrawal Rate of 6.6 gpm

*GWS -Groundwater Sweep applied
at 1 Pore Volume per Wellfield
during Restoration

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**Figure 6-19. Drawdown in Chilson
End of Stress Period 5
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel619.srf Date: 2/12/12

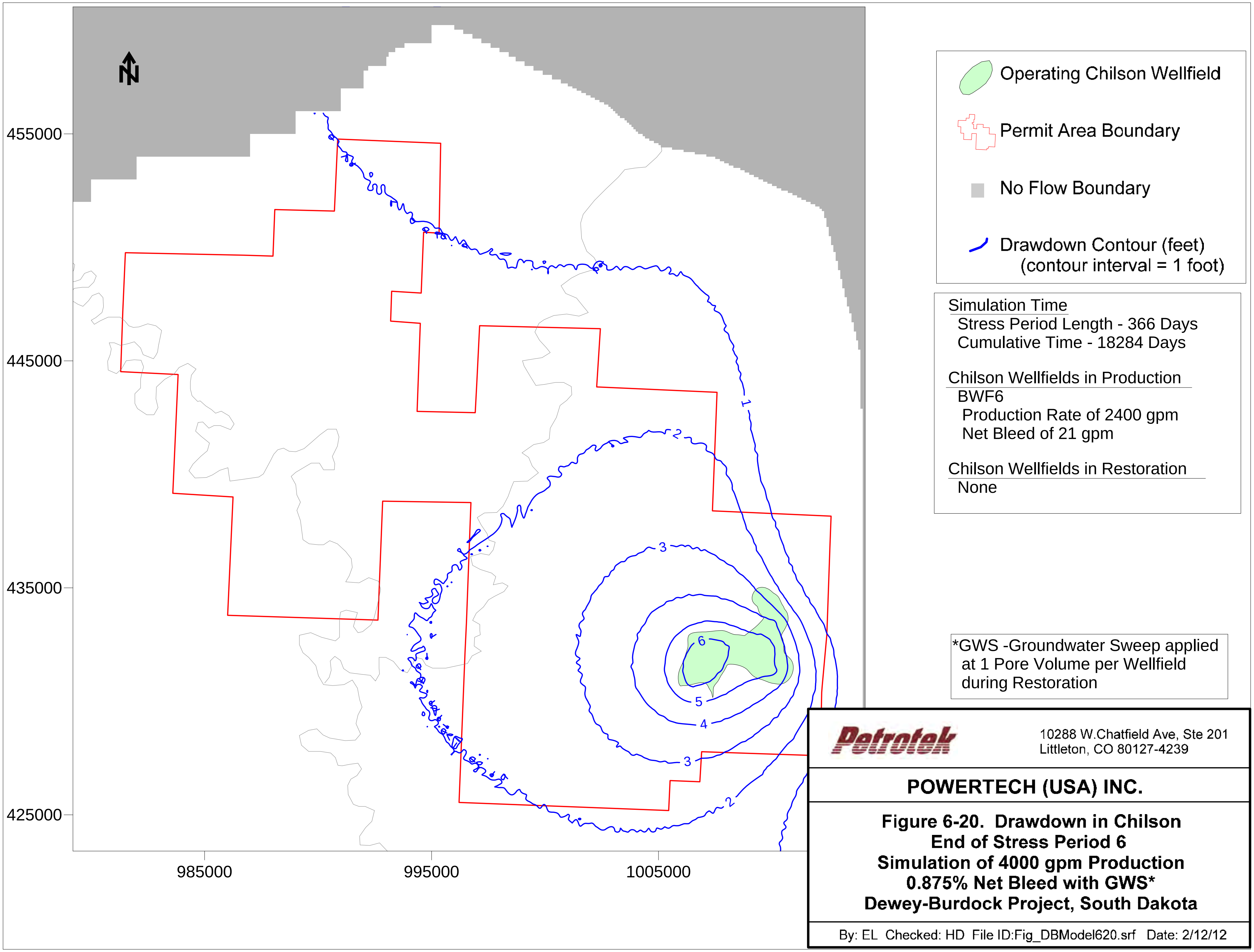

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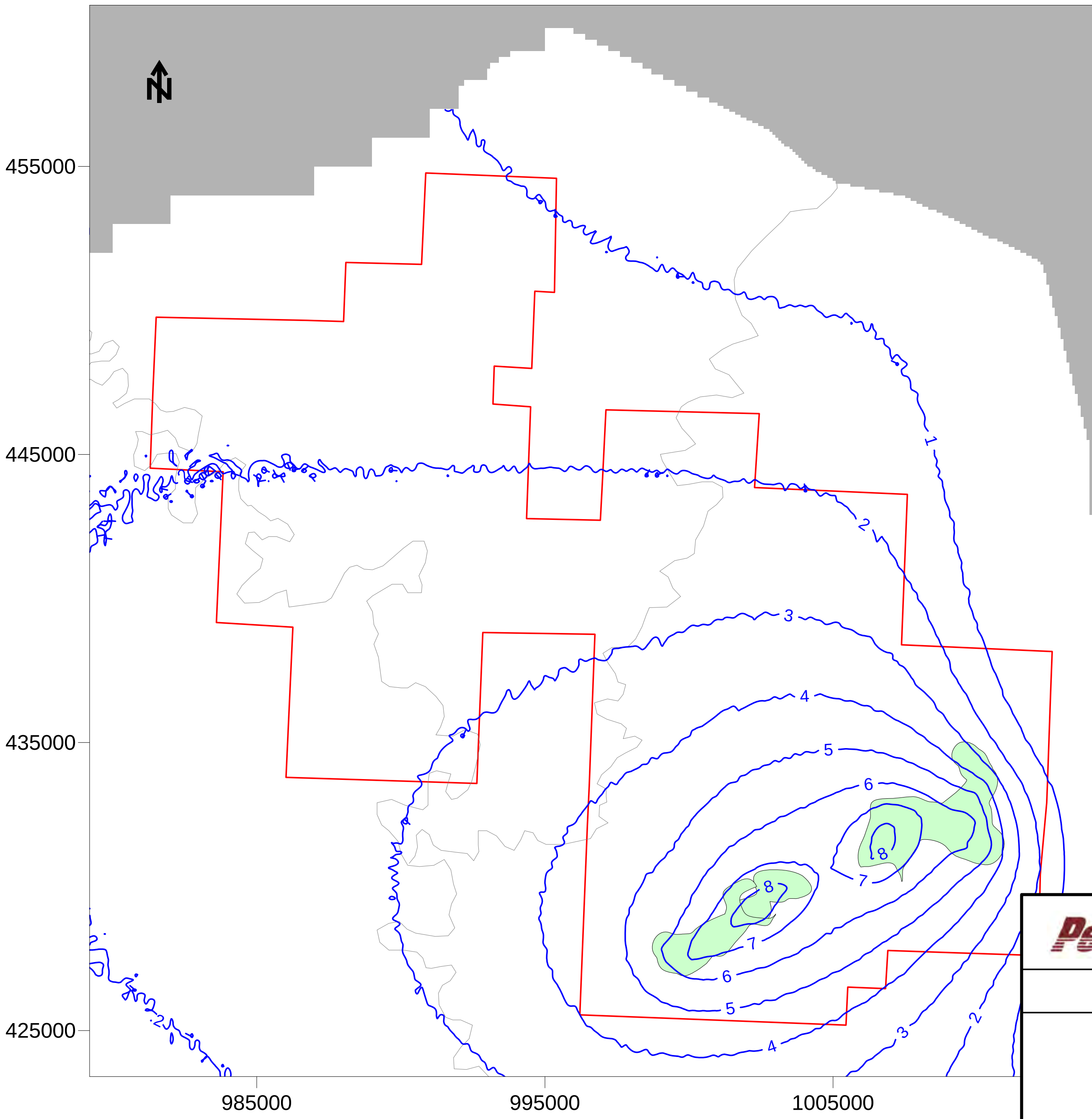
**Figure 6-20. Drawdown in Chilson
End of Stress Period 6
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota**

By: EL Checked: HD File ID:Fig_DBModel620.srf Date: 2/12/12



Operating Chilson Wellfield
Permit Area Boundary
No Flow Boundary
Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 366 Days
Cumulative Time - 2194 Days

Chilson Wellfields in Production
BWF2
Production Rate of 1200 gpm
Net Bleed of 10.5 gpm
BWF3
Production Rate of 400 gpm
Net Bleed of 3.5 gpm

Chilson Wellfields in Restoration
BWF6
Net Withdrawal Rate of 20.9 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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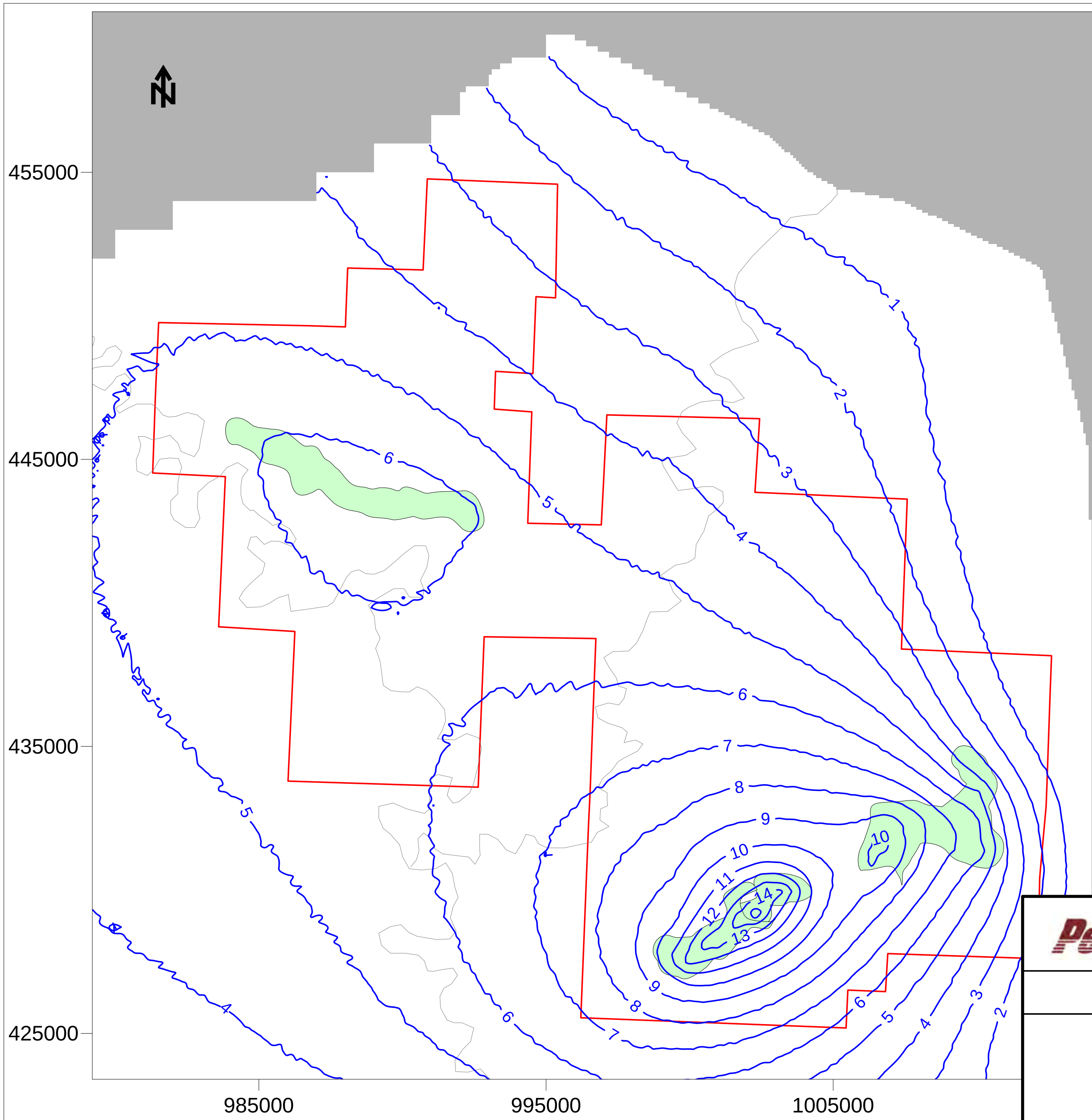
Figure 6-21. Drawdown in Chilson End of Stress Period 7 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel621.srf Date: 2/12/12



Operating Chilson Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 2377 Days

Chilson Wellfields in Production
DW2
Production Rate of 1600 gpm
Net Bleed of 14 gpm

Chilson Wellfields in Restoration
BWF2
Net Withdrawal Rate of 18.9
BWF3
Net Withdrawal Rate of 8.6
BWF6
Net Withdrawal Rate of 20.9

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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Figure 6-22. Drawdown in Chilson End of Stress Period 8 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel622.srf Date: 2/12/12

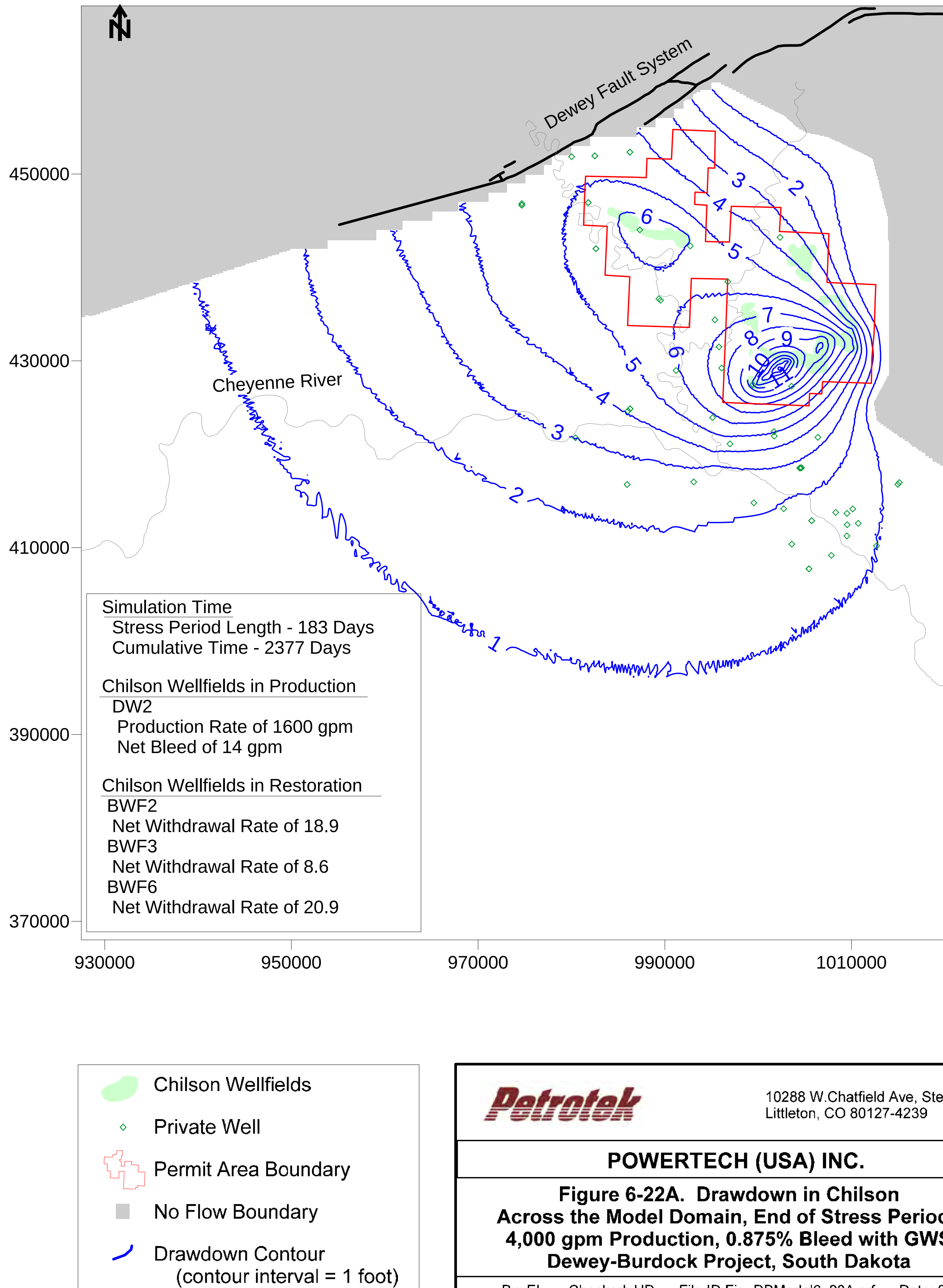

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Figure 6-22A. Drawdown in Chilson Across the Model Domain, End of Stress Period 8 4,000 gpm Production, 0.875% Bleed with GWS Dewey-Burdock Project, South Dakota

By: EL	Checked: HD	File ID:Fig_DBModel6_22A.srf	Date: 2/12/12

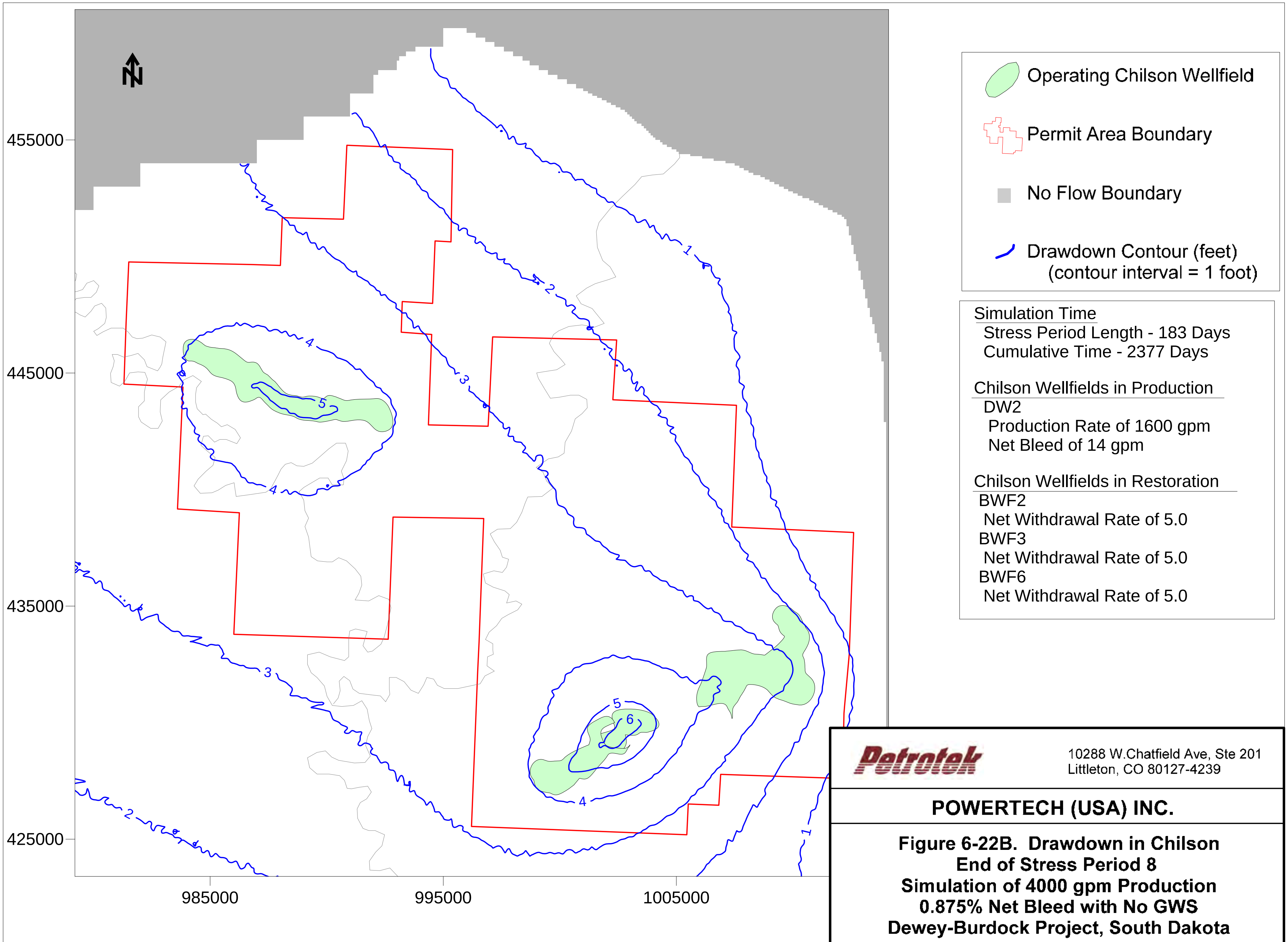
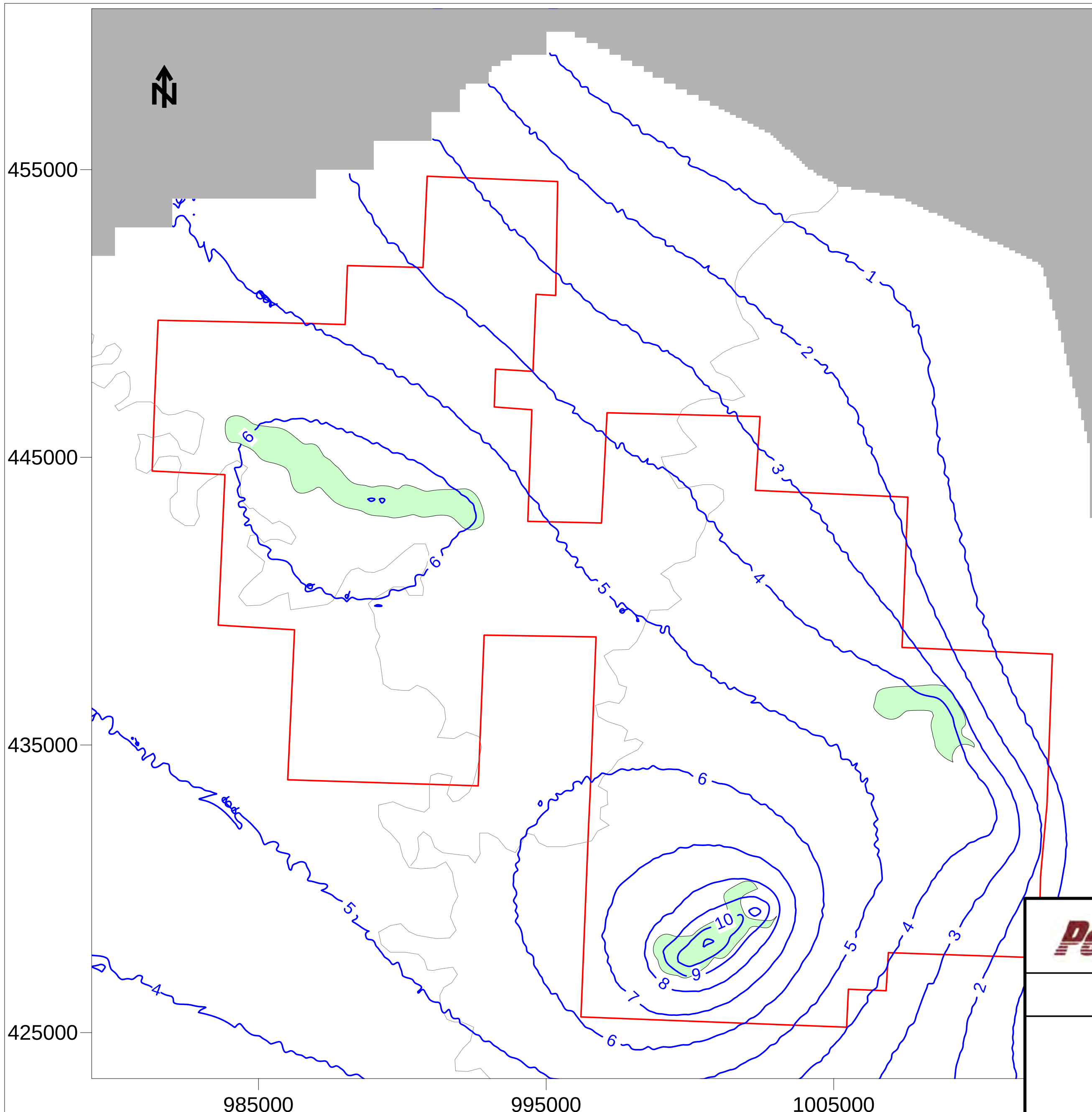


Figure 6-22B. Drawdown in Chilson
End of Stress Period 8
Simulation of 4000 gpm Production
0.875% Net Bleed with No GWS
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel622B.srf Date: 2/12/12



Operating Chilson Wellfield
Permit Area Boundary
No Flow Boundary
Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 2560 Days

Chilson Wellfields in Production
BWF7
Production Rate of 1040 gpm
Net Bleed of 9.1 gpm
DWF2
Production Rate of 1600 gpm
Net Bleed of 14 gpm

Chilson Wellfields in Restoration
BFW2
Net Withdrawal Rate of 18.9 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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Figure 6-23. Drawdown in Chilson End of Stress Period 9 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel623.srf Date: 2/12/12

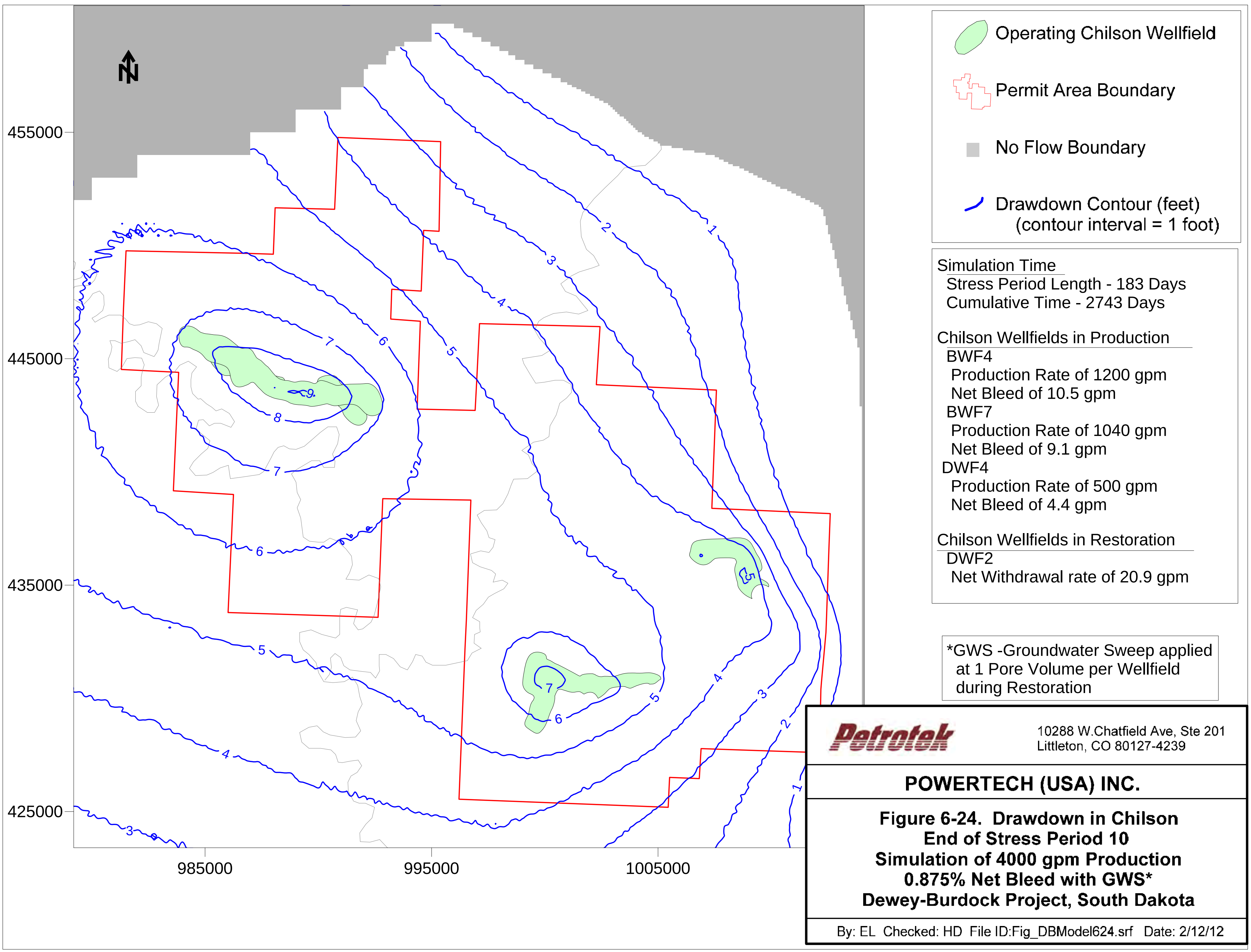


Figure 6-24. Drawdown in Chilson End of Stress Period 10 Simulation of 4000 gpm Production 0.875% Net Bleed with GWS* Dewey-Burdock Project, South Dakota

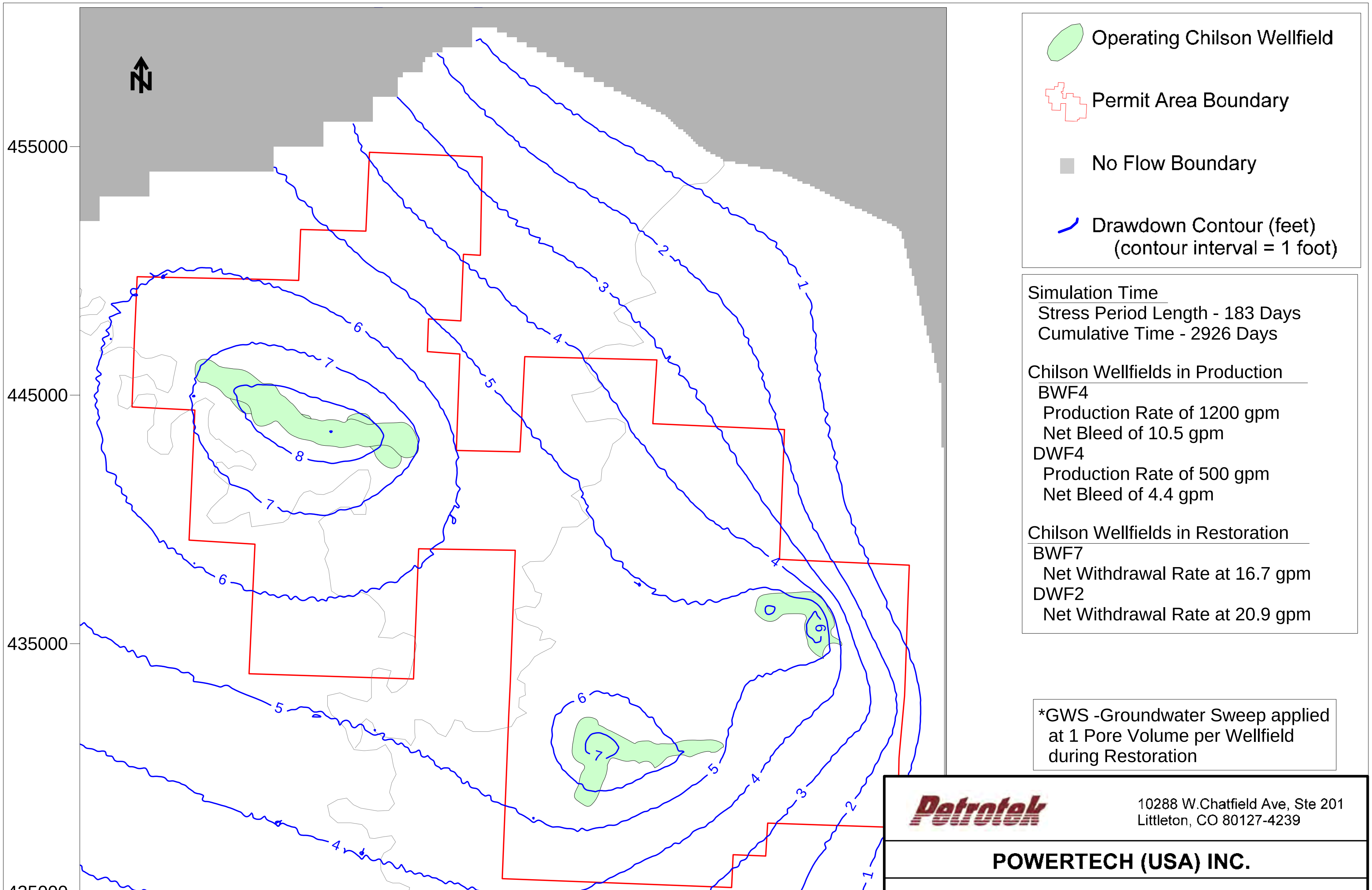
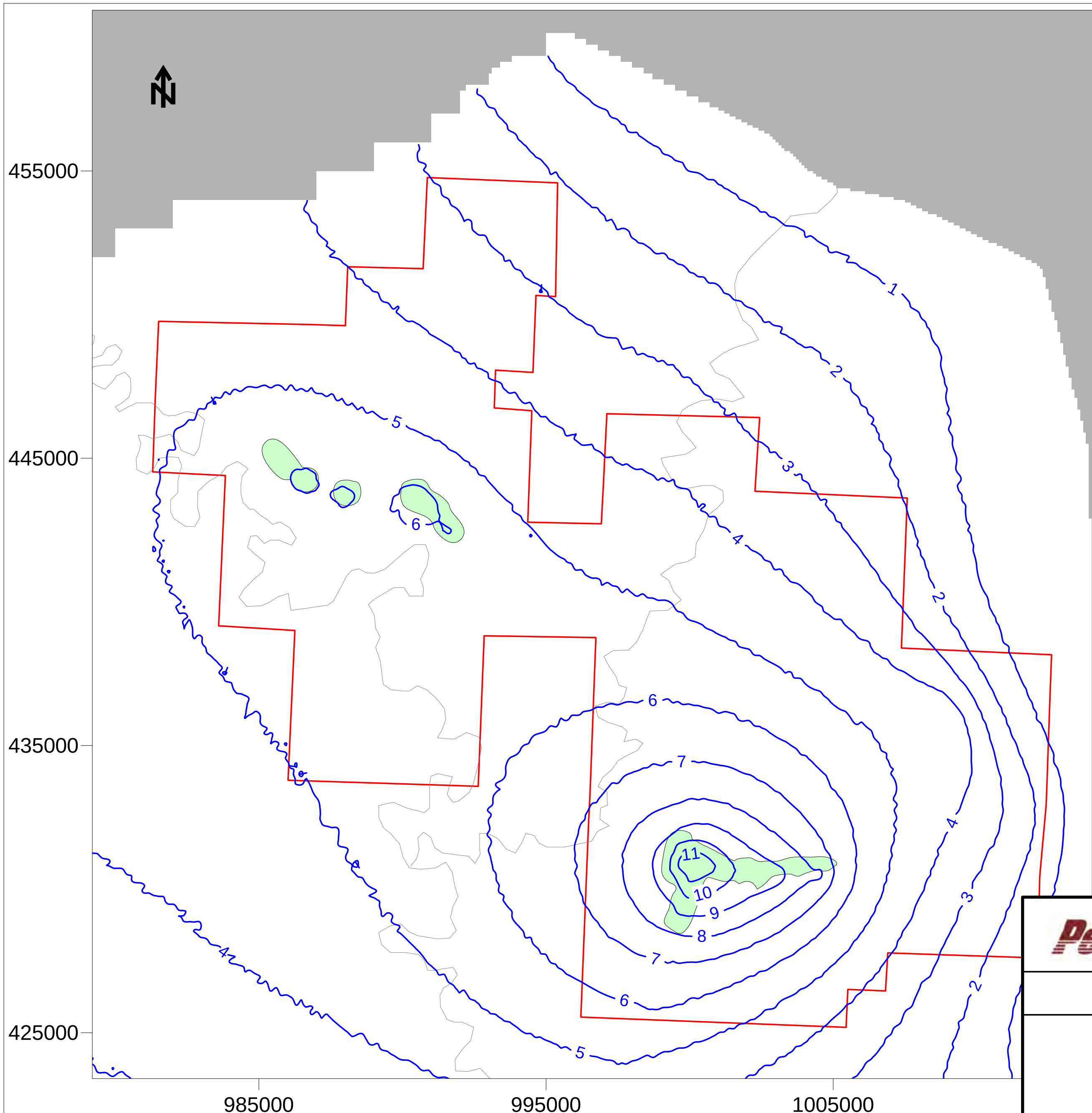


Figure 6-25. Drawdown in Chilson
End of Stress Period 11
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel625.srf Date: 2/12/12



Operating Chilson Wellfield

Permit Area Boundary

No Flow Boundary

Drawdown Contour (feet)
(contour interval = 1 foot)

Simulation Time
Stress Period Length - 183 Days
Cumulative Time - 3109 Days

Chilson Wellfields in Production
None

Chilson Wellfields in Restoration
BWF4
Net Withdrawal Rate of 24.1 gpm
DWF4
Net Withdrawal Rate of 11.6 gpm

*GWS -Groundwater Sweep applied at 1 Pore Volume per Wellfield during Restoration

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Figure 6-26. Drawdown in Chilson
End of Stress Period 12
Simulation of 4000 gpm Production
0.875% Net Bleed with GWS*
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel626.srf Date: 2/12/12

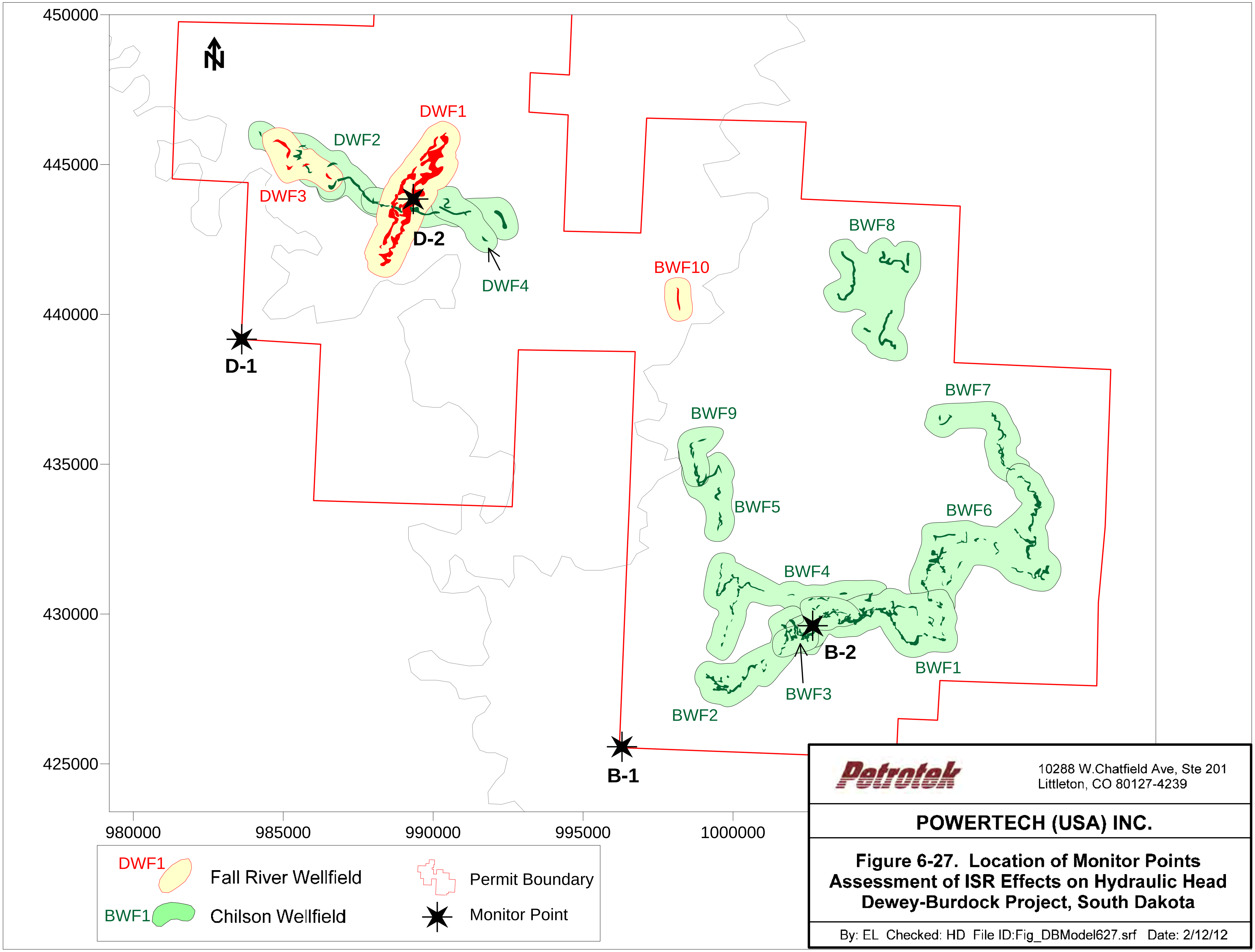
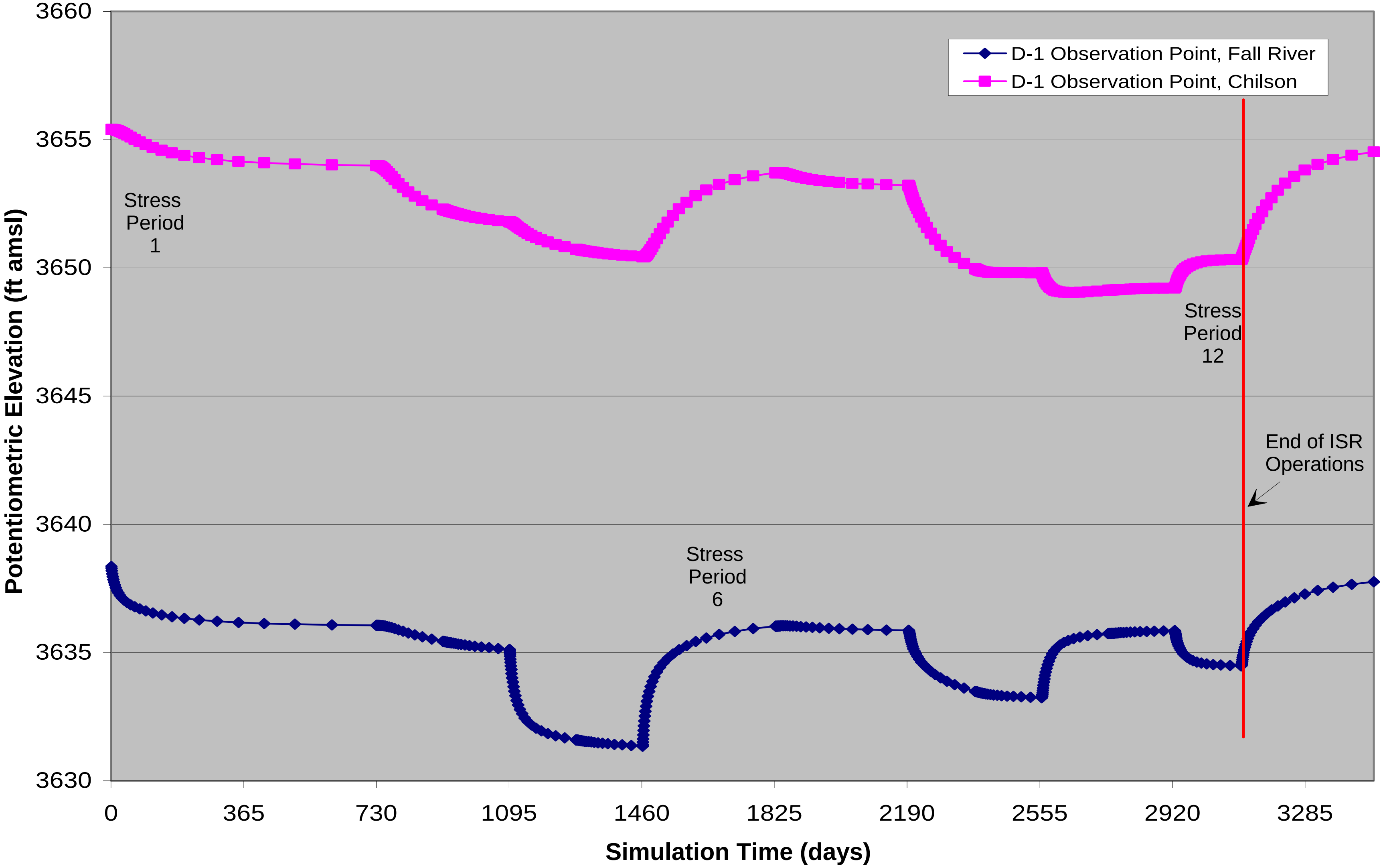


Figure 6-27. Location of Monitor Points
Assessment of ISR Effects on Hydraulic Head
Dewey-Burdock Project, South Dakota



Simulation of 4000 gpm Production
0.875% Net Bleed with Groundwater Sweep

Ground Surface -	**3,677 ft amsl**
Top of Fall River -	**3,079 ft amsl**
Top of Chilson -	**2,892 ft amsl**

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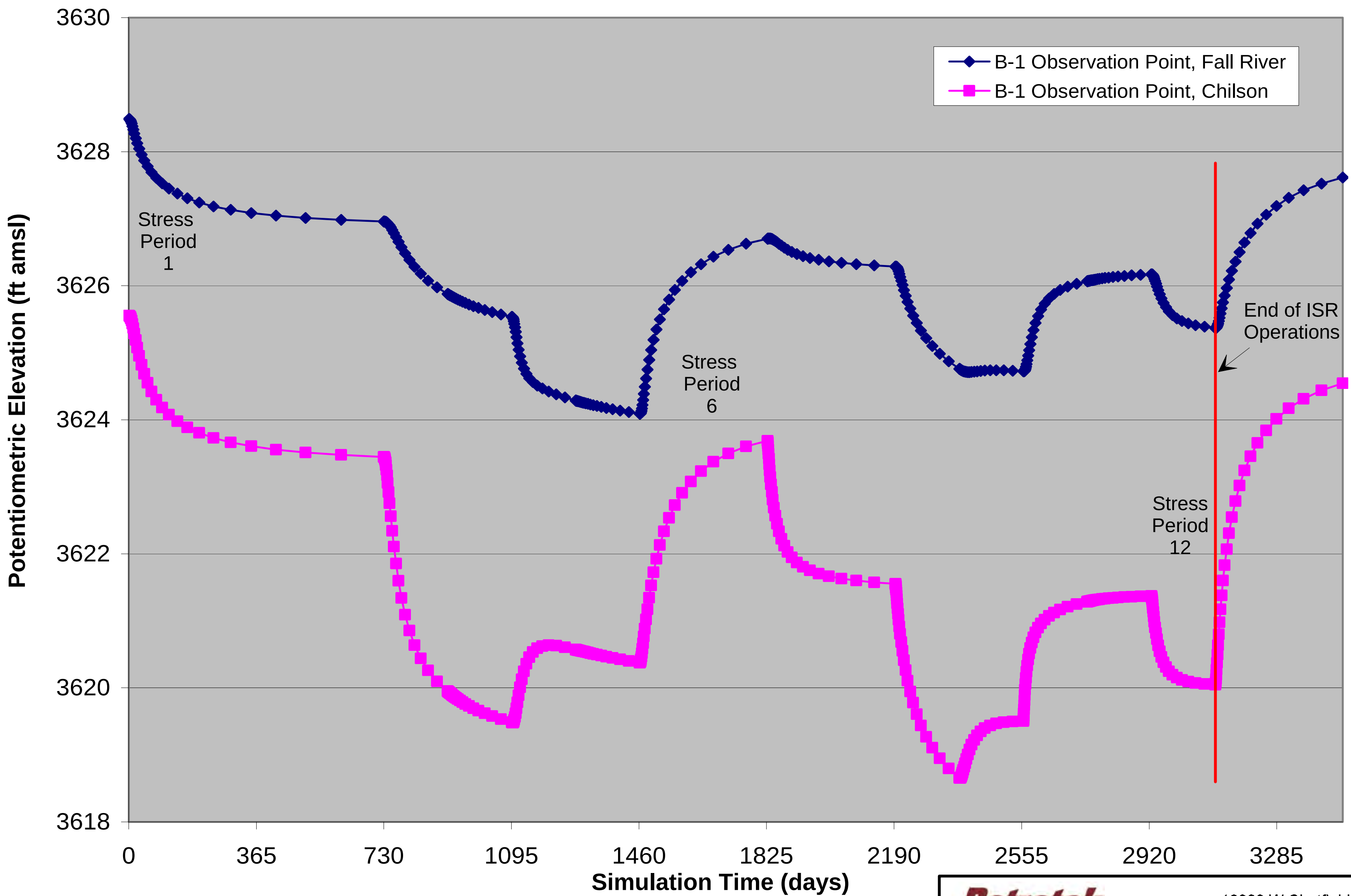
Figure 6-28A. Hydrographs of Simulated Potentiometric Head at Monitor Point D-1 Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel628.srf Date: 2/21/12



Simulation of 4000 gpm Production
0.875% Net Bleed with Groundwater Sweep

Ground Surface - 3,592 ft amsl
Top of Fall River - 3,266 ft amsl
Top of Chilson - 3,069 ft amsl

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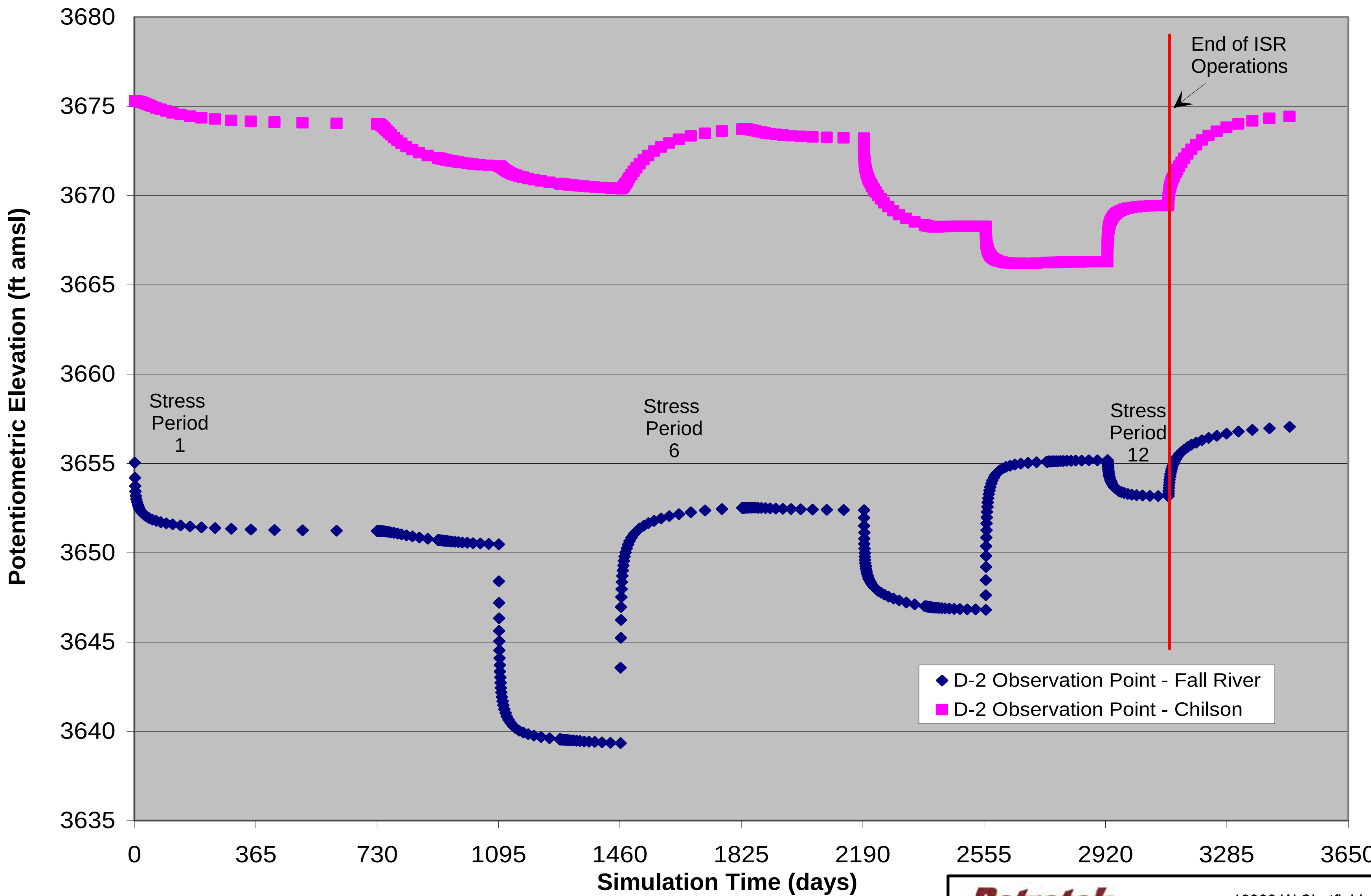
Figure 6-28B. Hydrographs of Simulated Potentiometric Head at Monitor Point B-1 Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel628B.srf Date: 2/12/12



Simulation of 4000 gpm Production
0.875% Net Bleed with Groundwater Sweep

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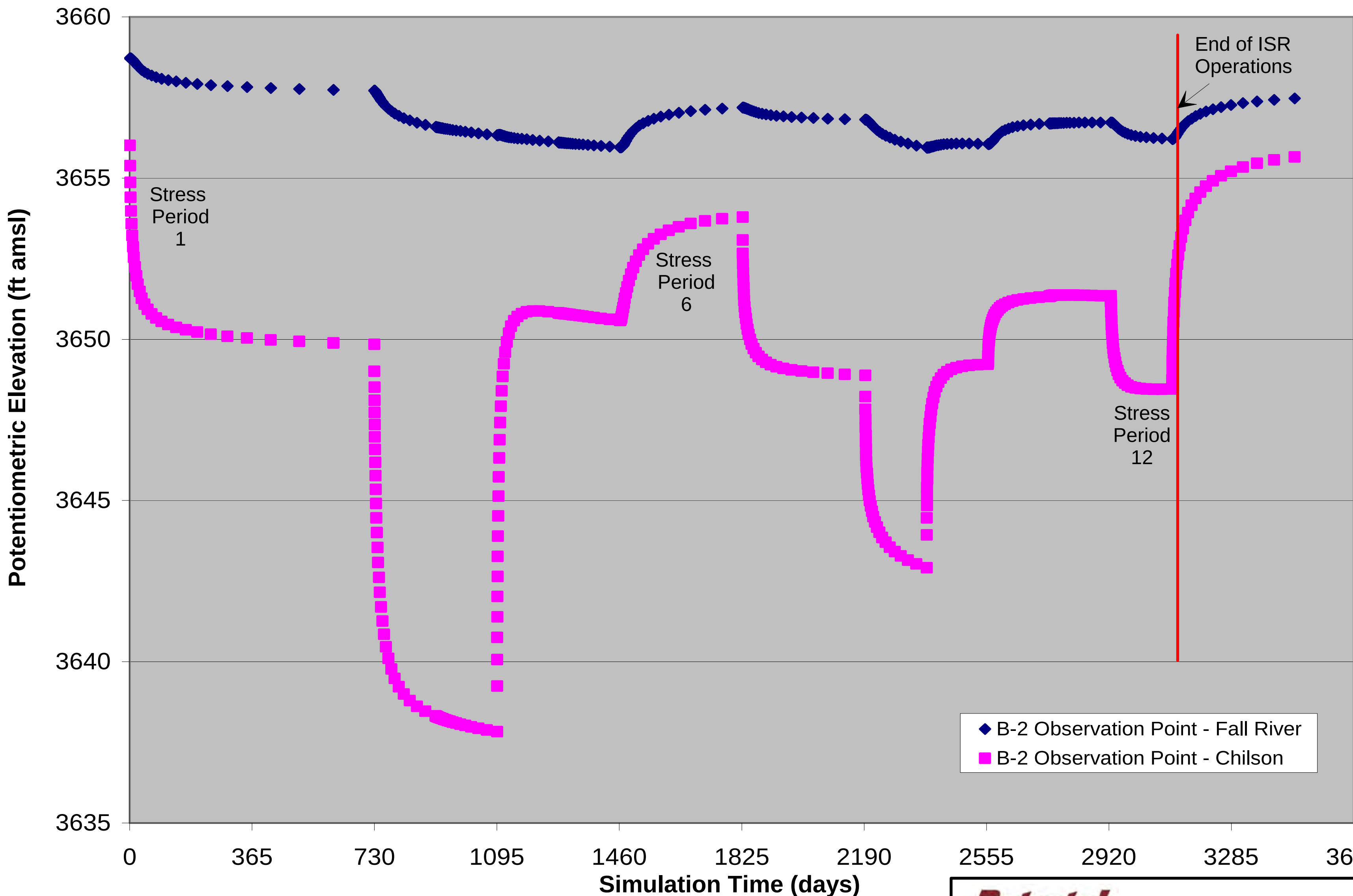
Figure 6-29A. Hydrographs of Simulated Potentiometric Head at Monitor Point D-2 Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel629A.srf Date: 2/12/12



Simulation of 4000 gpm Production
0.875% Net Bleed with Groundwater Sweep

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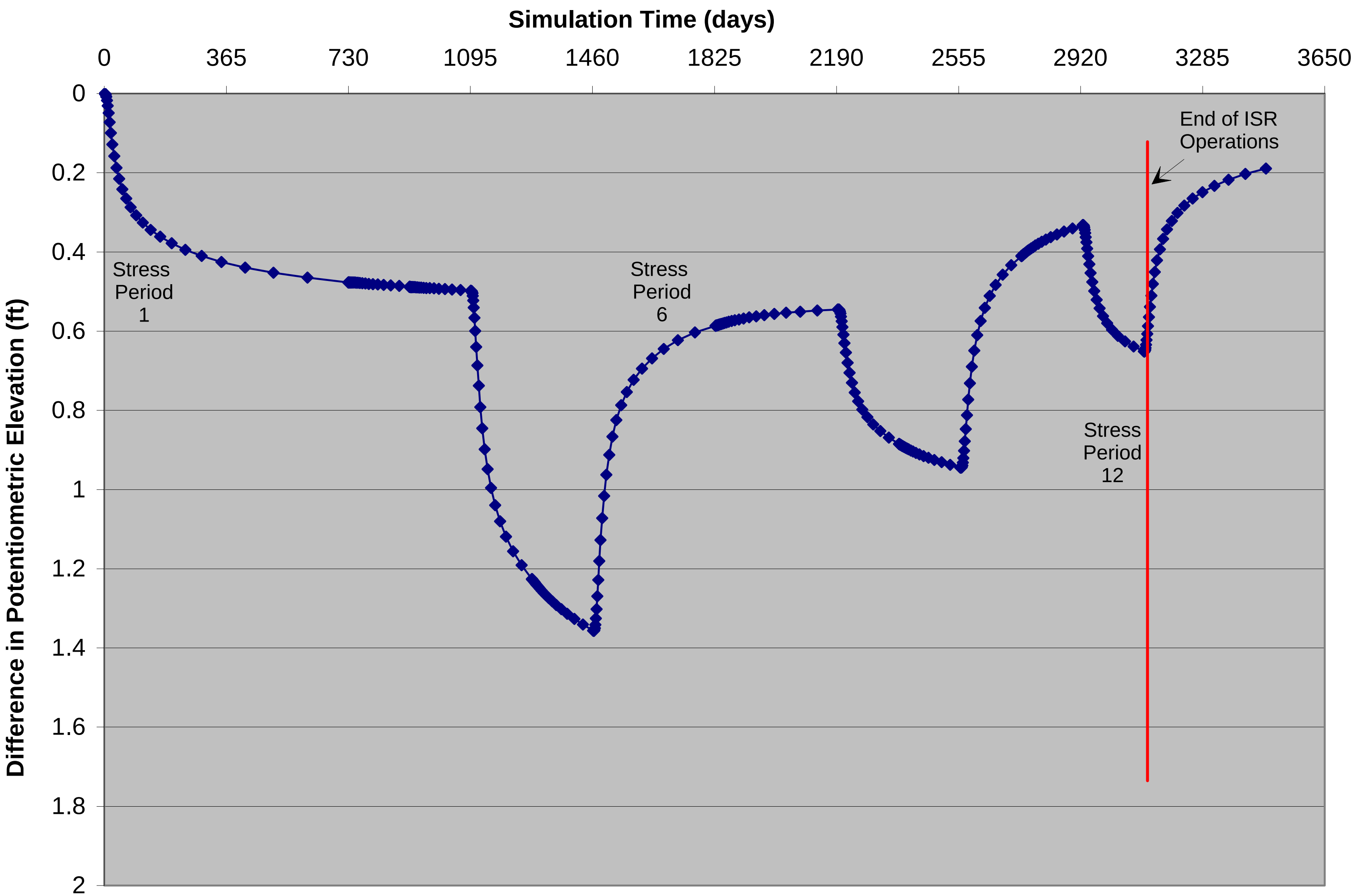
Figure 6-29B. Hydrographs of Simulated Potentiometric Head at Monitor Point B-2 Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel629B.srf Date: 2/12/12



Simulation of 4000 gpm Production
0.875% Net Bleed with Groundwater Sweep

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Figure 6-29C. Difference In Potentiometric Head at Monitor Point B-2 , Without Operation of Fall River Wellfields Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel629C.srf Date: 2/12/12

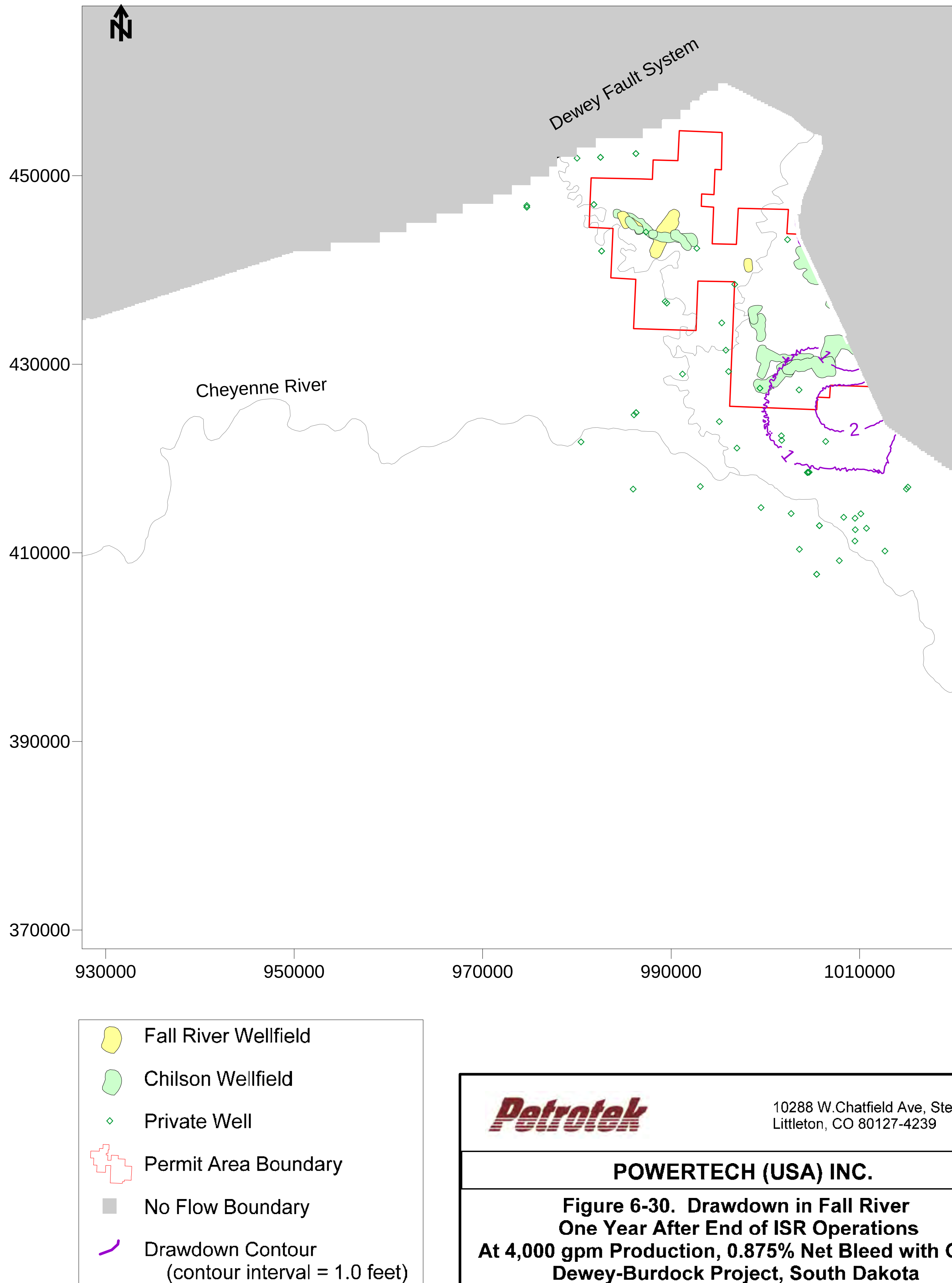

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Figure 6-30. Drawdown in Fall River One Year After End of ISR Operations At 4,000 gpm Production, 0.875% Net Bleed with GWS Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig6_30_DBModel.srf Date: 2/12/12

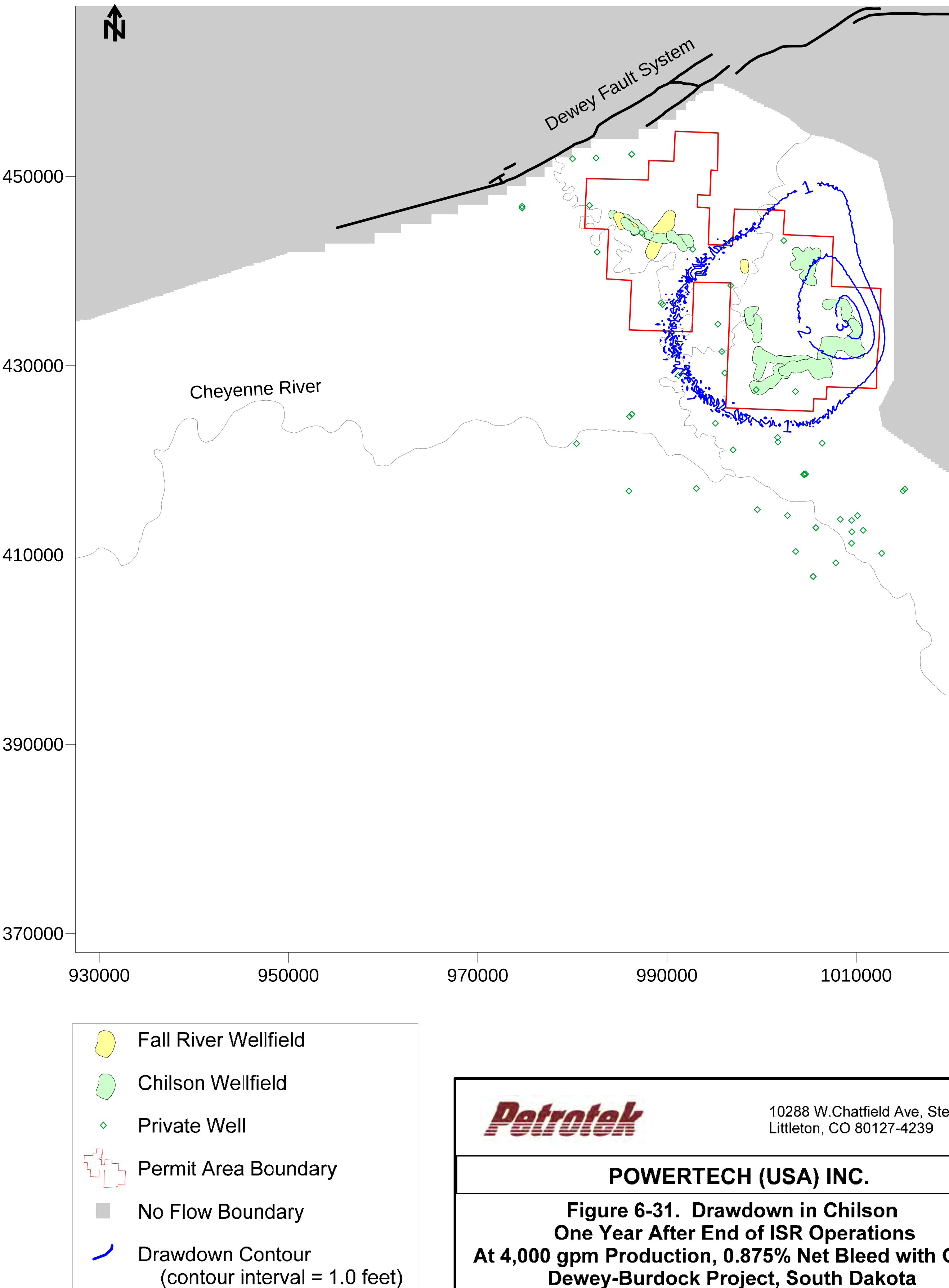

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Figure 6-31. Drawdown in Chilson
One Year After End of ISR Operations
At 4,000 gpm Production, 0.875% Net Bleed with GWS
Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig6_31_DBModel.srf Date: 2/12/12

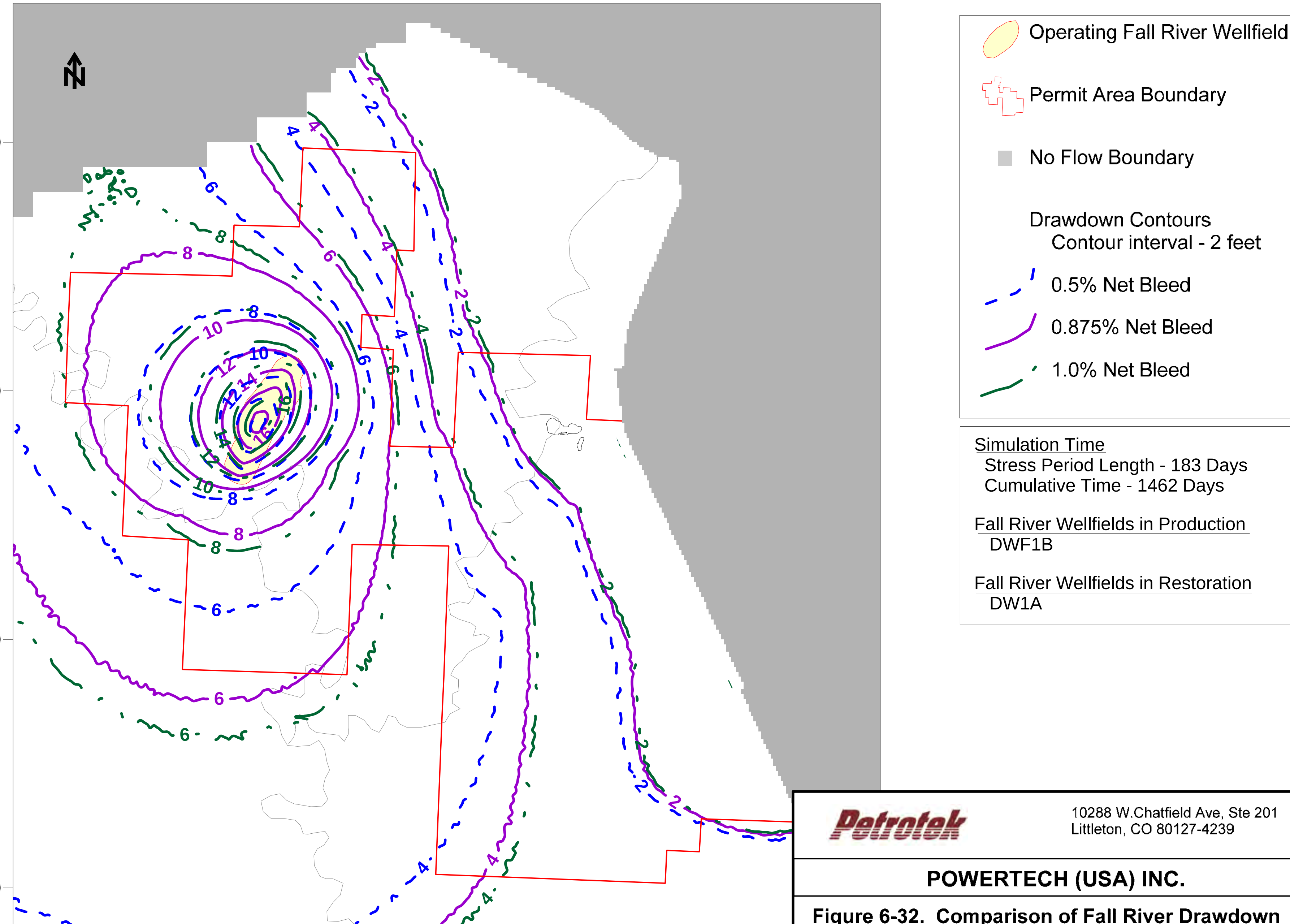

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Figure 6-32. Comparison of Fall River Drawdown for Simulations of 0.5%, 0.875% and 1.0% Net Bleed 4000 gpm Production with Groundwater Sweep Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel632.srf Date: 2/12/12

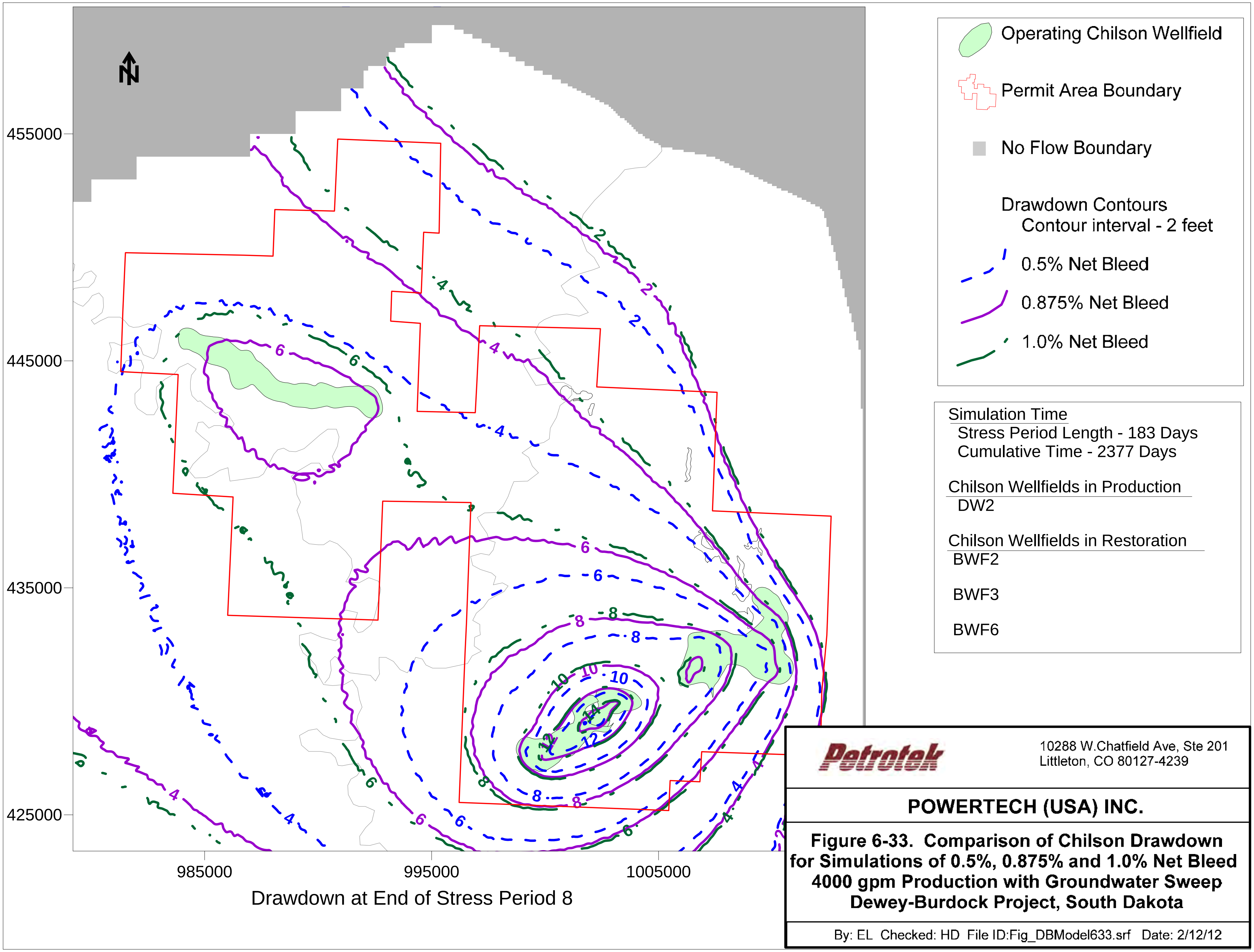

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Figure 6-33. Comparison of Chilson Drawdown for Simulations of 0.5%, 0.875% and 1.0% Net Bleed 4000 gpm Production with Groundwater Sweep Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel633.srf Date: 2/12/12

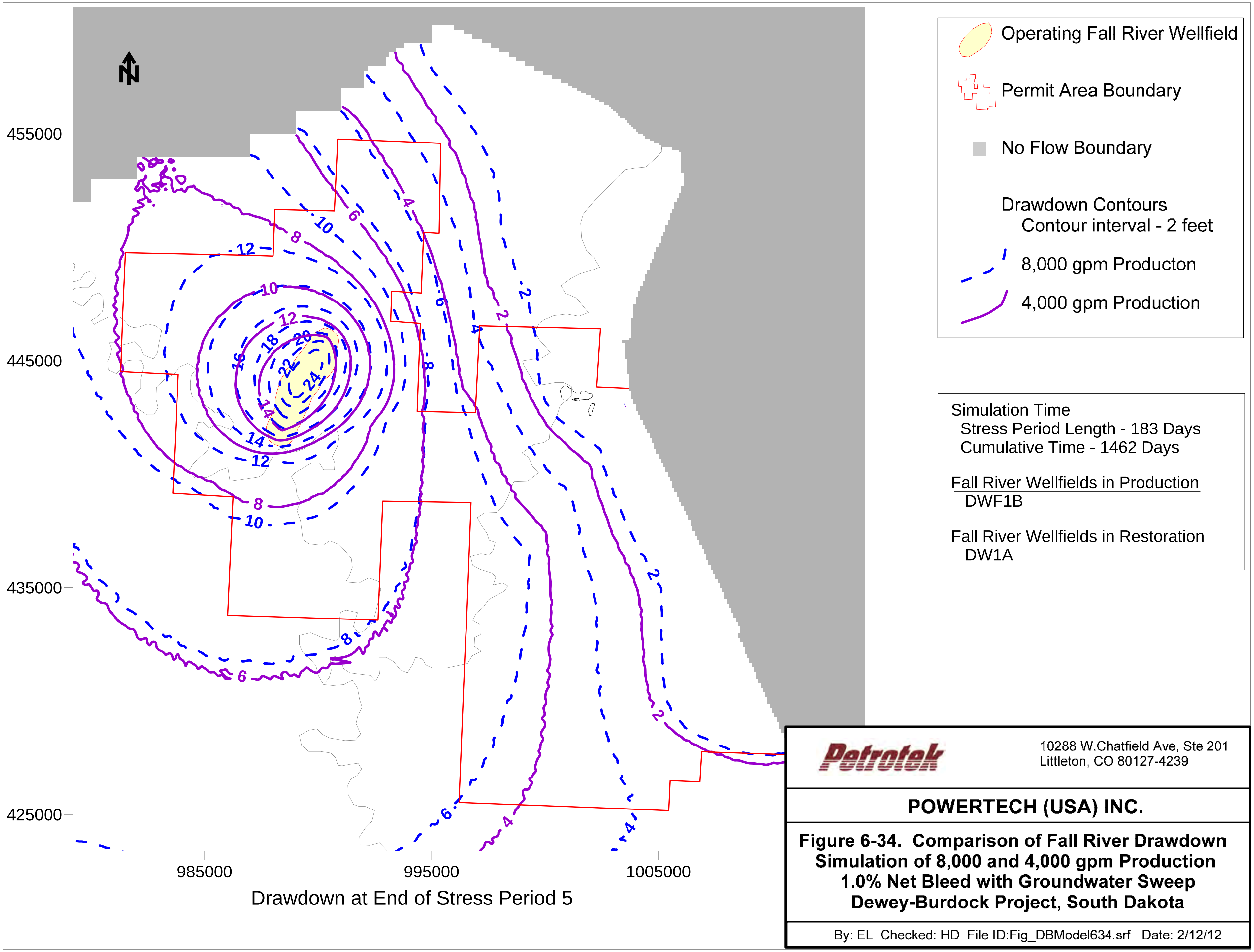

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Figure 6-34. Comparison of Fall River Drawdown Simulation of 8,000 and 4,000 gpm Production 1.0% Net Bleed with Groundwater Sweep Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel634.srf Date: 2/12/12

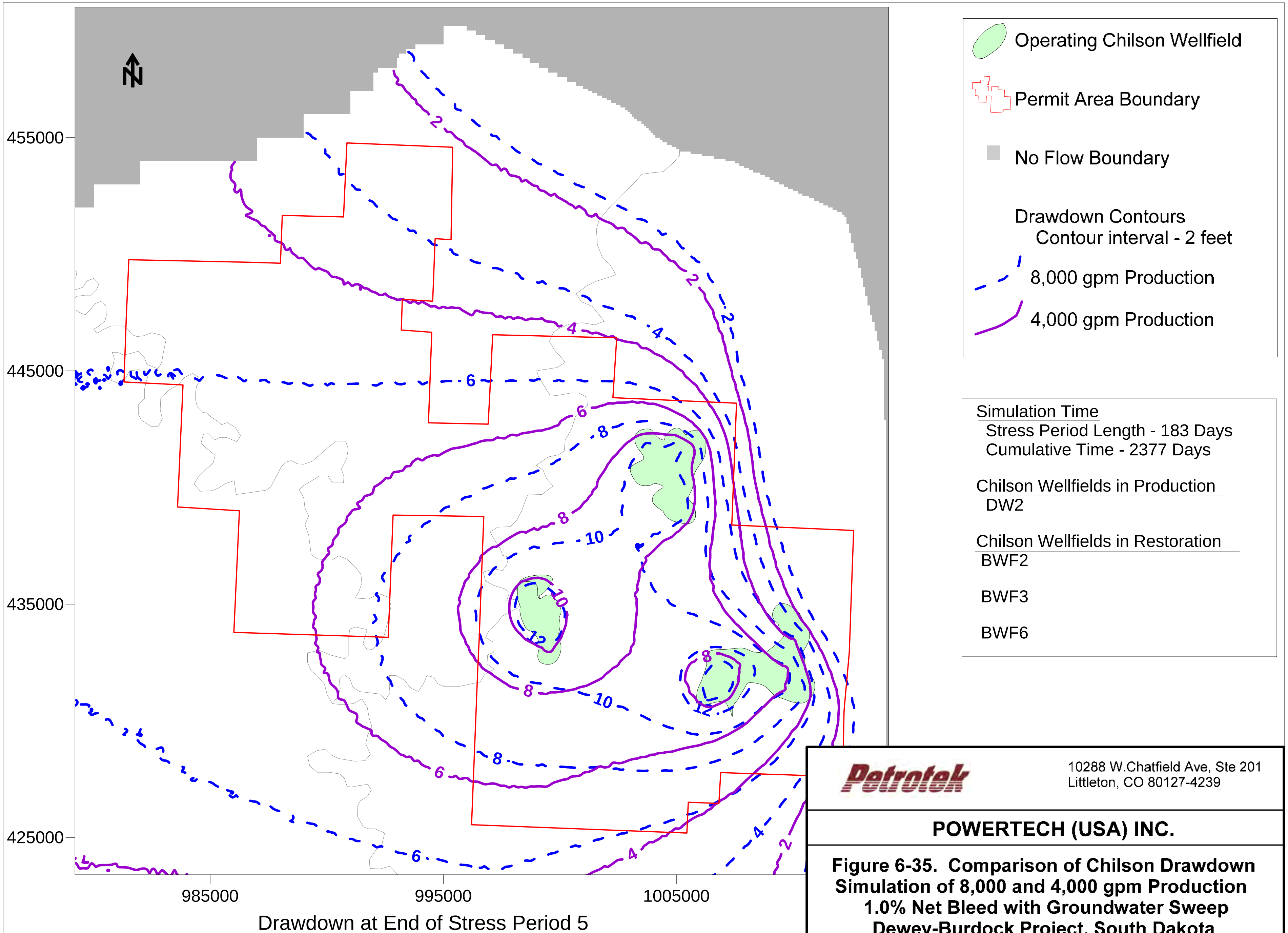

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Figure 6-35. Comparison of Chilson Drawdown Simulation of 8,000 and 4,000 gpm Production 1.0% Net Bleed with Groundwater Sweep Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel635srf Date: 2/12/12

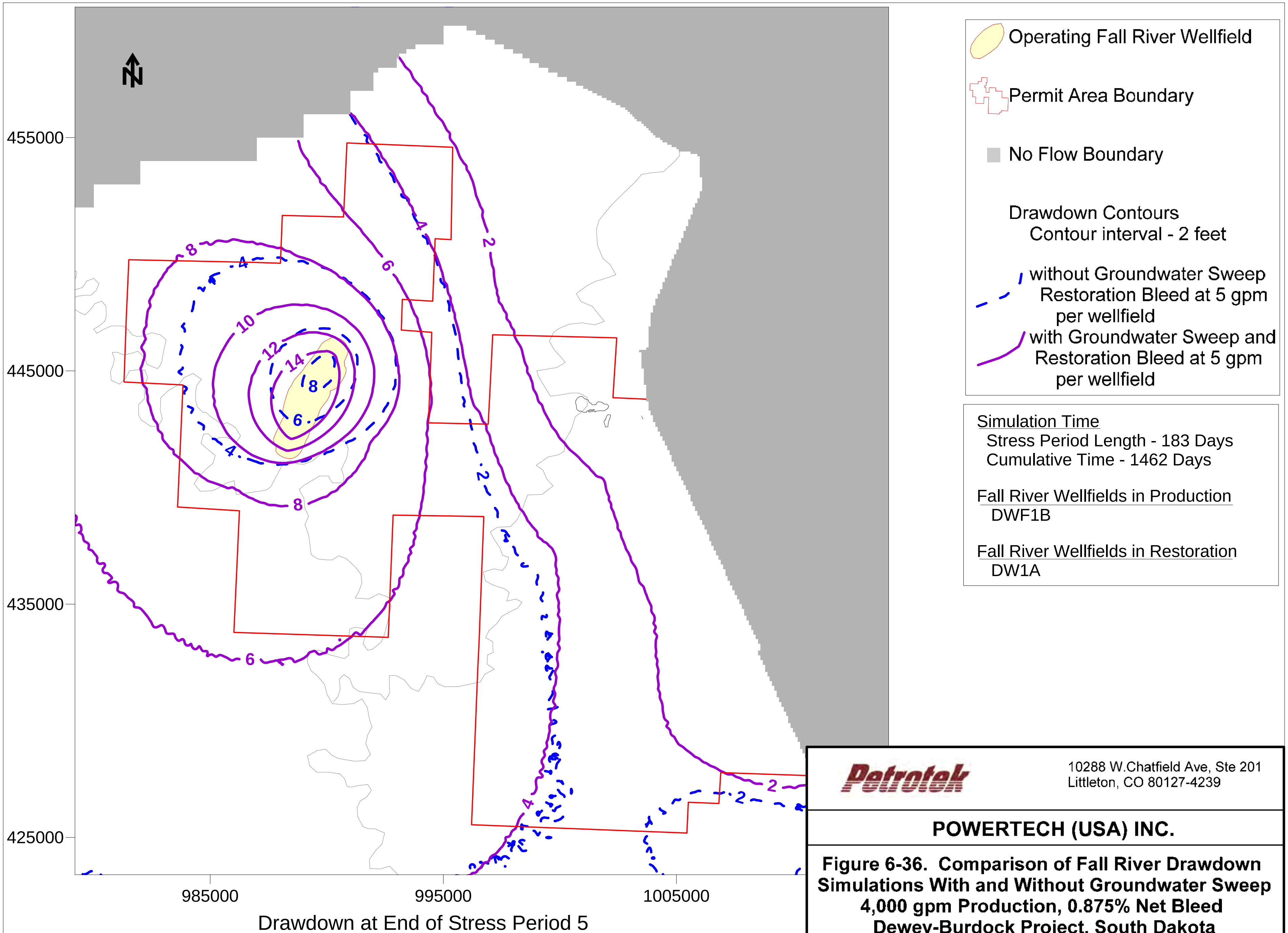

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Figure 6-36. Comparison of Fall River Drawdown Simulations With and Without Groundwater Sweep 4,000 gpm Production, 0.875% Net Bleed Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel636.srf Date: 2/12/12

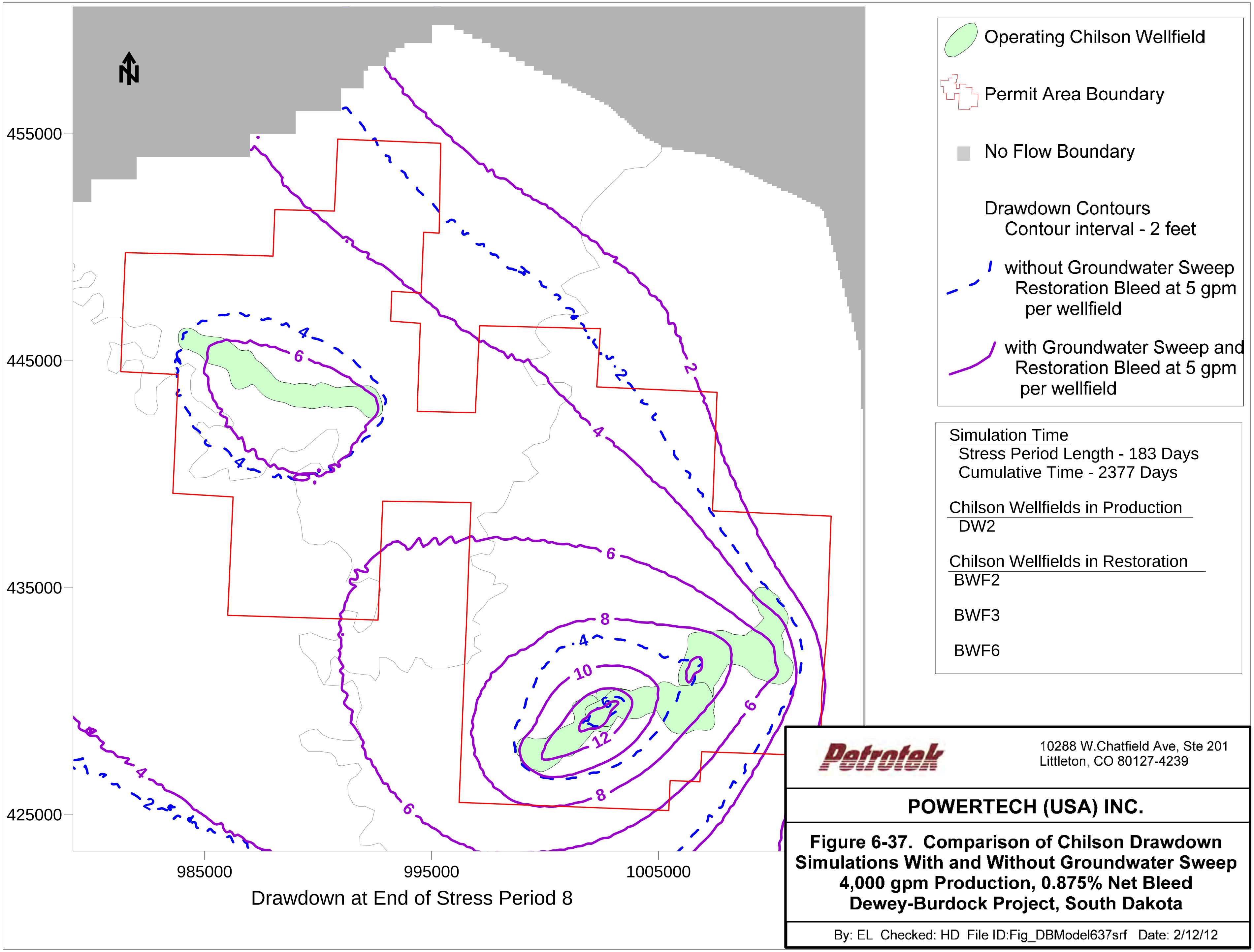

Figure 6-37. Comparison of Chilson Drawdown Simulations With and Without Groundwater Sweep 4,000 gpm Production, 0.875% Net Bleed Dewey-Burdock Project, South Dakota

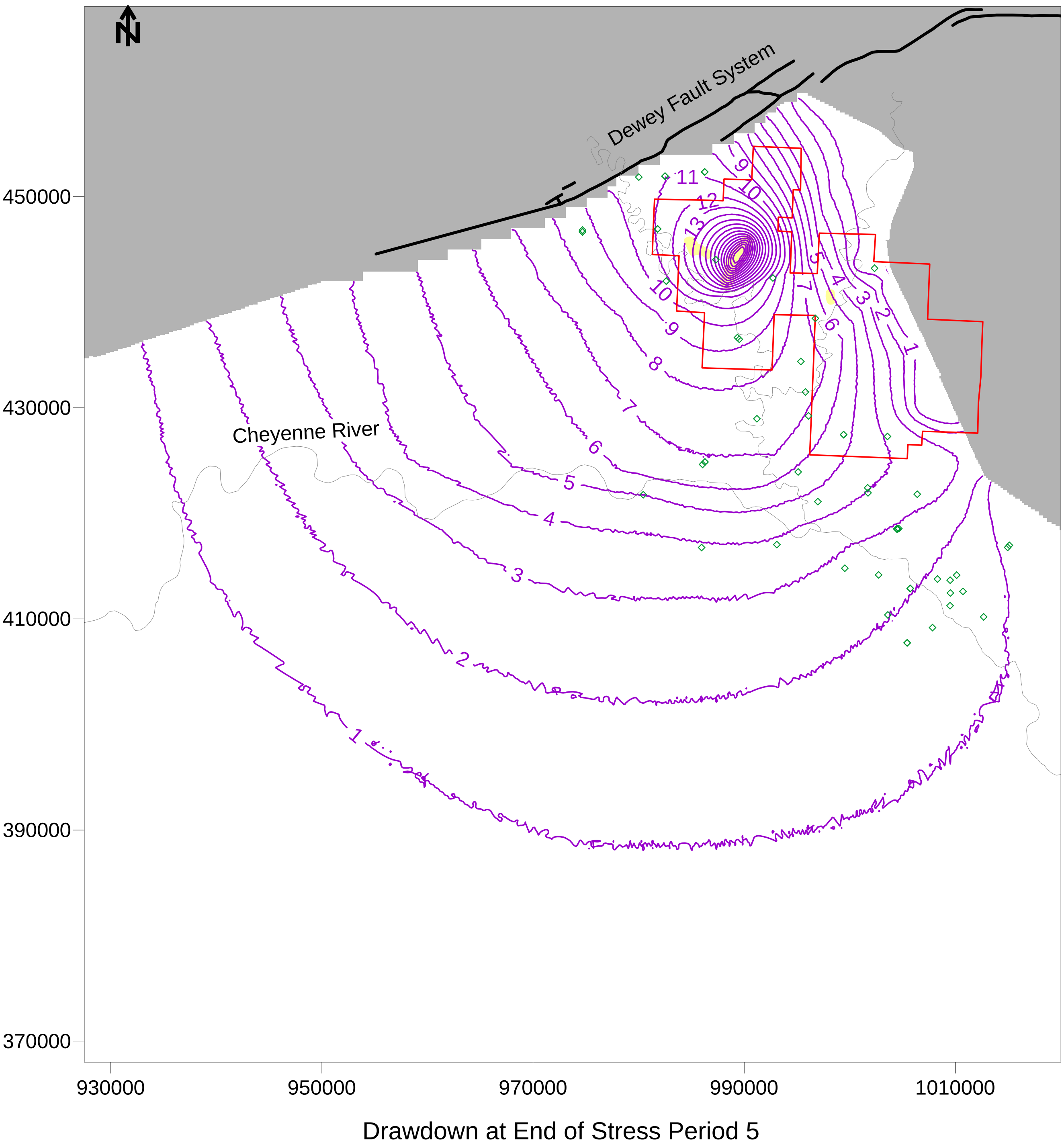

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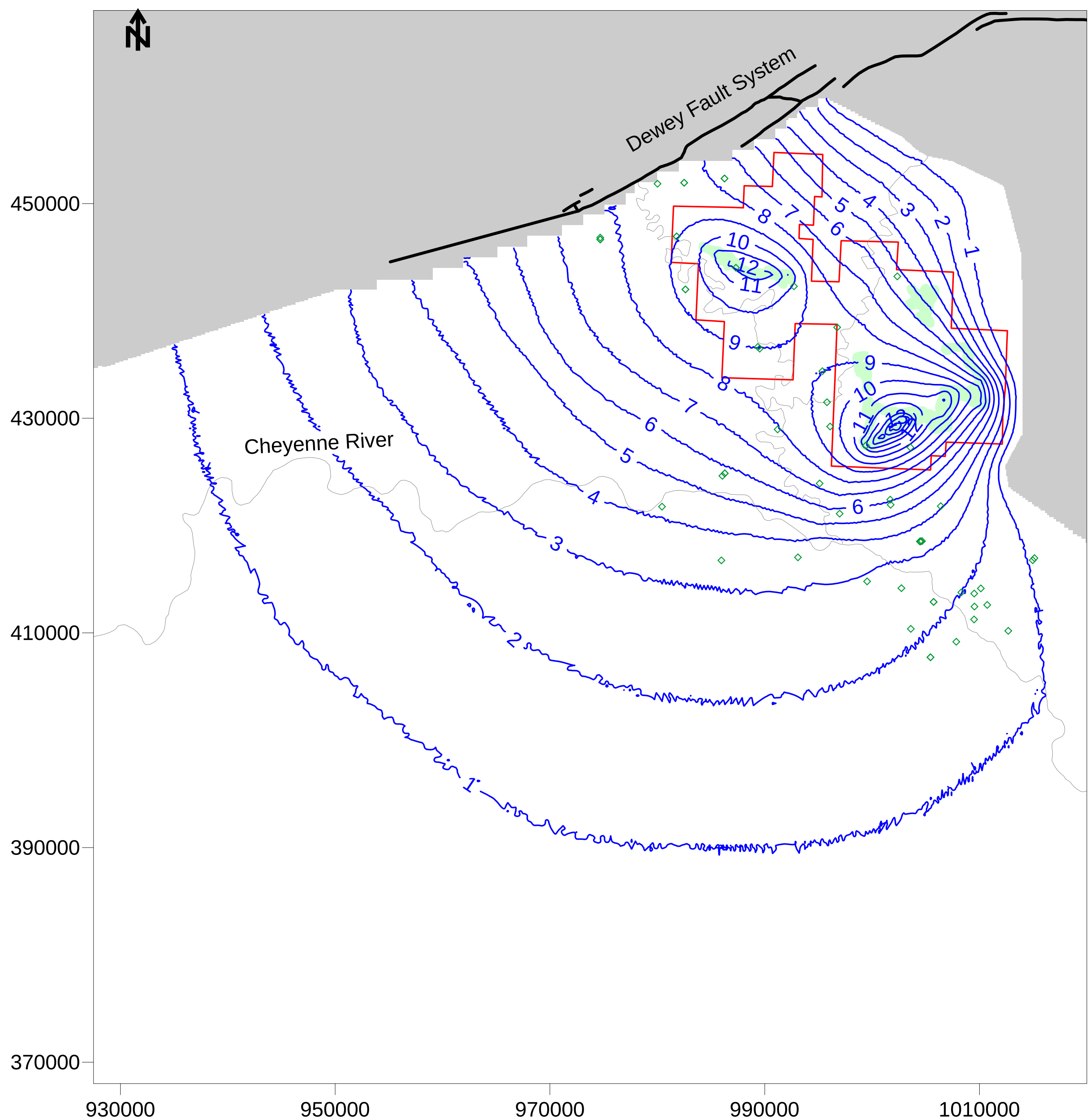
Figure 6-38. Maximum Fall River Drawdown Simulation of 8,000 gpm Production, 1.0% Net Bleed with Groundwater Sweep Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Figs_DBModel638.srf Date: 2/12/12



Drawdown at End of Stress Period 8

Chilson Wellfields
Private Well
Permit Area Boundary
No Flow Boundary
Drawdown Contour
Contour interval - 1 foot

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Figure 6-39. Maximum Chilson Drawdown Simulation of 8,000 gpm Production, 1.0% Net Bleed with Groundwater Sweep Dewey-Burdock Project, South Dakota

By: EL | Checked: HD | File ID:Fig_DBModel639.srf | Date: 2/12/12

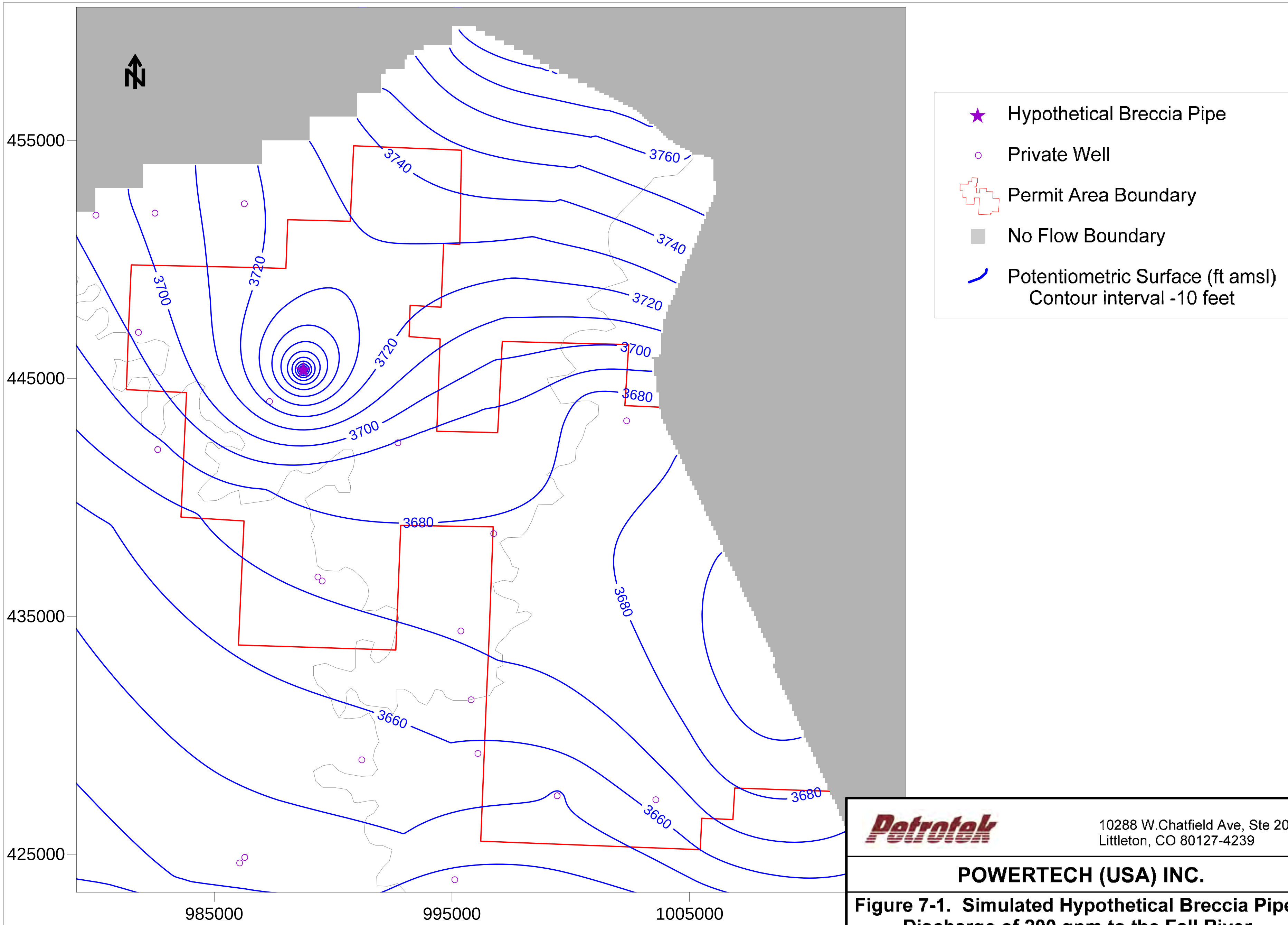

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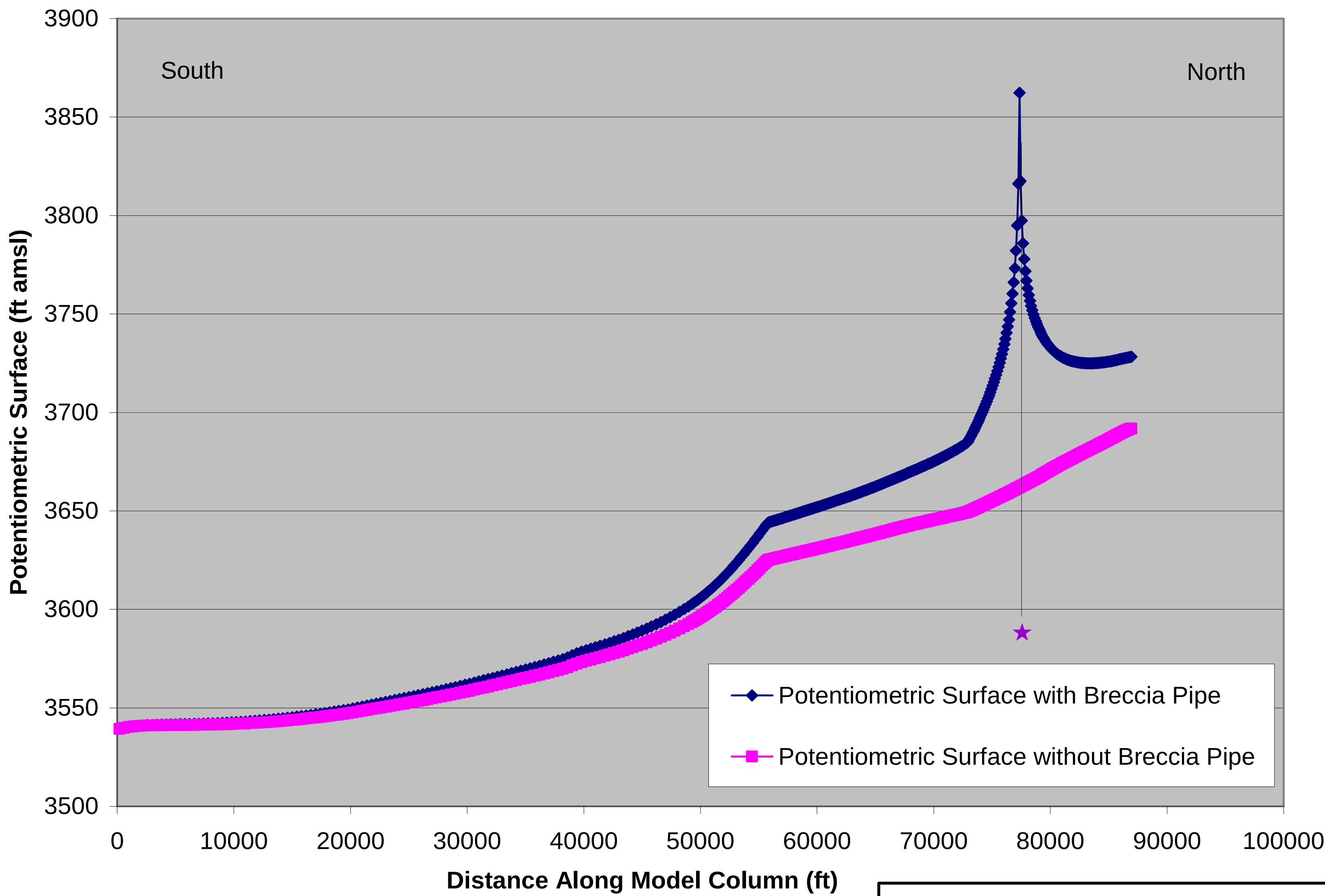
Figure 7-1. Simulated Hypothetical Breccia Pipe Discharge of 200 gpm to the Fall River Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel71.srf Date: 2/12/12



★ Hypothetical Breccia Pipe Location
(Model Layer 2 Column 227, Row 153)

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Figure 7-2. Cross-Sectional View of Hypothetical Breccia Pipe Discharge of 200 gpm to the Fall River Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel72.srf Date: 2/12/12

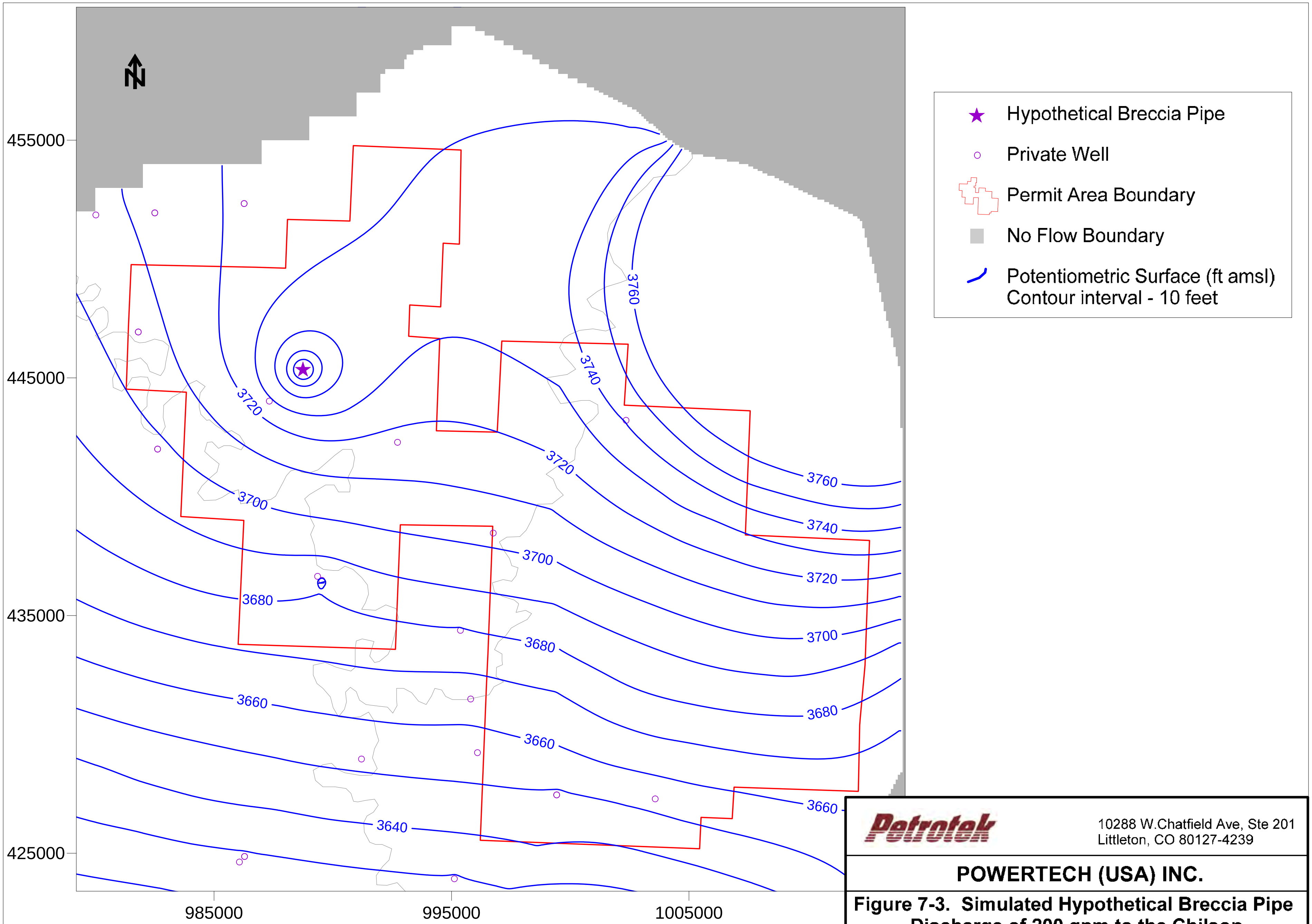

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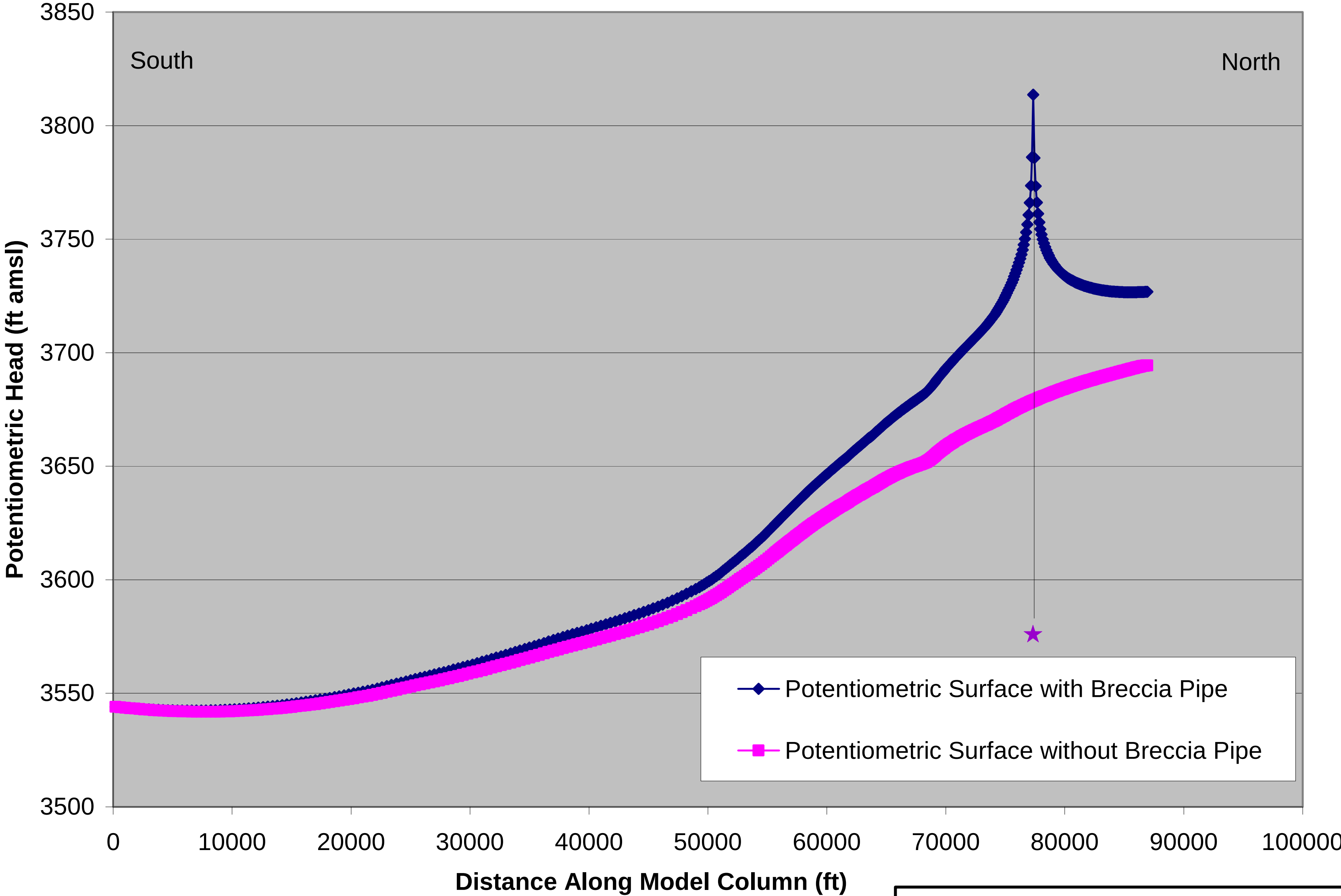
Figure 7-3. Simulated Hypothetical Breccia Pipe Discharge of 200 gpm to the Chilson Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel73.srf Date: 2/12/12



★ Hypothetical Breccia Pipe Location
(Model Layer 4, Column 227, Row 153)

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Figure 7-4. Cross-Sectional View of Hypothetical Breccia Pipe Discharge of 200 gpm to the Chilson Dewey-Burdock Project, South Dakota

By: EL Checked: HD File ID:Fig_DBModel74.srf Date: 2/12/12

Table 3-1. Monitor Well Water Level Data, Dewey-Burdock Project Area

Well ID	Easting*	Northing*	Completion Zone	Total Depth	Top of Casing Elevation	Measure Point Elevation	Water Level Elevation						Avg. W.L. Elevation	Max. W.L. Elevation	Min. W.L. Elevation	Standard Deviation
							8/30/2010	12/13/2010	1/17/2011	2/21/2011	3/21/2011	4/25/2011				
	(ft)	(ft)	-	(ft)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft amsl)	(ft)
12	995,377	434,379	Chilson	805	3641.14	3641.51	3653.19	3653.46	3654.06	3654.26	3654.09	3654.55	3653.94	3654.55	3653.19	0.511
14	1,002,103	434,723	Fall River	300	3669.88	3669.88	NM	3662.91	3663.07	3663.02	3663.05	3663.15	3663.04	3663.15	3662.91	0.087
38	992,727	442,290	Fall River	494	3638.75	3639.63	3644.96	3646.23	3644.76	3646.61	3646.75	3647.01	3646.05	3647.01	3644.76	0.960
49	987,331	444,023	Fall River	600	3620.86	3621.27	3648.59	3642.36	3642.34	NM	3644.64	3645.47	3644.68	3648.59	3642.34	2.587
436	989,849	454,701	Fall River	590	3739.85	3739.85	NM	3707.48	3707.56	3707.31	3707.36	3707.31	3707.40	3707.56	3707.31	0.111
607	980,219	416,378	Fall River	265	3610.55	3610.58	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
608	980,229	416,455	Chilson	?	3609.26	3609.15	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
609	990,133	447,808	Chilson	1000	3700.67	3700.67	3688.50	3688.85	3686.81	3687.76	3687.75	3688.05	3687.95	3688.85	3686.81	0.707
610	989,998	447,970	Fall River	680	3704.85	3704.85	3691.75	3691.74	3691.51	3691.45	3691.33	3691.52	3691.55	3691.75	3691.33	0.166
611	990,234	453,955	Chilson	804	3737.36	3737.36	NM	3691.99	3690.77	3691.03	3691.32	3691.26	3691.27	3691.99	3690.77	0.455
612	990,153	454,129	Chilson	800	3732.34	3732.34	NM	3694.04	3692.69	3692.90	3693.17	3693.15	3693.19	3694.04	3692.69	0.514
613	990,523	453,776	Fall River	580	3736.93	3736.93	3700.03	3700.20	3700.25	3700.02	3700.00	3700.03	3700.09	3700.25	3700.00	0.108
615	990,571	453,709	Chilson	800	3741.00	3741.00	3689.31	3689.79	3688.49	3688.72	3688.99	3688.99	3689.05	3689.79	3688.49	0.457
616	990,531	453,135	Chilson	835	3751.04	3751.04	NM	3693.43	3692.16	3692.40	3692.63	3692.60	3692.64	3693.43	3692.16	0.478
617	989,425	453,583	Chilson	810	3725.55	3725.55	NM	3692.35	3691.11	3691.33	3691.58	3691.53	3691.58	3692.35	3691.11	0.469
622	991,175	454,034	Chilson	780	3754.91	3754.91	3692.85	3693.33	3692.03	3692.24	3692.50	3692.47	3692.57	3693.33	3692.03	0.463
623	991,085	454,312	Fall River	580	3753.28	3753.28	3708.51	3708.64	3708.65	3708.50	3708.53	3708.55	3708.56	3708.65	3708.50	0.066
628	990,895	449,719	Fall River	520	3731.99	3731.99	3694.78	3694.93	3694.77	3694.69	3694.42	3694.68	3694.71	3694.93	3694.42	0.169
631	1,002,576	449,310	Fall River	80	3745.37	3745.37	3716.86	3716.95	3716.92	3717.11	3717.37	3717.41	3717.10	3717.41	3716.86	0.237
657	989,882	454,730	Chilson	800	3747.58	3747.58	NM	3693.34	3692.06	3692.28	3692.48	3692.53	3692.54	3693.34	3692.06	0.485
680	1,003,477	429,969	Chilson	436	3701.94	3701.94	3661.02	3660.69	3661.06	3661.09	3661.07	3661.45	3661.06	3661.45	3660.69	0.241
681	988,728	443,725	Fall River	600	3626.99	3630.31	3649.22	3643.89	3644.21	NM	3646.05	3646.63	3646.00	3649.22	3643.89	2.146
682	1,003,538	431,258	Chilson	460	3718.24	3718.24	3665.40	3665.14	3665.49	3665.54	3665.45	3665.75	3665.46	3665.75	3665.14	0.199
683	988,611	446,105	Fall River	650	3663.66	3666.64	3662.67	3659.52	3658.88	NM	3660.21	3660.57	3660.37	3662.67	3658.88	1.440
684	1,003,590	429,744	Chilson	423	3689.04	3689.04	NM	3661.57	3661.96	3661.96	3661.95	3662.34	3661.96	3662.34	3661.57	0.272
685	989,088	443,410	Fall River	595	3627.85	3630.35	*3666.83*	3642.12	3642.58	NM	3645.51	3646.14	3644.09	3666.83	3642.12	10.322
686	1,003,369	429,750	Chilson	428	3692.06	3692.06	NM	3661.23	3661.52	3661.56	3661.48	3661.96	3661.55	3661.96	3661.23	0.263
687	988,480	443,725	Fall River	608	3623.84	3624.79	NM	3641.48	3641.58	NM	3643.99	3644.39	3642.86	3644.39	3641.48	1.545
688	1,003,426	429,974	Fall River	255	3701.26	3701.26	3663.36	3662.81	3663.09	3663.08	3663.06	3663.37	3663.13	3663.37	3662.81	0.211
689	988,715	443,789	Chilson	730	3627.27	3629.69	3684.72	3684.10	3678.86	NM	3684.23	3683.99	3683.18	3684.72	3678.86	2.431
691	988,763	443,698	Fall River	505	3628.88	3630.29	3646.65	3643.51	3643.58	NM	NM	3646.12	3644.97	3646.65	3643.51	1.654
692	1,003,474	430,014	Chilson	335	3704.98	3704.98	NM	3663.21	3663.54	3663.57	3663.54	3663.83	3663.54	3663.83	3663.21	0.220
694	997,116	426,836	Fall River	392	3598.29	3600.69	*3650.25*	3640.12	3641.29	3641.20	3641.28	3641.64	3641.11	3650.25	3640.12	3.768
695	990,783	439,313	Fall River	508	3597.80	3599.12	*3638.98*	3634.18	3633.64	3634.95	3634.42	3634.95	3634.43	3638.98	3633.64	1.923
696	996,937	427,142	Chilson	587	3597.96	3599.91	*3641.09*	3649.16	3649.78	3649.60	3649.58	3650.74	3649.77	3650.74	3641.09	3.583
697	990,748	439,347	Chilson	682	3597.69	3600.30	3679.68	3675.76	3670.51	3678.16	3672.58	3672.69	3674.90	3679.68	3670.51	3.571
698	1,004,308	435,651	Fall River	205	3714.25	3714.25	3679.28	3679.45	3679.38	3679.22	3679.21	3679.35	3679.32	3679.45	3679.21	0.095
705	997,023	453,315	Chilson	460	3826.42	3826.42	NM	3709.77	3709.62	3709.41	3709.53	3709.64	3709.59	3709.77	3709.41	0.134
706	996,988	453,276	Fall River	316	3824.32	3824.32	NM	3725.19	3725.32	3725.10	3725.29	3725.15	3725.21	3725.32	3725.10	0.093
3026	1,012,037	432,833	Chilson	196	3820.48	3820.48	3680.30	3680.89	3680.78	3680.38	3680.46	3680.58	3680.57	3680.89	3680.30	0.231

ft - feet
ft amsl - feet above mean sea level
NM- Not measured
*Coordinates are South Dakota State Plane South, North American Datum 1983
Values in red and italicized not used to calculate average

Table 3-2. Estimated Flow Rates for Private Wells, Dewey-Burdock Project Area

Well ID	Easting*	Northing*	Township	Range	Section	QtrQtr	Depth	Flowing Artesian	Rate
	(ft)	(ft)					(ft bgs)		(gpm)
Fall River									
5	1,003,580	427,284	7S	1E	14	NENW	0	yes	1.50
7	1,001,703	422,417	7S	1E	23	NWNW	200		0.06
8	1,004,451	418,515	7S	1E	23	SWSE	240	yes	0.14
9	1,006,403	421,806	7S	1E	23	NENE	90	no	3.00
18	991,211	428,960	7S	1E	9	SWSW	527	yes	6.00
20	986,071	424,628	7S	1E	17	SWSW	530		0.08
21	980,441	421,760	7S	1E	19	SWNW	910		9.10
23	985,974	416,756	7S	1E	29	NWNW	600	no	0.50
24	993,100	417,037	7S	1E	28	NWNE	600	yes	2.90
25	999,548	414,798	7S	1E	27	NWSE	350		0.10
26	1,003,613	410,375	7S	1E	35	SWNE	350	no	3.26
33	1,009,519	413,664	7S	1E	25	NWSE	96		1.00
38	992,727	442,290	6S	1E	33	NWNW	494	yes	1.50
49	987,331	444,023	6S	1E	32	NWNW	638	yes	1.20
54	1,010,131	414,144	7S	1E	25	NWSE	90		0.40
55	1,009,500	411,244	7S	1E	36	NWNE	92	yes	8.10
63	1,007,846	409,177	7S	1E	36	NESW	100	no	1.50
69	1,009,540	412,447	7S	1E	25	SWSE	130		1.00
115	986,096	457,641	6S	1E	18	SENE	360		0.17
116	986,390	458,112	6S	1E	18	SENE			1.50
138	985,936	459,031	6S	1E	18	NENE	100		0.75
504	1,010,729	412,598	7S	1E	25	SESE	450		3.00
Chilson									
1	996,095	429,228	7S	1E	9	SESE	600	yes	1.50
2	995,123	423,923	7S	1E	16	SESE	650	yes	4.11
3	996,992	421,104	7S	1E	22	SWNW	2400	yes	3.00
12	995,377	434,379	7S	1E	4	SESE	805	yes	3.30
13	996,759	438,470	7S	1E	4	NENE	625	no	0.09
31	1,012,693	410,182	7S	2E	31	SWNW	104		1.30
36	1,014,973	416,772	7S	2E	30	NWNE	330		2.00
42	989,543	436,481	7S	1E	5	SWNE	600	yes	16.20
50	974,693	446,835	41N	60W	28	SWNW	609		0.30
51	995,810	431,487	7S	1E	9	SENE	550	yes	12.90
70	1,008,314	413,771	7S	1E	25	NESW	375		2.00
96	980,028	451,854	41N	60W	22	SWSW	560	yes	0.10
102	985,224	458,314	6S	1E	18	SWNE	267		1.50
109	989,200	459,626	6S	1E	17	NENW	220		0.09
505	1,002,744	414,163	7S	1E	26	NESW	260	no	2.00
508	1,015,129	416,968	7S	2E	19	SWSE	255		10.00
620	1,002,350	443,210	6S	1E	35	NWNW		no	1.00
704	989,365	436,648	7S	1E	5	SWNE	955	yes	1.50
7002	1,001,731	421,931	7S	1E	23	NWNW	500	yes	3.45
8002	1,004,652	418,556	7S	1E	23	SWSE	500	yes	2.03
Inyan Kara[a]									
220	986,271	452,335	6S	1E	19	SENE		yes	0.20
230	1,005,735	412,883	7S	1E	26	SESE			0.60
270	982,507	451,943	6S	1E	19	NW SW		yes	0.80
656	982,628	442,001	6S	1E	31	SENW		yes	6.25
668	999,428	427,450	7S	1E	15	NWNE	574	yes	6.25
2020	986,287	424,858	7S	1E	17	NWSW		yes	1.60
4002	981,813	446,932	6S	1E	30	NWSW		yes	2.72
5002	974,687	446,660	41N	60W	28	SWSW			0.43
8003	1,004,521	418,531	7S	1E	23	SWSE		yes	0.44
8803	1,005,445	407,730	7S	1E	35	SESE		yes	2.10

Coordinates are South Dakota State Plane South, North American Datum 1983

[a] - Flow rate split between the Fall River (Layer 2) and Chilson (Layer 4)

Table 5-1. Calibration Statistics, Steady State Simulation, Dewey-Burdock Project Model

Calibration Statistic	Layer 2	Layer 4	Model
Residual Mean	-0.74	0.99	-0.05
Absolute Residual Mean	6.74	5.25	6.14
Residual Standard Deviation	8.42	6.86	7.88
Sum of Squares	1286.5	576.8	1863.3
Residual Mean Squared Error	8.45	6.93	7.88
Minimum Residual	-15.26	-7.66	-15.26
Maximum Residual	16.94	17.41	17.41
Number of Observations	18	12	30
Range in Observations	227.2	125.2	227.2
Scaled Standard Deviation	0.037	0.055	0.035
Scaled Absolute Mean	0.030	0.042	0.027
Scaled Residual Mean Squared	0.037	0.055	0.035

Target ID	Easting* (ft)	Northing* (ft)	Layer	Observed Head (ft amsl)	Simulated Head (ft amsl)	Residual (ft)
14	1,002,103	434,723	2	3663.04	3664.41	-1.37
38	992,726	442,289	2	3646.05	3658.44	-12.39
49	987,330	444,022	2	3644.68	3654.82	-10.14
436	989,848	454,700	2	3707.40	3699.56	7.85
607	980,219	416,378	2	3585.09	3585.57	-0.48
610	989,998	447,969	2	3691.55	3674.66	16.89
623	991,084	454,311	2	3708.56	3706.19	2.38
628	990,894	449,719	2	3694.71	3685.09	9.62
631	1,002,575	449,309	2	3717.10	3717.28	-0.17
683	988,610	446,104	2	3660.37	3664.14	-3.77
685	989,088	443,409	2	3644.10	3656.94	-12.84
688	1,003,425	429,974	2	3663.13	3661.15	1.98
694	997,116	426,836	2	3641.10	3633.04	8.06
695	990,783	439,312	2	3635.19	3650.46	-15.27
698	1,004,307	435,651	2	3679.32	3672.14	7.18
706	996,987	453,276	2	3725.21	3730.49	-5.28
8S2E8[a]	1,021,243	399,375	2	3530.00	3530.93	-0.93
8S2E20[a]	1,020,092	386,353	2	3498.00	3502.71	-4.71
12	995,376	434,378	4	3653.94	3656.53	-2.59
608	980,229	416,455	4	3584.37	3585.30	-0.93
609	990,133	447,808	4	3687.95	3687.58	0.37
617	989,425	453,583	4	3691.58	3694.85	-3.27
622	991,174	454,033	4	3692.57	3700.23	-7.66
682	1,003,538	431,257	4	3665.46	3666.09	-0.63
686	1,003,368	429,749	4	3661.55	3657.72	3.83
689	988,715	443,789	4	3683.18	3674.83	8.35
696	996,936	427,141	4	3649.77	3632.36	17.41
697	990,748	439,347	4	3674.90	3667.40	7.50
705	997,022	453,314	4	3709.59	3715.14	-5.55
3026	1,012,037	432,833	4	3680.57	3685.54	-4.98

* Coordinates are South Dakota State Plane South North American Datum 1983

[a] - water levels for these locations are from USGS database, unknown date of collection

Table 5-2. Calibration Statistics, Transient Simulation, 2008 Pumping Tests, Dewey-Burdock Project Model

FALL RIVER 2008 TEST

Calibration Statistic	
Residual Mean	-0.59
Absolute Residual Mean	0.97
Residual Standard Deviation	1.22
Sum of Squares	5.52
Residual Mean Squared Error	1.36
Minimum Residual	-2.28
Maximum Residual	0.58
Number of Observations	3
Range in Observations	11.50
Scaled Standard Deviation	0.106
Scaled Absolute Mean	0.085
Scaled Residual Mean Squared	0.118

Target ID	Time	Easting	Northing	Layer	Observed Drawdown	Simulated Drawdown	Residual
	(days)	(ft)	(ft)	-	(ft amsl)	(ft amsl)	(ft)
683	3.1	988,608	446,108	2	1.5	3.78	-2.28
687	3.1	988,480	443,724	2	13.0	12.42	0.58
685	3.1	989,086	443,415	2	9.8	9.86	-0.06

CHILSON 2008 TEST

Calibration Statistic	
Residual Mean	-0.27
Absolute Residual Mean	2.74
Residual Standard Deviation	3.07
Sum of Squares	28.56
Residual Mean Squared Error	3.09
Minimum Residual	-3.79
Maximum Residual	3.70
Number of Observations	3
Range in Observations	13.90
Scaled Standard Deviation	0.221
Scaled Absolute Mean	0.197
Scaled Residual Mean Squared	0.222

Target ID	Time	Easting	Northing	Layer	Observed Drawdown	Simulated Drawdown	Residual
	(days)	(ft)	(ft)	-	(ft amsl)	(ft amsl)	(ft)
682	3	1,003,538	431,257	4	3.1	3.83	-0.73
686	3	1,003,346	429,756	4	10.4	14.19	-3.79
684	3	1,003,586	429,739	4	17.0	13.30	3.70

Coordinates in South Dakota State Plane South North American Datum 1983.

Table 5-3. Calibration Statistics, Transient Simulation, 1982 Chilson Pumping Test, Dewey-Burdock Project Model

Calibration Statistic	
Residual Mean	1.21
Absolute Residual Mean	8.47
Residual Standard Deviation	9.20
Sum of Squares	860.69
Residual Mean Squared Error	9.28
Minimum Residual	-13.78
Maximum Residual	12.46
Number of Observations	10
Range in Observations	173.53
Scaled Standard Deviation	0.053
Scaled Absolute Mean	0.049
Scaled Residual Mean Squared	0.053

Target ID	Time	Easting	Northing	Layer	Observed Drawdown	Simulated Drawdown	Residual
	(days)	(ft)	(ft)		(ft)	(ft)	(ft)
622	11	991,175	454,034	2	4.05	0.66	3.39
613	11	990,523	453,776	2	11.97	0.66	11.31
436	11	990,002	454,437	2	5.54	0.69	4.85
614	11	990,584	453,770	3	23.42	26.04	-2.62
617	11	989,447	453,643	4	122.27	131.72	-9.45
616	11	990,745	453,249	4	136.47	124.01	12.46
623	11	991,051	454,252	4	136.95	126.25	10.70
657	11	989,748	454,650	4	126.98	137.45	-10.47
615	11	990,348	453,802	4	177.58	171.90	5.68
612	11	990,153	454,089	4	161.83	175.61	-13.78

Coordinates in South Dakota State Plane South North American Datum 1983.

Table 5-4. Sensitivity Analysis Results, Recharge and General Head Boundaries, Dewey-Burdock Project Model

Sensitivity Analysis Simulations for Recharge										
Multiplier	-	0.1	0.25	0.5	0.75	1	1.5	2.5	5	10
Residual Sum of Squares	-	4387	3692	2771	2160	1863	2191	6389	36133	173027
Fall River Flux	(gpm)	135.3	134.7	133.8	133.0	132.2	130.7	133.0	141.1	177.2
Chilson Flux	(gpm)	207.6	208.8	210.6	212.4	214.1	217.5	225.2	245.0	279.6

Sensitivity Analysis Simulations for Layer 2 General Head Boundary Conductance										
Multiplier	-	0.1	0.25	0.5	0.75	1	1.5	2.5	5	10
Residual Sum of Squares	-	2135	1917	1876	1867	1863	1860	1859	1858	1857
Fall River Flux	(gpm)	128.9	131.0	131.7	132.0	132.2	132.3	132.4	132.6	132.6
Chilson Flux	(gpm)	214.8	214.3	214.2	214.1	214.1	214.1	214.0	214.0	214.0

Sensitivity Analysis Simulations for Layer 4 General Head Boundary Conductance										
Multiplier	-	0.1	0.25	0.5	0.75	1	1.5	2.5	5	10
Residual Sum of Squares	-	1855	1854	1858	1861	1863	1866	1868	1871	1872
Fall River Flux	(gpm)	132.7	132.4	132.3	132.2	132.2	132.1	132.1	132.1	132.0
Chilson Flux	(gpm)	212.2	213.2	213.7	214.0	214.1	214.2	214.3	214.4	214.5

Sensitivity Analysis Simulations for Layer 2 General Head Boundary Heads										
Increment	(ft)	-50	-25	-10	-5	1	5	10	25	50
Residual Sum of Squares	-	6124	3028	2080	1929	1863	1883	1989	2830	6017
Fall River Flux	(gpm)	117.7	124.7	129.2	130.7	132.2	133.7	135.2	139.7	147.5
Chilson Flux	(gpm)	217.2	215.6	214.7	214.4	214.1	213.8	213.5	212.6	211.1

Sensitivity Analysis Simulations for Layer 4 General Head Boundary Heads										
Increment	(ft)	-50	-25	-10	-5	1	5	10	25	50
Residual Sum of Squares	-	5990	2818	1980	1878	1863	1937	2099	3113	6558
Fall River Flux	(gpm)	140.3	136.2	133.8	133.0	132.2	131.4	130.5	128.1	124.1
Chilson Flux	(gpm)	182.9	198.5	207.9	211.0	214.1	217.2	220.3	229.6	245.1

Table 6-1. Calculation of Wellfield Pore Volumes, Dewey-Burdock Project

Wellfield	Area	Thick	Porosity	Flare	Pore Volume	Pore Volume	6 Pore Volumes	No. Well Patterns	Restoration Time	Rate to Recover 1 PV	Rate to Recover 1 PV	Rate to Recover 6 PV	Rate to Recover 6 PV
	(ft^2)	(ft)	-	-	(ft^3)	(gallons)	(gallons)	-	(days)	(gpd)	(gpm)	(gpd)	(gpm)
Dewey 1A*	856,829	4.6	0.3	1.44	1,702,690	12,736,118	76,416,709	80	366	34,798	24.2	208,789	145
Dewey 1B*	856,829	4.6	0.3	1.44	1,702,690	12,736,118	76,416,709	80	366	34,798	24.2	208,789	145
Dewey 2	562,591	4.6	0.3	1.44	1,117,981	8,362,497	50,174,980	80	366	22,848	15.9	137,090	95
Dewey 3	120,110	4.6	0.3	1.44	238,683	1,785,346	10,712,075	15	183	9,756	6.8	58,536	41
Dewey 4	117,303	4.6	0.3	1.44	233,105	1,743,622	10,461,731	25	183	9,528	6.6	57,168	40
Burdock 1	767,821	4.6	0.3	1.44	1,525,814	11,413,088	68,478,527	120	366	31,183	21.7	187,100	130
Burdock 2	491,394	4.6	0.3	1.44	976,498	7,304,206	43,825,237	60	366	19,957	13.9	119,741	83
Burdock 3	63,972	4.6	0.3	1.44	127,125	950,896	5,705,377	20	183	5,196	3.6	31,177	22
Burdock4	338,486	4.6	0.3	1.44	672,639	5,031,343	30,188,055	60	183	27,494	19.1	164,962	115
Burdock 5	247,377	4.6	0.3	1.44	491,588	3,677,075	22,062,450	40	366	10,047	7.0	60,280	42
Burdock 6	847,013	4.6	0.3	1.44	1,683,184	12,590,218	75,541,308	120	549	22,933	15.9	137,598	96
Burdock 7	207,537	4.6	0.3	1.44	412,418	3,084,883	18,509,299	37	183	16,857	11.7	101,144	70
Burdock 8	510,804	4.6	0.3	1.44	1,015,070	7,592,721	45,556,329	68	366	20,745	14.4	124,471	86
Burdock 9	58,240	4.6	0.3	1.44	115,735	865,694	5,194,166	11	366	2,365	1.6	14,192	10
Burdock 10	42,217	4.6	0.3	1.44	83,894	627,524	3,765,146	9	183	3,429	2.4	20,575	14

* Dewey 1A and Dewey 1B are the same wellfield but are simulated as two wellfields because of its large size

Table 6-2. Operational Rates for ISR Production and Restoration Simulations, Dewey-Burdock Project Model

Simulation		DB_4_05_NoGWS	DB_4_08_NoGWS	DB_4_10_NoGWS	DB_4_05_GWS	DB_4_08_GWS	DB_4_10_NoGWS	DB_8_05_NoGWS	DB_8_08_NoGWS	DB_8_10_NoGWS	DB_8_05_GWS	DB_8_08_GWS	DB_8_10_GWS
Total Production Rate	(gpm)	4,000	4,000	4,000	4,000	4,000	4,000	8,000	8,000	8,000	8,000	8,000	8,000
Net Bleed	%	0.5	0.875	1.0	0.5	0.875	1.0	0.5	0.875	1.0	0.5	0.875	1.0
Restoration Method	-	RO	RO	RO	GWS	GWS	GWS	RO	RO	RO	GWS	GWS	GWS
Maximum Production Rate Dewey Area	(gpm)	1,600	1,600	1,600	1,600	1,600	1,600	3,200	3,200	3,200	3,200	3,200	3,200
Maximum Production Rate Burdock Area	(gpm)	2,400	2,400	2,400	2,400	2,400	2,400	4,800	4,800	4,800	4,800	4,800	4,800
Total Net Extraction (Production)	(gpm)	20.0	35.0	40.0	20.0	35.0	40.0	40.0	70.0	80.0	40.0	70.0	80.0
Net Extraction During Production Dewey (Maximum)	(gpm)	8.0	14.0	16.0	8.0	14.0	16.0	16.0	28.0	32.0	16.0	28.0	32.0
Net Extraction During Production Burdock (Maximum)	(gpm)	12.0	21.0	24.0	12.0	21.0	24.0	24.0	42.0	48.0	24.0	42.0	48.0
Net Extraction During Restoration Dewey (Maximum)	(gpm)	10.0	10.0	10.0	29.2	29.2	29.2	10.0	10.0	10.0	29.2	29.2	29.2
Net Extraction During Restoration Burdock (Maximum)	(gpm)	15.0	15.0	15.0	38.0	38.0	38.0	15.0	15.0	15.0	38.0	38.0	38.0
Maximum Extraction Dewey (Production + Restoration)	(gpm)	13.0	19.0	21.0	37.2	43.2	45.2	21.0	33.0	37.0	45.2	57.2	61.2
Maximum Extraction Burdock (Production + Restoration)	(gpm)	27.0	36.0	39.0	50.0	59.0	62.0	39.0	57.0	63.0	62.0	80.0	86.0
Maximum Extraction Dewey+ Burdock (Production + Restoration)	(gpm)	40.0	55.0	60.0	87.2	102.2	107.2	60.0	90.0	100.0	107.2	137.2	147.2

DB_04_05_NoGWS	-	4000 gpm Production Rate, 0.5% Net Production Bleed, 1% Restoration Bleed, No Groundwater Sweep
DB_04_08_NoGWS	-	4000 gpm Production Rate, 0.875% Net Production Bleed, 1% Restoration Bleed, No Groundwater Sweep
DB_04_10_NoGWS	-	4000 gpm Production Rate, 1.0% Net Production Bleed, 1% Restoration Bleed, No Groundwater Sweep
DB_04_05_GWS	-	4000 gpm Production Rate, 0.5% Net Production Bleed, 1 % Restoration Bleed + Groundwater Sweep (1 Pore Volume)
DB_04_08_GWS	-	4000 gpm Production Rate, 0.875% Net Production Bleed, 1 % Restoration Bleed + Groundwater Sweep (1 Pore Volume)
DB_04_10_GWS	-	4000 gpm Production Rate, 1.0% Net Production Bleed, 1 % Restoration Bleed + Groundwater Sweep (1 Pore Volume)
DB_08_05_NoGWS	-	8000 gpm Production Rate, 0.5% Net Production Bleed, 1% Restoration Bleed, No Groundwater Sweep
DB_08_08_NoGWS	-	8000 gpm Production Rate, 0.875% Net Production Bleed, 1% Restoration Bleed, No Groundwater Sweep
DB_08_10_NoGWS	-	8000 gpm Production Rate, 1.0% Net Production Bleed, 1% Restoration Bleed, No Groundwater Sweep
DB_08_05_GWS	-	8000 gpm Production Rate, 0.5% Net Production Bleed, 1 % Restoration Bleed + Groundwater Sweep (1 Pore Volume)
DB_08_08_GWS	-	8000 gpm Production Rate, 0.875% Net Production Bleed, 1 % Restoration Bleed + Groundwater Sweep (1 Pore Volume)
DB_08_10_GWS	-	8000 gpm Production Rate, 1.0% Net Production Bleed, 1 % Restoration Bleed + Groundwater Sweep (1 Pore Volume)

Table 6.3 Operational Rates vs Time, ISR Simulations Dewey-Burdock Project Model

Rates are in Gallons per Minute

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
4000 gpm Production with GWS									
Burdock Production	2,400	2,400	2,380	2,400	2,400	1,600	520	1,720	0
Burdock Restoration	0	0	522	523	0	516	1,023	256	522
Burdock Total	2,400	2,400	2,902	2,923	2,400	2,116	1,543	1,976	522
Dewey Production	1,600	1,600	1,600	1,600	1,600	1,600	1,600	800	0
Dewey Restoration	0	0	0	524	0	0	524	516	513
Dewey Total	1,600	1,600	1,600	2,124	1,600	1,600	2,124	1,316	513
Project Total	**4,000**	**4,000**	**4,502**	**5,047**	**4,000**	**3,716**	**3,668**	**3,292**	**1,035**
4000 gpm Production with No GWS									
Burdock Production	2,400	2,400	2,380	2,400	2,400	1,600	520	1,720	0
Burdock Restoration	0	0	500	500	0	500	500	250	500
Burdock Total	2,400	2,400	2,880	2,900	2,400	2,100	1,020	1,970	500
Dewey Production	1,600	1,600	1,600	1,600	1,600	1,600	1,600	800	0
Dewey Restoration	0	0	0	500	0	0	500	500	500
Dewey Total	1,600	1,600	1,600	2,100	1,600	1,600	2,100	1,300	500
Project Total	**4,000**	**4,000**	**4,480**	**5,000**	**4,000**	**3,700**	**3,120**	**3,270**	**1,000**
8000 gpm Production with GWS									
Burdock Production	4,800	4,800	4,760	4,800	4,800	3,200	1,040	3,440	0
Burdock Restoration	0	0	522	523	0	516	1,023	256	522
Burdock Total	4,800	4,800	5,282	5,323	4,800	3,716	2,594	3,696	522
Dewey Production	3,200	3,200	3,200	3,200	3,200	3,200	3,200	1,600	0
Dewey Restoration	0	0	0	524	0	0	524	516	513
Dewey Total	3,200	3,200	3,200	3,724	3,200	3,200	3,724	2,116	513
Project Total	**8,000**	**8,000**	**8,482**	**9,047**	**8,000**	**6,916**	**6,318**	**5,812**	**1,035**
8000 gpm Production with No GWS									
Burdock Production	4,800	4,800	4,760	4,800	4,800	3,200	1,040	3,440	0
Burdock Restoration	0	0	500	500	0	500	500	250	500
Burdock Total	4,800	4,800	5,260	5,300	4,800	3,700	2,594	3,690	500
Dewey Production	3,200	3,200	3,200	3,200	3,200	3,200	3,200	1,600	0
Dewey Restoration	0	0	0	500	0	0	500	500	500
Dewey Total	3,200	3,200	3,200	3,700	3,200	3,200	3,700	2,100	500
Project Total	**8,000**	**8,000**	**8,460**	**9,000**	**8,000**	**6,900**	**6,294**	**5,790**	**1,000**

GWS - Groundwater Sweep
No GWS - Restoration Bleed of 5 gpm per Wellfield

Table 6-4. Net Extraction Rates vs Time, ISR Simulations, Dewey-Burdock Project Model

Simulation	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Yr 9
4000 gpm Production-0.5%Bleed-GWS	Net Extraction Rates in Gallons per Minute																
Burdock Production	12.0	12.0	12.0	12.0	11.9	11.9	12.0	12.0	12.0	12.0	8.0	8.0	0.0	5.2	12.1	6.9	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	26.7	26.7	38.0	38.0	0.0	0.0	20.9	20.9	48.4	18.9	0.0	16.7	31.5
Burdock Total	12.0	12.0	12.0	12.0	38.6	38.6	50.0	50.0	12.0	12.0	28.9	28.9	48.4	24.1	12.1	23.6	31.5
Dewey Production	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	29.2	29.2	0.0	0.0	0.0	0.0	29.2	29.2	20.9	20.9	10.0
Dewey Total	8.0	8.0	8.0	8.0	8.0	8.0	37.2	37.2	8.0	8.0	8.0	8.0	37.2	37.2	24.9	24.9	10.0
Total Extraction	**20.0**	**20.0**	**20.0**	**20.0**	**46.6**	**46.6**	**87.2**	**87.2**	**20.0**	**20.0**	**36.9**	**36.9**	**85.6**	**61.3**	**37.0**	**48.5**	**41.5**
4000 gpm Production-0.5%Bleed-No GWS																	
Burdock Production	12.0	12.0	12.0	12.0	11.9	11.9	12.0	12.0	12.0	12.0	8.0	8.0	0.0	5.2	12.1	6.9	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	5.0	5.0	15.0	15.0	0.0	0.0	5.0	5.0	15.0	5.0	0.0	5.0	10.0
Burdock Total	12.0	12.0	12.0	12.0	16.9	16.9	27.0	27.0	12.0	12.0	13.0	13.0	15.0	10.2	12.1	11.9	10.0
Dewey Production	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	4.0	4.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	10.0
Dewey Total	8.0	8.0	8.0	8.0	8.0	8.0	13.0	13.0	8.0	8.0	8.0	8.0	13.0	13.0	9.0	9.0	10.0
Total Extraction	**20.0**	**20.0**	**20.0**	**20.0**	**24.9**	**24.9**	**40.0**	**40.0**	**20.0**	**20.0**	**21.0**	**21.0**	**28.0**	**23.2**	**21.1**	**20.9**	**20.0**
4000 gpm Production-0.875%Bleed-GWS																	
Burdock Production	21.0	21.0	21.0	21.0	20.8	20.8	21.0	21.0	21.0	21.0	14.0	14.0	0.0	9.1	21.2	12.1	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	26.7	26.7	38.0	38.0	0.0	0.0	20.9	20.9	48.4	18.9	0.0	16.7	31.5
Burdock Total	21.0	21.0	21.0	21.0	47.5	47.5	59.0	59.0	21.0	21.0	34.9	34.9	48.4	28.0	21.2	28.8	31.5
Dewey Production	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	7.0	7.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	29.2	29.2	0.0	0.0	0.0	0.0	29.2	29.2	20.9	20.9	10.0
Dewey Total	14.0	14.0	14.0	14.0	14.0	14.0	43.2	43.2	14.0	14.0	14.0	14.0	43.2	43.2	27.9	27.9	10.0
Total Extraction	**35.0**	**35.0**	**35.0**	**35.0**	**61.5**	**61.5**	**102.2**	**102.2**	**35.0**	**35.0**	**48.9**	**48.9**	**91.6**	**71.2**	**49.1**	**56.7**	**41.5**
4000 gpm Production-0.875%Bleed-No GWS																	
Burdock Production	21.0	21.0	21.0	21.0	20.8	20.8	21.0	21.0	21.0	21.0	14.0	14.0	0.0	9.1	21.2	12.1	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	5.0	5.0	15.0	15.0	0.0	0.0	5.0	5.0	15.0	5.0	0.0	5.0	10.0
Burdock Total	21.0	21.0	21.0	21.0	25.8	25.8	36.0	36.0	21.0	21.0	19.0	19.0	15.0	14.1	21.2	17.1	10.0
Dewey Production	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	7.0	7.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	10.0
Dewey Total	14.0	14.0	14.0	14.0	14.0	14.0	19.0	19.0	14.0	14.0	14.0	14.0	19.0	19.0	12.0	12.0	10.0
Total Extraction	**35.0**	**35.0**	**35.0**	**35.0**	**39.8**	**39.8**	**55.0**	**55.0**	**35.0**	**35.0**	**33.0**	**33.0**	**34.0**	**33.1**	**33.2**	**29.1**	**20.0**
4000 gpm Production-1.0%Bleed-GWS																	
Burdock Production	24.0	24.0	24.0	24.0	23.8	23.8	24.0	24.0	24.0	24.0	16.0	16.0	0.0	10.4	24.2	13.8	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	26.7	26.7	38.0	38.0	0.0	0.0	20.9	20.9	48.4	18.9	0.0	16.7	31.5
Burdock Total	24.0	24.0	24.0	24.0	50.5	50.5	62.0	62.0	24.0	24.0	36.9	36.9	48.4	29.3	24.2	30.5	31.5
Dewey Production	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	8.0	8.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	29.2	29.2	0.0	0.0	0.0	0.0	29.2	29.2	20.9	20.9	10.0
Dewey Total	16.0	16.0	16.0	16.0	16.0	16.0	45.2	45.2	16.0	16.0	16.0	16.0	45.2	45.2	28.9	28.9	10.0
Total Extraction	**40.0**	**40.0**	**40.0**	**40.0**	**66.5**	**66.5**	**107.2**	**107.2**	**40.0**	**40.0**	**52.9**	**52.9**	**93.6**	**74.5**	**53.1**	**59.4**	**41.5**
4000 gpm Production-1.0%Bleed-No GWS																	
Burdock Production	24.0	24.0	24.0	24.0	23.8	23.8	24.0	24.0	24.0	24.0	16.0	16.0	0.0	10.4	24.2	13.8	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	5.0	5.0	15.0	15.0	0.0	0.0	5.0	5.0	15.0	5.0	0.0	5.0	10.0
Burdock Total	24.0	24.0	24.0	24.0	28.8	28.8	39.0	39.0	24.0	24.0	21.0	21.0	15.0	15.4	24.2	18.8	10.0
Dewey Production	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	8.0	8.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	10.0
Dewey Total	16.0	16.0	16.0	16.0	16.0	16.0	21.0	21.0	16.0	16.0	16.0	16.0	21.0	21.0	13.0	13.0	10.0
Total Extraction	**40.0**	**40.0**	**40.0**	**40.0**	**44.8**	**44.8**	**60.0**	**60.0**	**40.0**	**40.0**	**37.0**	**37.0**	**36.0**	**36.4**	**37.2**	**31.8**	**20.0**

Table 6-4. Net Extraction Rates vs Time, ISR Simulations, Dewey-Burdock Project Model

Simulation	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Yr 9
8000 gpm Production-0.5%Bleed-GWS	Net Extraction Rates in Gallons per Minute																
Burdock Production	24.0	24.0	24.0	24.0	23.8	23.8	24.0	24.0	24.0	24.0	16.0	16.0	0.0	10.4	24.2	13.8	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	26.7	26.7	38.0	38.0	0.0	0.0	20.9	20.9	48.4	18.9	0.0	16.7	31.5
Burdock Total	24.0	24.0	24.0	24.0	50.5	50.5	62.0	62.0	24.0	24.0	36.9	36.9	48.4	29.3	24.2	30.5	31.5
Dewey Production	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	8.0	8.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	29.2	29.2	0.0	0.0	0.0	0.0	29.2	29.2	20.9	20.9	10.0
Dewey Total	16.0	16.0	16.0	16.0	16.0	16.0	45.2	45.2	16.0	16.0	16.0	16.0	45.2	45.2	28.9	28.9	10.0
Total Extraction	**40.0**	**40.0**	**40.0**	**40.0**	**66.5**	**66.5**	**107.2**	**107.2**	**40.0**	**40.0**	**52.9**	**52.9**	**93.6**	**74.5**	**53.1**	**59.4**	**41.5**
8000 gpm Production-0.5%Bleed-No GWS																	
Burdock Production	24.0	24.0	24.0	24.0	23.8	23.8	24.0	24.0	24.0	24.0	16.0	16.0	0.0	10.4	24.2	13.8	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	5.0	5.0	15.0	15.0	0.0	0.0	5.0	5.0	15.0	5.0	0.0	5.0	10.0
Burdock Total	24.0	24.0	24.0	24.0	28.8	28.8	39.0	39.0	24.0	24.0	21.0	21.0	15.0	15.4	24.2	18.8	10.0
Dewey Production	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	8.0	8.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	10.0
Dewey Total	16.0	16.0	16.0	16.0	16.0	16.0	21.0	21.0	16.0	16.0	16.0	16.0	21.0	21.0	13.0	13.0	10.0
Total Extraction	**40.0**	**40.0**	**40.0**	**40.0**	**44.8**	**44.8**	**60.0**	**60.0**	**40.0**	**40.0**	**37.0**	**37.0**	**36.0**	**36.4**	**37.2**	**31.8**	**20.0**
8000 gpm Production-0.875%Bleed-GWS																	
Burdock Production	42.0	42.0	42.0	42.0	41.6	41.6	42.0	42.0	42.0	42.0	28.0	28.0	0.0	18.2	42.4	24.2	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	26.7	26.7	38.0	38.0	0.0	0.0	20.9	20.9	48.4	18.9	0.0	16.7	31.5
Burdock Total	42.0	42.0	42.0	42.0	68.3	68.3	80.0	80.0	42.0	42.0	48.9	48.9	48.4	37.1	42.4	40.9	31.5
Dewey Production	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	14.0	14.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	29.2	29.2	0.0	0.0	0.0	0.0	29.2	29.2	20.9	20.9	10.0
Dewey Total	28.0	28.0	28.0	28.0	28.0	28.0	57.2	57.2	28.0	28.0	28.0	28.0	57.2	57.2	34.9	34.9	10.0
Total Extraction	**70.0**	**70.0**	**70.0**	**70.0**	**96.3**	**96.3**	**137.2**	**137.2**	**70.0**	**70.0**	**76.9**	**76.9**	**105.6**	**94.3**	**77.3**	**75.8**	**41.5**
8000 gpm Production-0.875%Bleed-No GWS																	
Burdock Production	42.0	42.0	42.0	42.0	41.6	41.6	42.0	42.0	42.0	42.0	28.0	28.0	0.0	18.2	42.4	24.2	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	5.0	5.0	15.0	15.0	0.0	0.0	5.0	5.0	15.0	5.0	0.0	5.0	10.0
Burdock Total	42.0	42.0	42.0	42.0	46.6	46.6	57.0	57.0	42.0	42.0	33.0	33.0	15.0	23.2	42.4	29.2	10.0
Dewey Production	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	28.0	14.0	14.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	10.0
Dewey Total	28.0	28.0	28.0	28.0	28.0	28.0	33.0	33.0	28.0	28.0	28.0	28.0	33.0	33.0	19.0	19.0	10.0
Total Extraction	**70.0**	**70.0**	**70.0**	**70.0**	**74.6**	**74.6**	**90.0**	**90.0**	**70.0**	**70.0**	**61.0**	**61.0**	**48.0**	**56.2**	**61.4**	**48.2**	**20.0**
8000 gpm Production-1.0%Bleed-GWS																	
Burdock Production	48.0	48.0	48.0	48.0	47.6	47.6	48.0	48.0	48.0	48.0	32.0	32.0	0.0	20.8	48.4	27.6	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	26.7	26.7	38.0	38.0	0.0	0.0	20.9	20.9	48.4	18.9	0.0	16.7	31.5
Burdock Total	48.0	48.0	48.0	48.0	74.3	74.3	86.0	86.0	48.0	48.0	52.9	52.9	48.4	39.7	48.4	44.3	31.5
Dewey Production	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	16.0	16.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	29.2	29.2	0.0	0.0	0.0	0.0	29.2	29.2	20.9	20.9	10.0
Dewey Total	32.0	32.0	32.0	32.0	32.0	32.0	61.2	61.2	32.0	32.0	32.0	32.0	61.2	61.2	36.9	36.9	10.0
Total Extraction	**80.0**	**80.0**	**80.0**	**80.0**	**106.3**	**106.3**	**147.2**	**147.2**	**80.0**	**80.0**	**84.9**	**84.9**	**109.6**	**100.9**	**85.3**	**81.2**	**41.5**
8000 gpm Production-1.0%Bleed-No GWS																	
Burdock Production	48.0	48.0	48.0	48.0	47.6	47.6	48.0	48.0	48.0	48.0	32.0	32.0	0.0	20.8	48.4	27.6	0.0
Burdock Restoration	0.0	0.0	0.0	0.0	5.0	5.0	15.0	15.0	0.0	0.0	5.0	5.0	15.0	5.0	0.0	5.0	10.0
Burdock Total	48.0	48.0	48.0	48.0	52.6	52.6	63.0	63.0	48.0	48.0	37.0	37.0	15.0	25.8	48.4	32.6	10.0
Dewey Production	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0	16.0	16.0	0.0
Dewey Restoration	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0	0.0	0.0	0.0	0.0	5.0	5.0	5.0	5.0	10.0
Dewey Total	32.0	32.0	32.0	32.0	32.0	32.0	37.0	37.0	32.0	32.0	32.0	32.0	37.0	37.0	21.0	21.0	10.0
Total Extraction	**80.0**	**80.0**	**80.0**	**80.0**	**84.6**	**84.6**	**100.0**	**100.0**	**80.0**	**80.0**	**69.0**	**69.0**	**52.0**	**62.8**	**69.4**	**53.6**	**20.0**

APPENDIX 6.4-A

RADIUM BENCHMARK DOSE ASSESSMENT

POWERTECH (USA) INC.

Radium Benchmark Dose Assessment

For

Dewey-Burdock Uranium In-situ Recovery Facility

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Radium Benchmark Dose Assessment

1.0 Introduction

On April 12, 1999, the U.S. Nuclear Regulatory Commission (NRC) issued a Final Rule (64 FR 17506) that requires the use of the existing soil radium standard to derive a dose criterion for the cleanup of byproduct material. The amendment to Criterion 6(6) of 10 CFR Part 40, Appendix A was effective on June 11, 1999. This "benchmark approach" requires that NRC licensees model the site-specific dose from the existing radium standard and then use that dose to determine the allowable quantity of other radionuclides that would result in a similar dose to the average member of the critical group. These determinations must then be submitted to NRC with the site reclamation plan or included in license applications. This report documents the modeling and assumptions made by Powertech USA (Powertech) to derive a standard for U-nat in soil for the proposed Dewey Burdock in-situ uranium recovery (DBISR) facility.

Concurrent with publication of the Final Rule, NRC published draft guidance (64 FR 17690) for performing the benchmark dose modeling required to implement the final rule. Final guidance (NRC, 2003) was published as Appendix E to the Standard Review Plan for In Situ Leach License Applications (NUREG-1569). This guidance discusses acceptable models and input parameters. This guidance, guidance from the RESRAD Users Manual (ANL, 2001), the Data Collection Handbook (ANL, 1993) and site-specific parameters were used in the modeling as discussed in the following sections.

2.0 Determination of Radium Benchmark Dose

RESRAD Version 6.4 computer code (RESRAD) was used to model the DBISR site and calculate the maximum annual dose rate from the current radium cleanup standard.

The following supporting documentation for determination of the radium benchmark dose and the natural uranium soil standard (explained in Section 3.0) is attached:

- The RESRAD Data Input Basis (Attachment 1) provides a summary of the modeling performed with RESRAD and the values that were used for the input parameters. A sensitivity analysis was performed for parameters which are important to the major component dose pathways and for which no site specific data was available.
- Selected graphs produced with RESRAD that present the results of the sensitivity analysis performed on the input parameters are attached (Attachment 2).
- A full printout of the final RESRAD modeling results for the resident farmer scenario with the chosen input values is attached (Attachments 3.0 and 3.1). The printout provides the modeled maximum annual dose for calculated times for the 1,000-year time span and provides a breakdown of the fraction of dose due to each pathway.
- Graphs produced with RESRAD that present the modeling results for the maximum dose during the 1,000 year time span for radium-226, natural uranium, and the land application. A series of graphs depicting the summed dose for all pathways and the component pathways that contributes to the total dose are attached (Attachments 4.0 and 4.1).

The maximum dose from Ra-226 contaminated soil at the 5 pCi/g above background cleanup standard, as determined by RESRAD, for the residential farmer scenario was 38.1 mrem/yr. This dose was based upon the 5 pCi/g surface (0 to 6-inch) Ra-226 standard and was noted at time, t = 0 years. The two major dose pathways were external exposure and plant ingestion (water independent). For these two pathways, a sensitivity analysis was performed for important parameters for which no site specific information was available. The 38.1 mrem/yr dose from radium is the level at which the natural uranium radiological end point soil standard will be based as described in the following section.

3.0 Determination of Natural Uranium Soil Standard

RESRAD was used to determine the concentration of natural uranium (U-nat) in soil distinguishable from background that would result in a maximum dose of 38.1mrem/yr. The method involved modeling the dose from a set concentration of U-nat in soil. This dose was then compared to the radium benchmark dose and scaled to arrive at the maximum allowable U-nat concentration in soil.

For ease of calculations, a preset concentration of 100 pCi/g U-nat was used for modeling the dose. The fractions used were 49.2 percent (or pCi/g) U-234, 48.6 percent (or pCi/g) U-238 and 2.2 percent (or pCi/g) U-235. The distribution coefficients that were selected for each radionuclide were RESRAD default values. A sensitivity analysis was performed using a range of distribution coefficients to evaluate potential effects of not using site specific data. All other input parameters were the same as those used in the Ra-226 benchmark modeling.

Using a U-nat concentration in soil of 100 pCi/g, RESRAD determined a maximum dose of 7.1 mrem/yr. at time, t = 0 years. The printout of the RESRAD data summary is provided in Attachment 3.1 and the dose figures generated with RESRAD are provided in Attachment 4.1.

To determine the uranium soil standard, the following formula was used:

$$\text{Uranium Limit} = \left(\frac{100 \text{ pCi/g U - nat}}{7.1 \text{ mrem/yr U - nat dose}} \right) \text{x } 38.1 \text{ mrem/yr radium benchmark dose}$$

$$\text{Uranium Limit} = 537 \text{ pCi/g U - nat}$$

The U-nat limit is applied to soil cleanup with the Ra-226 limit using the unity rule. To determine whether an area exceeds the cleanup standards, the standards are applied according to the following formula:

$$\left(\frac{\text{Soil Uranium Concentration}}{\text{Soil Uranium Limit}}\right)+\left(\frac{\text{Soil Radium Concentration}}{\text{Soil Radium Limit}}\right)<1$$

This approach will be used at the DBISR site to determine the radiological impact on the environment from releases of source and byproduct materials.

3.1 Uranium Chemical Toxicity Assessment

The chemical toxicity effects from uranium exposure are evaluated by assuming the same exposure scenario as that used for the radiation dose assessment. In the benchmark dose assessment for the resident farmer scenario, it was assumed that the diet consisted of 25 percent of the meat, fruits, and vegetables grown at the site. No intake of contaminated food through the aquatic or milk pathways was considered probable since it is unlikely the Dewey-Burdock area could support this activity with local vegetation. Also, the model showed that the contamination would not affect the groundwater quality. Therefore, the same model will be used in assessing the chemical toxicity. The intake from eating meat was shown to be negligible compared to the plant pathway and therefore is not shown here. This is confirmed by the results of the RESRAD calculations shown in Attachment 3.1 and the figures generated with RESRAD shown in Attachment 4.1.

The method and parameters for estimating the human intake of uranium from ingestion are taken from NUREG/CR-5512 Vol. 1 (NRC, 1992). The uptake of uranium in food is a product of the uranium concentration in soil and the soil-to-plant conversion factor. The annual intake in humans is then calculated by multiplying the annual consumption by the uranium concentration in the food. Since the soil-plant conversion factor is based on a dry weight, the annual consumption must be adjusted to a dry-weight basis by multiplying by the dry-weight to wet-weight ratio. Parameters for these calculations are given in Section 6.5.9 of the NUREG/CR-5512 Vol. 1 (NRC, 1992). Table 3-1 provides the parameters used in these calculation and results for leafy vegetables, other vegetables, and fruit. Annual intakes of 14 kg/year and 97 kg/year were assumed for leafy vegetables and other vegetables and fruit, respectively. Consistent with Attachment 3.1 dose calculations, it was assumed that 25 percent of the food was grown on the site. It was also assumed that the uranium concentration in the garden or orchard was 537 pCi/g. This corresponds to the uranium Benchmark Concentration for surface soils. Using a conversion factor for U-nat of 1 mg = 677 pCi, then 537 pCi/g is equivalent to 793 mg/kg. The human intake shown in the first column of Table 3-1 is equal to the product of the parameters given in the subsequent columns. Table 3-1 shows that the total annual uranium intake from all food sources from the site is 46 mg/yr.

The two-compartment model of uranium toxicity in the kidney from oral ingestion was used (ICRP, 1995) to predict the burden of uranium in the kidney following chronic uranium ingestion. This model allows for the distribution of the two forms of uranium in the blood, and consists of a kidney with two compartments, as well as several other compartments for uranium distribution, storage and elimination including the skeleton, liver, red blood cells (macrophages) and other soft tissues.

Table 3-1 Annual Intake of Uranium from Ingestion

Human Intake (mg/yr)	Soil Concentration (mg/kg)	Soil to Plant Ratio (mg/kg plant to mg/kg soil)	Annual Consumption (kg)	Dry Weight Wet Weight Ratio	Food Source
9.4	793	1.7E-2	3.5	0.2	Leafy Vegetables
36.1	793	1.4E-2	13	0.25	Other Vegetables
6.9	793	4.0E-3	12	0.18	Fruit
52.4					Total

The total burden to the kidney is the sum of the two compartments. The mathematical representation for the kidney burden of uranium at steady state can be derived as follows (ICRP, 1995):

$$Q_P = \frac{IR \times f_1}{\lambda_P \left(1 - f_{ps} - f_{pr} - f_{pl} - f_{pk} - f_{pk1}\right)}$$

Where:

Q_P = uranium burden in the plasma, µg

IR = dietary consumption rate, mg U/d

f_1 = fractional transfer of uranium from GI tract to blood, unit less

f_{ps} = fractional transfer of uranium from plasma to skeleton, unit less

f_{pr} = fractional transfer of uranium from plasma to red blood cells, unit less

f_{pl} = fractional transfer of uranium from plasma to liver, unit less

f_{pt} = fractional transfer of uranium from plasma to soft tissue, unit less

f_{pk1} = fractional transfer of uranium from plasma to kidney, compartment 1, unit less

λ_p = biological retention constant in the plasma, d^{-1}

The burden in kidney compartment 1 is:

$$Q_{k1} = \lambda_P \times Q_P \times \frac{f_{pk1}}{\lambda_{k1}}$$

Where:

Q_{k1} = uranium burden in kidney compartment 1, mg

λ_{k1} = biological retention constant of uranium in kidney compartment 1, d^{-1}

Similarly, for compartment 2 in the kidney, the burden is:

$$Q_{k2} = \lambda_P \times Q_P \times \frac{f_{pk2}}{\lambda_{k2}}$$

Where:

Q_{k2} = uranium burden in kidney compartment 2, µg;

λ_{k2} = biological retention constant of uranium in kidney compartment 2, d^{-1};

f_{pk2} = fractional transfer of uranium from plasma to kidney compartment 2, unit less.

The total burden to the kidney is then the sum of the two compartments is:

$$Q_{k1} + Q_{k2} = \frac{IR \times f_1}{\left(1 - f_{ps} - f_{pr} - f_{pl} - f_{pt} - f_{pk1}\right)} \times \left(\frac{f_{pk1}}{\lambda_{k1}} + \frac{f_{pk2}}{\lambda_{k2}}\right)$$

The parameter input values for the two-compartment kidney model include the daily intake of uranium estimated for residents at this site, and the ICRP69 values recommended by the ICRP as listed below (ICRP, 1995). The daily uranium intake rate was estimated to be 0.14 mg/day (52.4 mg/year) from ingestion while residing at this site.

IR = 0.14 mg/day

f_1 = 0.02

f_{ps} = 0.105

f_{pr} = 0.007

f_{pl} = 0.0105

f_{pt} = 0.347

f_{pk1} = 0.00035

f_{pk2} = 0.084

λ_{k1} = ln(2)/(5 yrs*365 days/yr)

λ_{k2} = ln(2)/7 days

where ln(2) = 0.693…

Given a daily uranium intake of 0.14 mg/day at this site and the above equation, the calculated uranium in the kidneys is 0.0093 mg U, or a concentration of 0.032 µg U/g kidney. This is 3.2 percent of the 1.0 µg U/g value that has generally been understood to protect the kidney from the toxic effects of uranium. Some researchers have suggested that mild effects may be observable at levels as low as 0.1 µg U/g of kidney tissue.

Using 0.1 μg U/g as a criterion, then the intake is 32 percent of the level where mild effects may be observable.

The EPA evaluated the chemical toxicity data and found that mild proteinuria has been observed at drinking water levels between 20 and 100 μg/liter. Assuming water intake of 2 liters/day, this corresponds to an intake of 0.04 to 0.2 mg/day. Using animal data and a conservative factor of 100, the EPA arrived at a 30 μg/liter limit for use as a National Primary Drinking Water Standard (Federal Register/Vol.65, No.236/ December 7, 2000). This is equivalent to an intake of 0.06 mg/day for the average individual. Naturally, since large diverse populations are potentially exposed to drinking water sources regulated using these standards, the EPA is very conservative in developing limits.

This analysis indicates that a soil limit of 537 pCi/g of U-nat would result in an intake of approximately 0.14 mg/day. Using the most conservative daily limit corresponding to the National Primary Drinking Water standard, a soil limit of 230 pCi/g corresponds to the EPA intake limit from drinking water with a uranium concentration of 0.06 mg/day. Therefore exposure to soils containing 230 pCi/g of natural uranium should not result in chemical toxicity effects. Since the roots of a fruit tree would penetrate to a considerable depth, limiting subsurface uranium concentrations to 230 pCi/g will be considered appropriate as well.

4.0 References

ANL, 1993, “Data Collection Handbook to Support Modeling the Impacts of Radioactive Material in Soil”, Environmental Assessment Division, Argonne National Laboratory, ANL/EAIS-8, Argonne, Illinois.

ICRP, 1995, *ICRP Publication 69 - Age-dependent Doses to Members of the Public from Intake of Radionuclides: Part 3 Ingestion Dose Coefficients*, International Commission on Radiation Protection, Tarrytown, New York.

NRC, 1992, *"Residual Radioactive Contamination from Decommissioning,"* U.S. Nuclear Regulatory Commission, NUREG/CR-5512 (PNL-7994) Vol. 1, Washington, DC.

NRC, 2003, "Standard Review Plan for In situ Leach Uranium Extraction License Applications", Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U. S. Nuclear Regulatory Commission, NUREG-1569, Washington, DC.

NRCS, 2007, "2003 Annual National Resources Inventory", Natural Resources Conservation Service, U.S. Department of Agriculture, Washington, DC.

TVA, *Environmental Impact Statement – Edgemont Uranium Mine*, Tennessee Valley Authority, Knoxville, Tennessee.

USGS, 2004, *Estimated Use of Water in the United States in 2000*, U.S. Geological Survey, U.S. Department of the Interior, USGS Circular 1268, Reston, Virginia.

Radium Benchmark Dose Assessment

Attachment 1

RESRAD Data Input Basis

Parameters

RESRAD Data Input Basis

Parameters

This document summarizes the data input and modeling scenario that was used to determine the radium benchmark dose for the DBISR Project. The modeling was performed using RESRAD for Windows Version 6.4 developed by the Environmental Assessment Division at Argonne National Laboratory.

The resident farmer scenario was used since this is the most likely land use near the site. The following sections describe the data parameters that were used to model site-specific conditions.

The data input was based upon four principal sources:

1. The Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil (Data Collection Handbook) (ANL, 1993)

2. The NUREG-1569 (NRC, 2003)

3. Site specific information to be included in the DBISR license application

4. The Natural Resources Conservation Service (NRCS) 2003 Annual Natural Resources Inventory, State Report (NRCS, 2007)

5. The Tennessee Valley Authority (TVA) Environmental Impact Statement – Edgemont Uranium Mine (EIS)

6. The US Geological Survey (USGS) Circular 1268 (USGS, 2004)

Soil Concentration

1. <u>Lead-210:</u> Used 5.0 pCi/g per the NUREG-1569 (NRC, 2003).

No sensitivity analysis on this parameter was performed based on the guidance.

2. <u>Radium-226:</u> Used 5.0 pCi/g regulatory limit as basis for determining benchmark.

No sensitivity analysis on this parameter was performed based on the regulatory limit.

Distribution Coefficient (K_d)

All values found in the Data Collection Handbook (ANL, 1993).

1. <u>Lead-210:</u> Used the value for sand, 270 cm^3/g, for the contaminated zone and the saturated zone. Used the value for clay, 550 cm^3/g, for the unsaturated zone. The Data Collection Handbook specifies the following values (ANL, 1993):

    - Sand = 270
    - Loam = 16,000

Sensitivity analyses were performed on the external and plant (water independent) pathways with a multiple of 100 on the value for the contaminated zone (i.e. 2.7, 270, 27,000). No appreciable impacts on maximum dose were found for both the external and plant (water independent) pathways when using the higher or lower K_d. The range of values covers the range of potential values at the site based upon sandy and loamy soil types. Graphs attached.

2. <u>Radium 226</u>: Used the value for sand, 500 cm^3/g, for the contaminated zone and the saturated zone. Used the value for clay, 9,100 cm^3/g, for the unsaturated zone. The Data Collection Handbook specifies the following values (ANL, 1993):

- Sand = 500
- Loam = 36,000

Sensitivity analyses were performed on the external and plant (water independent) pathways with a multiple of 100 on the value for the contaminated zone (i.e. 5, 500, 50,000). No appreciable impacts on maximum dose were found for both the external and plant (water independent) pathways when using the higher or lower K_d. The range of values covers the range of potential values at the site based upon sandy and loamy soil types. Graphs attached.

Contaminated Zone

1. Area: Used the default value of 10,000 square meters.

Sensitivity analysis was performed on the external pathway with a multiple of 2 (i.e. 5,000, 10,000, and 20,000). There was no impact on maximum dose rate for the external dose pathway when using the larger value. There was a small decrease in maximum dose rate for the external dose pathway when using the smaller value. Therefore the use of the mid-range value for the area is conservative. Graph attached.

2. Thickness: Used 0.15 m (6 inches) based on regulatory requirement.

No sensitivity analysis on this parameter was performed based on the guidance.

3. Length parallel to aquifer flow: Used the default value of 100 meters, based on the square root of a 10,000 square meter contaminated zone.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

Cover and Contaminated Zone

The topsoil of the area (the contaminated zone) is described as alluvial sand, gravel, and clay in the EIS (TVA,).

1. Cover depth: Used 0 meters in accordance with NUREG-1569 (NRC, 2003).

No sensitivity analysis on this parameter was performed based on the guidance.

2. Density of contaminated zone: Used the average density of the contaminated zone, 1.26 g/cm^3, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

3. Contaminated zone erosion rate: Used the erosion rates for South Dakota listed in the NRCS 2003 National Resources Inventory, State Report (NCRS, 2007) to calculate the erosion rate. The erosion rates listed for South Dakota are 1.8 tons/acre-year from water erosion and 2.0 tons/acre-year from wind erosion (3.8 tons/acre-year total). Using the contaminated zone soil density (1.26 g/cm^3), the total erosion rate was calculated as shown below and used in RESRAD.

$$\text{Erosion Rate (m/yr)} = \frac{3.8\ \text{ton}}{\text{acre - yr}} \times \frac{9.07 \times 10^5\ \text{g}}{\text{ton}} \times \frac{\text{acre}}{4.047 \times 10^7\ \text{cm}^2} \times \frac{\text{cm}^3}{1.26\ \text{g}} \times \frac{\text{m}}{100\ \text{cm}} = 0.0007$$

Sensitivity analyses of the external and plant (water independent) pathways were performed with a multiple of 2 (i.e. 0.0014, 0.0007, and 0.00035). The maximum dose rate from the external pathway did not change when the value was changed. The maximum dose rate from the plant (water independent) pathway decreased slightly when using the smaller value. Also, the mid-range value is based on information specific to South Dakota. Therefore the mid-range value is both adequate for the model and conservative. Graph attached.

4. Contaminated zone total porosity: Used the average porosity of the contaminated zone, 0.5384, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

5. Contaminated zone field capacity: Used the minimum field capacity value for the contaminated zone, 1 x 10^{-34}, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

6. Contaminated zone hydraulic conductivity: Used the representative hydraulic conductivity value for sandy clay loam listed in the Data Collection Handbook, 1.99 x 10^{2} m/yr (ANL, 1993).

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

7. Contaminated zone b parameter: Used the b parameter value for sandy clay loam listed in the Data Collection Handbook, 7.12 (ANL, 1993).

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

8. Evapotranspiration Coefficient: Used the maximum evapotranspiration coefficient, 0.999, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

9. Wind Speed: Used the average wind speed, 3 m/s, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

10. Precipitation: Used the precipitation rate, 0.32 m/yr, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

11. Irrigation Rate: Used the average irrigation rate for South Dakota listed in the USGS Circular 1268, 0.360 m/yr (1.18 ft/yr) (USGS, 2004).

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

12. Runoff Coefficient: From the Data Collection Handbook, the equation for runoff coefficient for an agricultural environment is shown below (ANL, 1993).

$$\text{Runoff Coefficient} = 1 - c_1 - c_2 - c_3$$

The values of c_1, c_2, and c_3 used were 0.2 (rolling land), 0.2 (intermediate combinations of clay and loam), and 0.1 (cultivated lands), respectively. The resulting runoff coefficient used is 0.5.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

13. Watershed Area for Nearby Stream or Pond: Used the watershed area, 1.3×10^6 m^2 (0.5 square miles), based on site specific data.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

14. Accuracy: Used the default value of 0.001.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

Saturated Zone

1. Density of saturated zone: Used the average density of the saturated zone, 2.64 g/cm^3, based on site specific data.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

2. Saturated zone total porosity: Used the value of 0.34, which is the mean total porosity for sandstone (medium) listed in the Data Collection Handbook (ANL, 1993).

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

3. Saturated zone effective porosity: Used the average porosity of the saturated zone, 0.2974, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

4. Saturated zone field capacity: Used the value obtained from subtracting the effective porosity of the saturated zone from the total porosity of the saturated zone, 0.0426.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

5. Saturated zone hydraulic conductivity: Used the hydraulic conductivity of the saturated zone, 703 m/yr (2.23 x 10^{-3} cm/s), based on site specific data.

No sensitivity analysis was performed because the value is site specific.

6. Saturated zone hydraulic gradient: Used the hydraulic gradient of the saturated zone, 0.01, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

6. Saturated zone b parameter: Used the b parameter value for sand listed in the Data Collection Handbook, 4.05.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

7. Water Table Drop Rate: Used the default value of 0.001 m/yr.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

8. Well Pump Intake Depth: Used the default value of 10 m.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

10. Model for Water Transport Parameters: Used non-dispersion per NUREG-1569 (NRC, 2003).

No sensitivity analysis on this parameter was performed based on the guidance.

11. Well Pumping Rate: The UGSG Circular 1268 lists the uses of ground water in South Dakota (in million gallons per day) as public supply (54.2), domestic (9.52), irrigation (137), livestock (16.9), industrial (3.16), and thermoelectric power (1.23) (USGS, 2004). Since the aquifer containing the ore will be not used for drinking water, the public supply and domestic uses were ignored. Since the site is located in a rural area, the industrial and thermoelectric power uses were ignored as well. The Circular lists the rate of groundwater used for livestock in South Dakota as 18.9 x 10^3 acre-feet/yr (USGS, 2004). The Circular also lists the total rate of water (both groundwater and surface water) used for irrigation in South Dakota as 1.18 feet/yr and the fraction from groundwater as 153 thousand acre-feet per year (from ground water) / 418 thousand acre-feet per year (total) = 0.366. The 2003 Natural Resources Inventory by the NRCS lists the amount of land used in South Dakota for livestock is 1985 x 10^3 acres (for pasture) + 22054 x 10^3 acres (for range) = 2.40 x 10^7 acres (NRCS, 2007). Since the area of the contaminated zone is 10,000 m^2 (2.47 acres), the rate of well pumping used in RESRAD was calculated as shown below.

$$\text{Rate (m/yr)} = 2.47\ \text{ac x} \left(\frac{18.9\ \text{x}\ 10^3\ \text{ac - ft/yr}}{2.40\ \text{x}\ 10^7\ \text{ac}} + 1.18\ \text{ft/yr x}\ 0.366 \right) \text{x}\ \frac{1233\ \text{m}^3}{\text{ac - ft}} = 1322$$

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

Unsaturated Zone

1. Unsaturated zone thickness: Used the conservative thickness of the Skull Creek shale formation, 15.2 meters (50 ft), based on site specific data.

No sensitivity analysis was performed because the value is site specific.

2. Density of unsaturated zone: Used the average density for the Skull Creek shale formation, 2.61 g/cm^3, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

3. Unsaturated zone total porosity: Used the representative total porosity value for clay, 0.42, listed in the Data Collection Handbook (ANL, 2003).

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

4. Unsaturated zone effective porosity: Used the average porosity for the Skull Creek shale formation, 0.092, based on site specific data.

No sensitivity analysis was performed because the value is site specific.

5. Unsaturated zone field capacity: Used the value obtained by subtracting the effective porosity of the unsaturated zone from the total porosity of the unsaturated zone, 0.328.

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

6. Unsaturated zone hydraulic conductivity: Used the average hydraulic conductivity for the Skull Creek shale formation, 3.27 x 10^{-8} cm/s (0.0103 m/yr), based on site specific data.

No sensitivity analysis was performed because the value is site specific.

7. Unsaturated zone b parameter: Used the b parameter value for clay, 11.4, listed in the Data Collection Handbook (ANL, 1993).

No sensitivity analysis was performed since water dependent pathways were not significant contributors to dose.

Occupancy

1. Inhalation Rate: Used the default value of 8,400 m^3/yr.

No sensitivity analysis was performed since inhalation pathways were not significant contributors to dose.

2. Mass Loading for Inhalation: Used the default value of 0.0001 g/m^3.

No sensitivity analysis was performed since inhalation pathways were not significant contributors to dose.

3. Exposure Duration: Used the default value of 30 years.

4. Indoor dust filtration factor: Used the default value of 0.4.

No sensitivity analysis was performed since inhalation pathways were not significant contributors to dose.

5. External gamma shielding factor: Used the value of 0.55. The NUREG-1569 requires that a value between 0.33 and 0.55 be used.

Sensitivity analysis of the external pathway was performed using a multiple of 1.5 (i.e., 0.367, 0.55 and 0.825). Using the lower value resulted in a decrease in the maximum dose rate for the external exposure pathway. Using the higher value resulted in an *increase in the maximum dose rate for the external exposure pathway. The value 0.55 is the most conservative value in the range specified by the NUREG-1569. Graph attached.*

6. Indoor/Outdoor Fractions: Used the defaults of 0.5 indoors and 0.25 outdoors for farmer scenario in the NUREG-1569 (NRC, 2003).

No sensitivity analyses on these parameters were performed based on the guidance.

7. Shape of contaminated zone: A circular shape was used.

Ingestion: Dietary

1. **Consumption Rates:**

   A. Fruit, vegetable and grain: Used the default value of 160 kg/yr. This value was used based upon EPA estimated consumption. NRC Reg. Guide 1.109 has an estimated consumption for an adult of 190 kg/yr. RESRAD adjusts for contaminated and uncontaminated fractions based upon the size of the contaminated area (ANL, 1993).

   B. Leafy vegetable: Used the default value of 14 kg/yr. NRC Reg. Guide 1.109 has an estimated consumption for an adult of 64 kg/yr, while NRC estimates for dose from nuclear power plants uses a consumption rate of 30 kg/yr. RESRAD adjusts for contaminated and uncontaminated fractions based upon the size of the contaminated area (ANL, 1993).

   C. Milk: Used the default value of 92 L/yr.

   D. Meat and poultry: Used the default value of 63 kg/yr.

E. Fish/Seafood: Used the default values of 5.4 kg/yr for fish and 0.9 kg/yr for other seafood.

F. Soil ingestion: Used the default value of 36.5 g/yr.

G. Drinking water intake: Used the default value of 510 L/yr (1.4 L/d).

2. Contaminated Fractions:

NUREG-1569 states that for sites with over 25 acres (approximately 10,000 square meters) of contamination, the fraction of diet from contaminated area should be assumed to be 25% (0.25) (NRC, 2003).

No sensitivity analyses on these parameters were not performed based on the guidance.

A. Water: Used the default value of 1 (i.e., 100% of consumption is from contaminated well water). All current water use in rural areas around the site is from private wells and will likely continue to be in the foreseeable future.

B. Livestock Water: Used default value of 1 (i.e., 100% is from contaminated water). All current water use in rural areas around the site is from private wells and will likely continue to be in the foreseeable future.

C. Irrigation Water: Used the default value of 1 (i.e., 100% is from contaminated water). All current water use in rural areas around the site is from private wells and will likely continue to be in the foreseeable future.

D. Plant food: Used 0.25 as percentage of plant food that is contaminated.

E. Meat: Used 0.25 as percentage of meat that is contaminated.

F. Aquatic food: Used the value of 0 due to the semiarid environment of the site.

G. Milk: Used the value of 0 due to no consumption of locally produced and consumed milk per NUREG-1569 (NRC, 2003).

Ingestion: Nondietary

1. Consumption Rates:

A. Livestock fodder intake for meat: Used the default value of 68 kg/day.

B. Livestock water intake for meat: Used the default value of 50 L/day. According to NRC Regulatory Guide 1.109 (NRC, 1977), the water ingestion rate for beef cattle is 50 L/d.

C. Livestock intake of soil for meat: Used the default value of 0.5 g/day.

D. Mass loading for foliar deposition: Used the default value of 0.0001 g/m^3.

Sensitivity analysis on the plant (water independent) pathway was run with a multiple of 100 (i.e., 0.000001, 0.0001, and 0.01 g/m^3). Using the higher value resulted in a small increase in the maximum dose rate. Using the lower value did not result in a change in the maximum dose rate. According to the Data Collection Handbook, the mid-range value has been used by the EPA for screening calculations. Therefore the mid-range value is justified for use in the model. Graph attached.

E. Depth of soil mixing layer: Used the default value of 0.15 meters.

F. Depth of roots: Used 0.3 meters as a screening level based upon NUREG-1569. The root depth varies for different plants. For some plants, such as beets, carrots, lettuce, and so forth, it does not extend below about 0.3 m, which is the basis of the NRC guidance. For others, such as fruit trees, the roots may extend 2 or 3 m below the surface. Tap roots for some crops (e.g., alfalfa) can extend to 5 m. Most of the plant roots from which nutrients are obtained, however, usually extend to less than 1 m below the surface.

Sensitivity analysis on the plant (water independent) pathway was run with a multiple of 2 (i.e., 0.15, 0.3, and 0.6). There was a significant impact on the maximum dose. Assumption of a shallow root system increased the dose significantly. The NRC guidance is based on the shallow-rooted plants used for consumption. Therefore, the use of the root depth recommended in the NUREG-1569 in the model is conservative. Graph attached.

G. Groundwater fractional usage:

- Drinking water: Used the value of 0 due to the aquifer being exempt from being used for drinking water.
- Livestock water: Used the value of 0.401. In the USGS Circular 1268, the fraction of irrigation water used in South Dakota is 18.9 thousand acre-feet/yr (from ground water) / 47.1 thousand acre-feet/yr (total) = 0.401.
- Irrigation water: Used the value of 0.366 described previously in the well pumping rate parameter.

Storage Times

Used the default values for all storage times (vegetables, meats, fodder, etc.).

Radium Benchmark Dose Assessment

Attachment 2

RESRAD Input Parameter Sensitivity Analysis

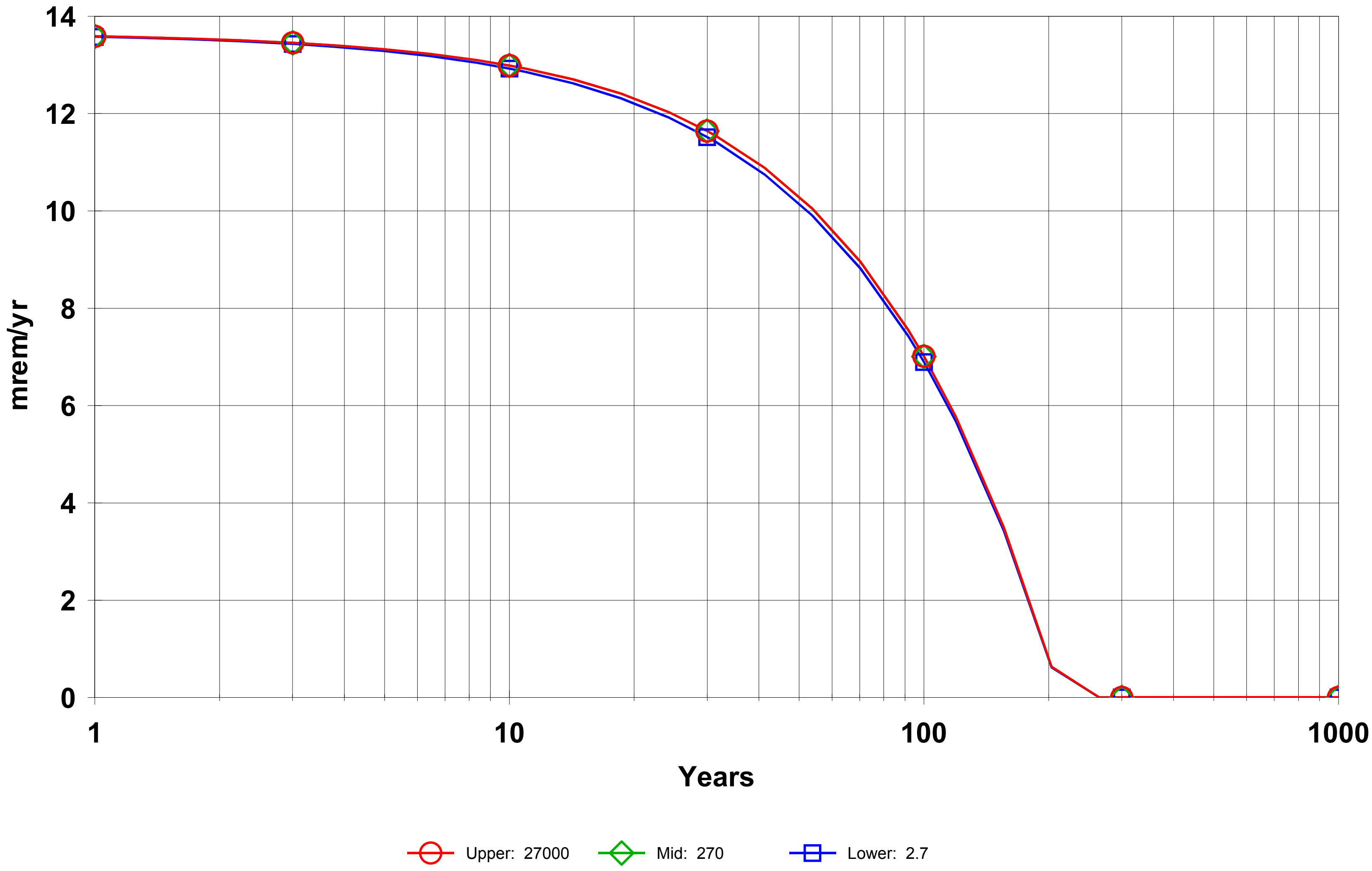
Powertech (USA) Inc.

DOSE: All Nuclides Summed, External With SA on Pb-210 Contaminated Zone Distribution Coefficient

C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD 09/24/2008 10:52 GRAPHICS.ASC Pathways: External

POWERTECH (USA) INC.

DOSE: All Nuclides Summed, Plant (Water Independent) With SA on Pb-210 Contaminated Zone Distribution Coefficient



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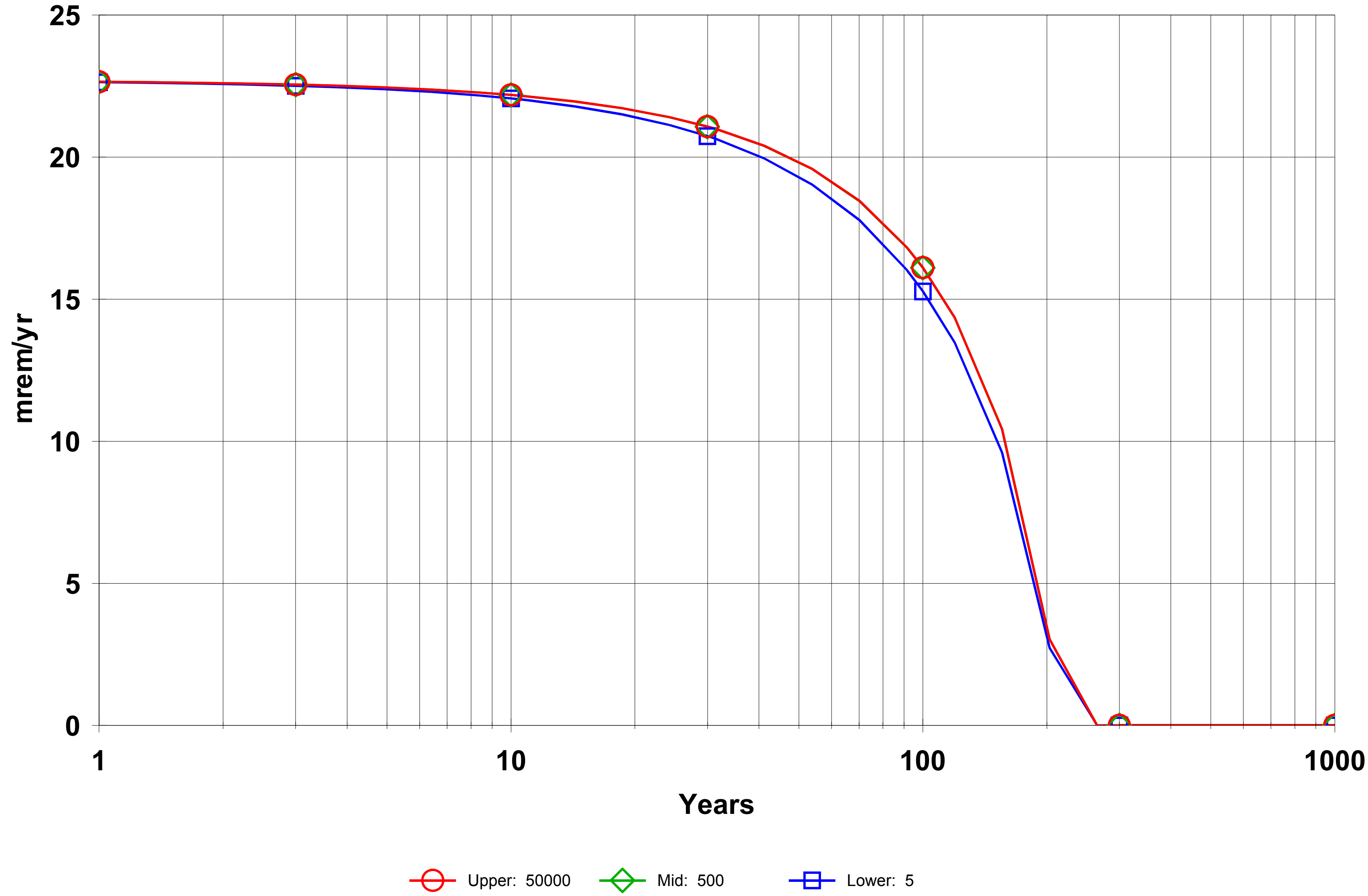
POWERTECH (USA) INC.

DOSE: All Nuclides Summed, External With SA on Ra-226 Contaminated Zone Distribution Coefficient



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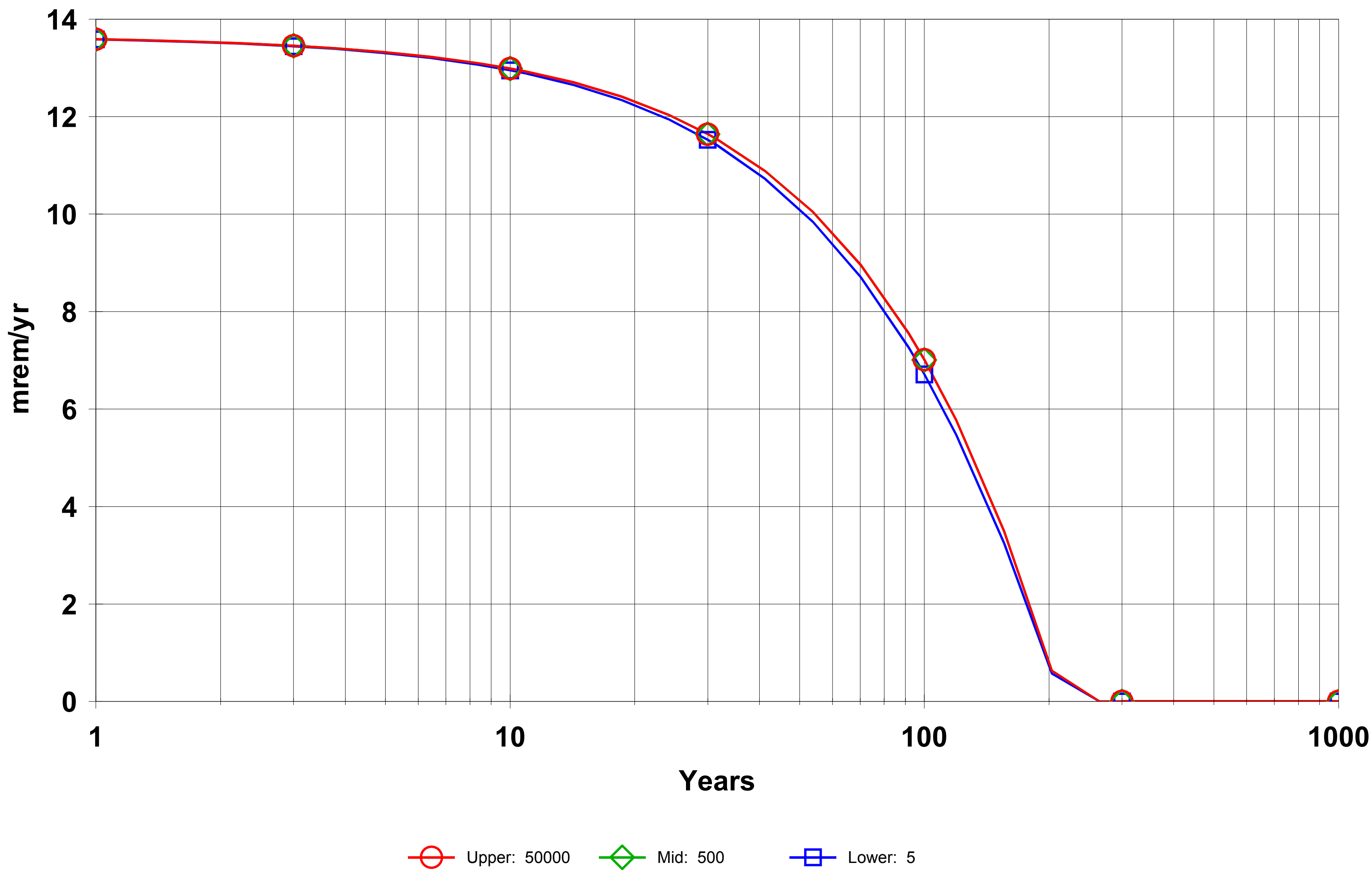
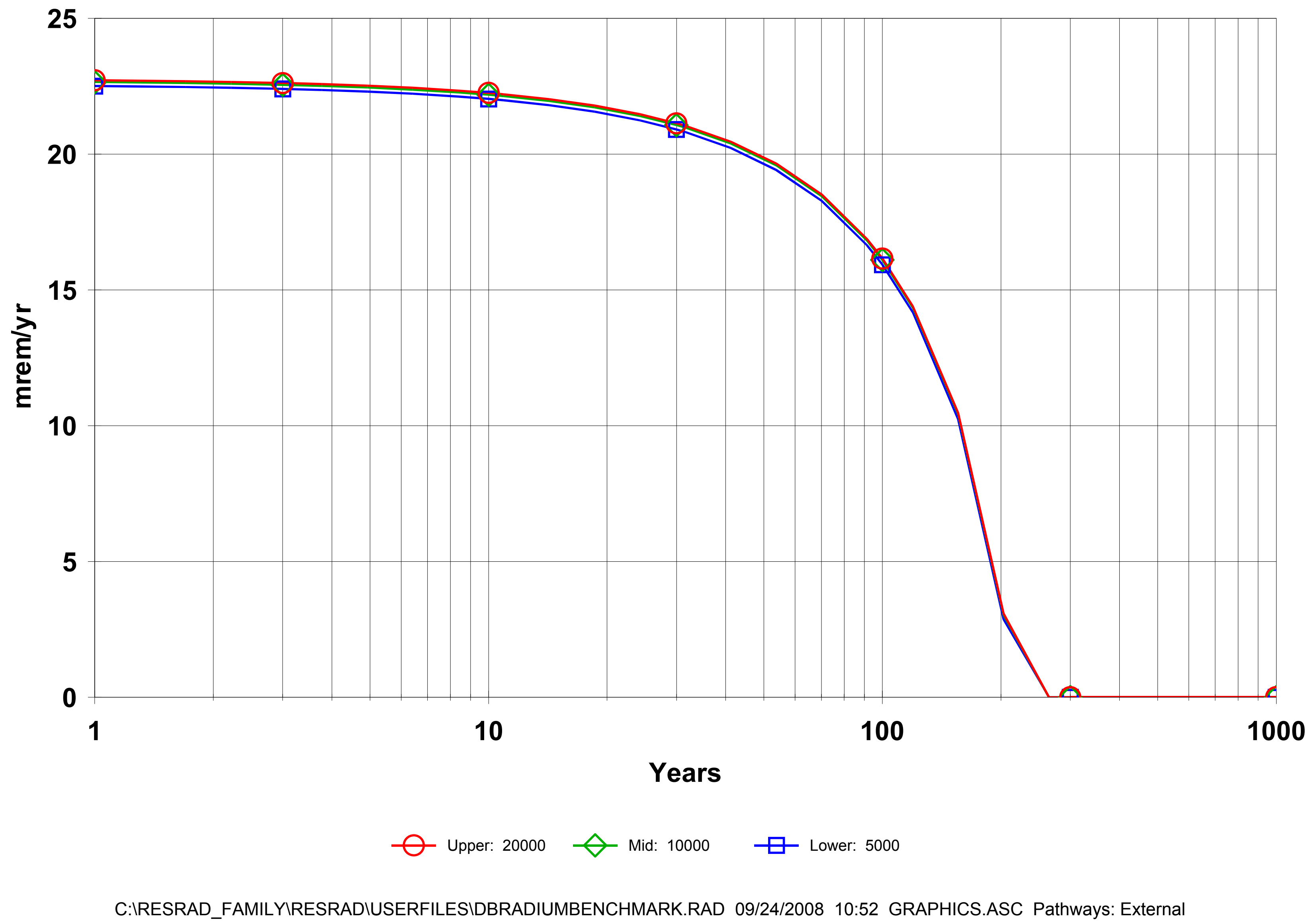
POWERTECH (USA) INC.

DOSE: All Nuclides Summed, Plant (Water Independent) With SA on Ra-226 Contaminated Zone Distribution Coefficient

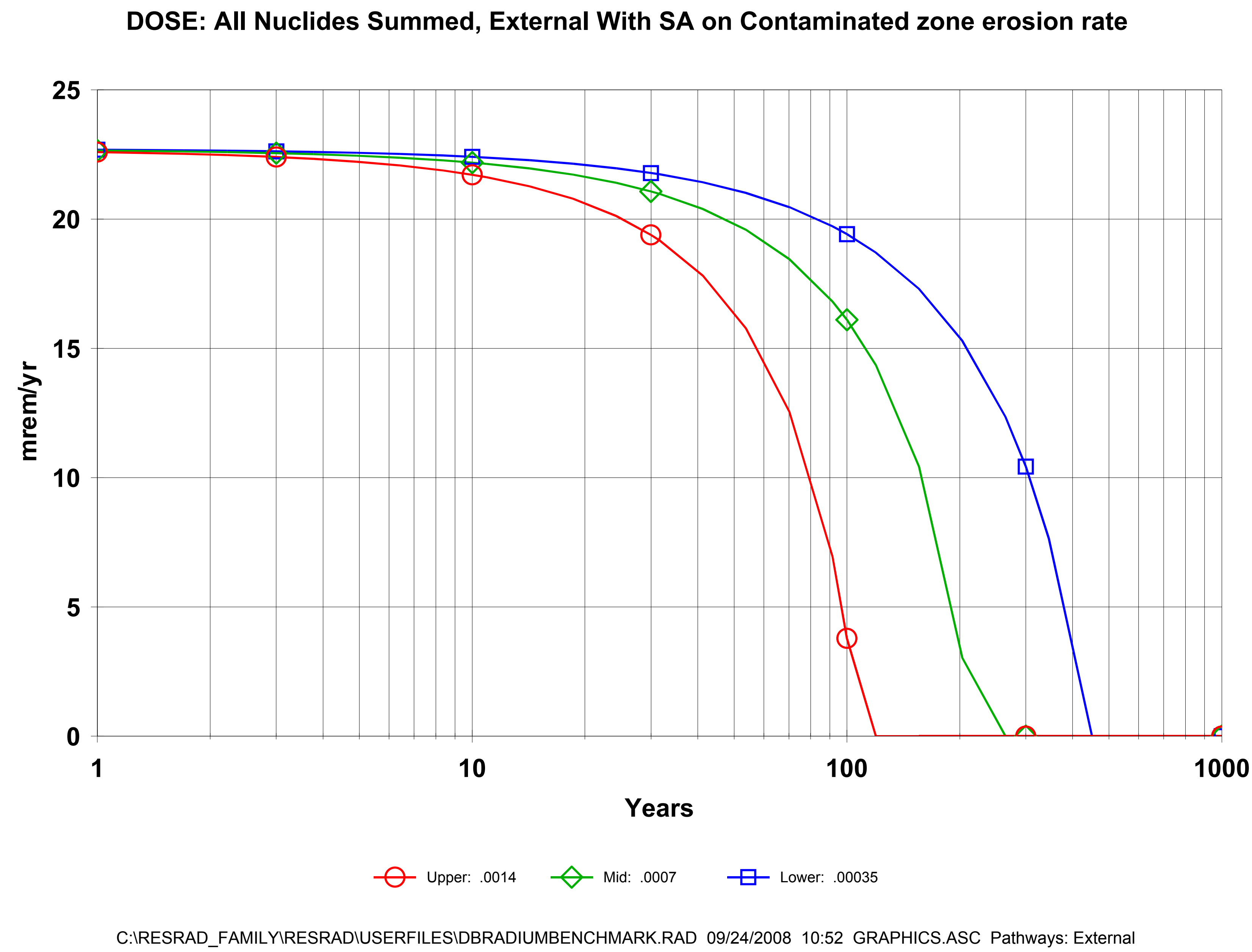


C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD 09/24/2008 10:52 GRAPHICS.ASC Pathways: Plant (Water Independent)

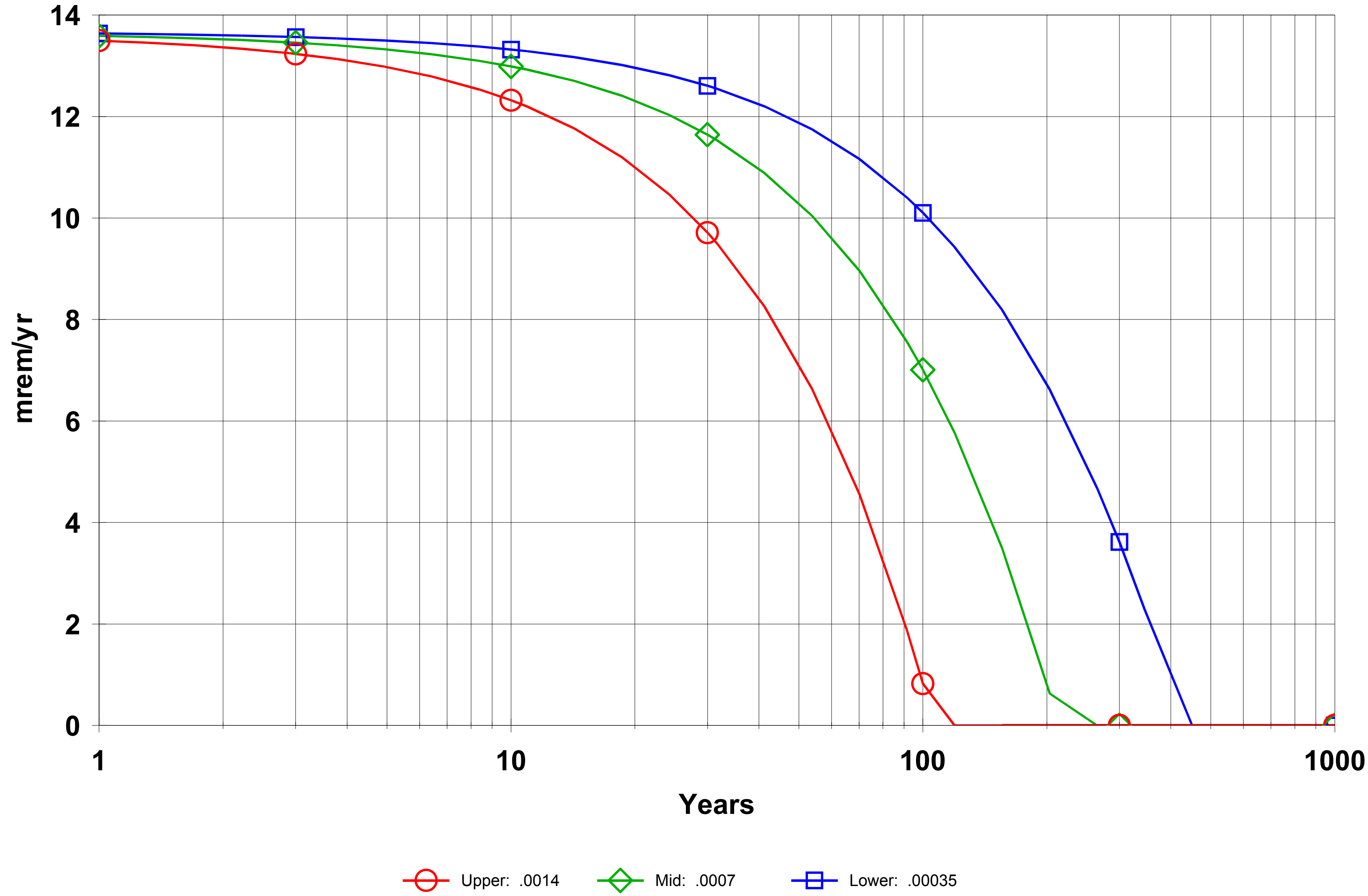
DOSE: All Nuclides Summed, External With SA on Area of contaminated zone



Powertech (USA) Inc.



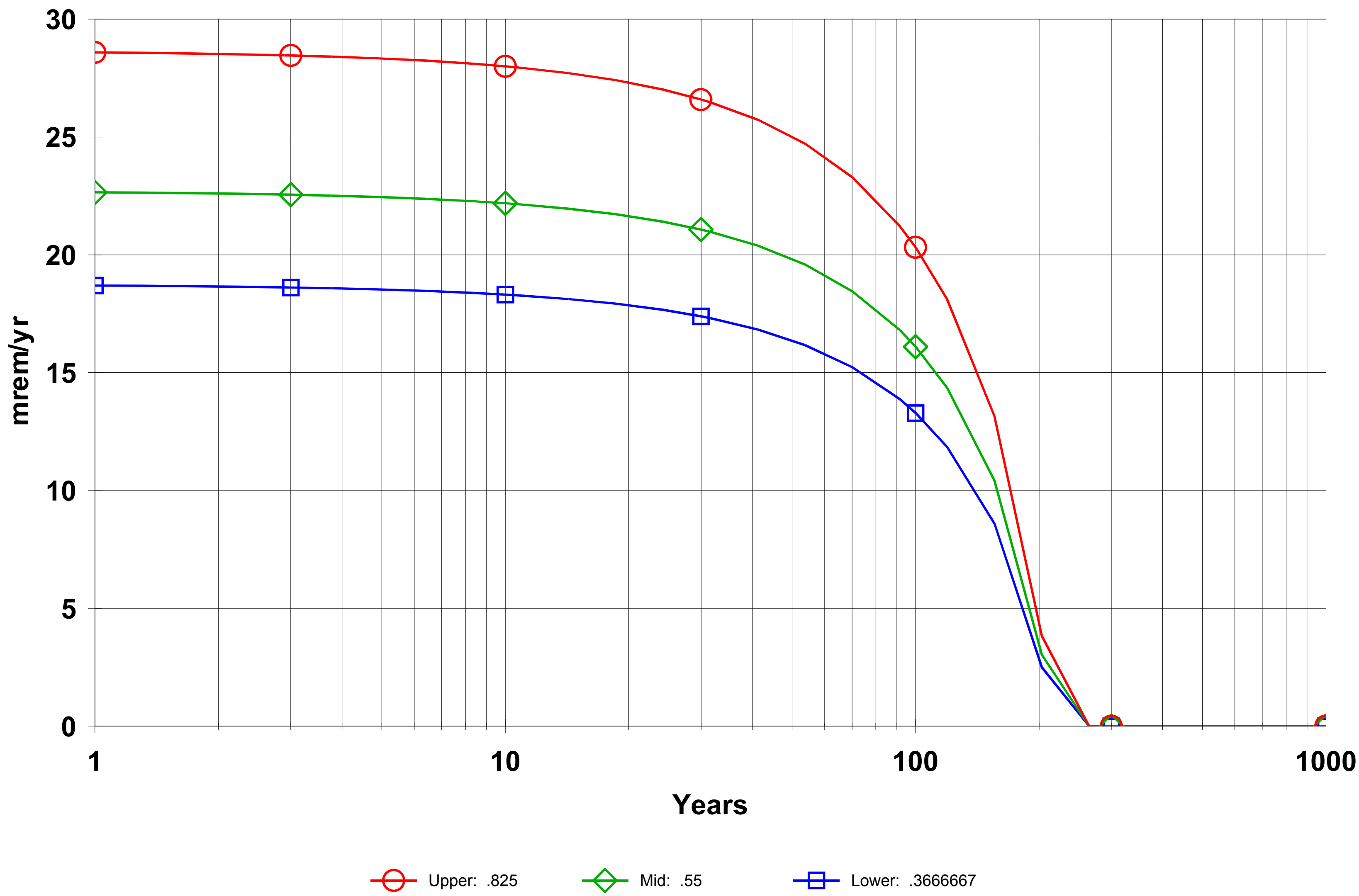
DOSE: All Nuclides Summed, Plant (Water Independent) With SA on Contaminated zone erosion rate



C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD 09/24/2008 10:52 GRAPHICS.ASC Pathways: Plant (Water Independent)

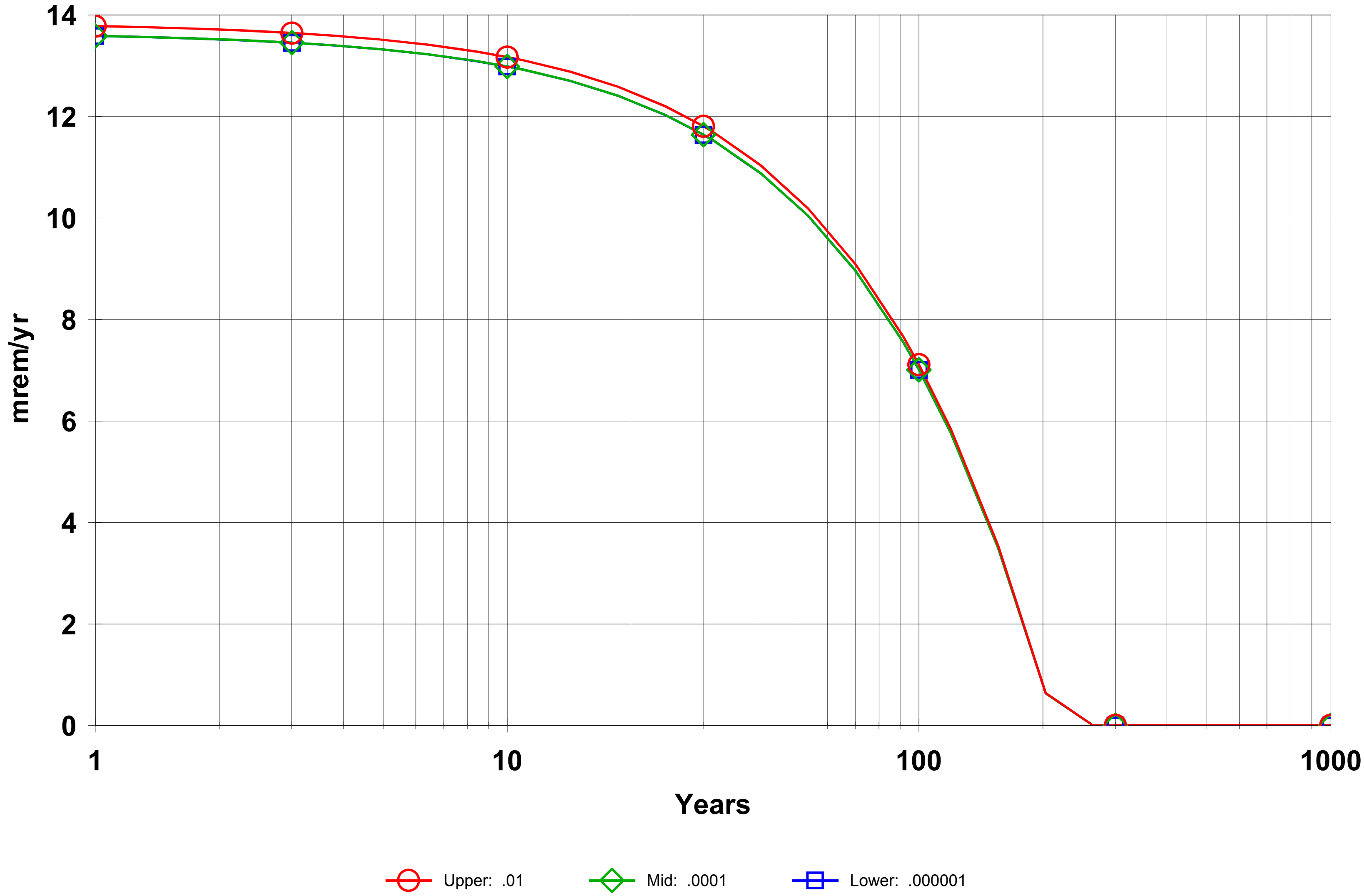
Powertech (USA) Inc.

DOSE: All Nuclides Summed, External With SA on External Gamma Shielding factor



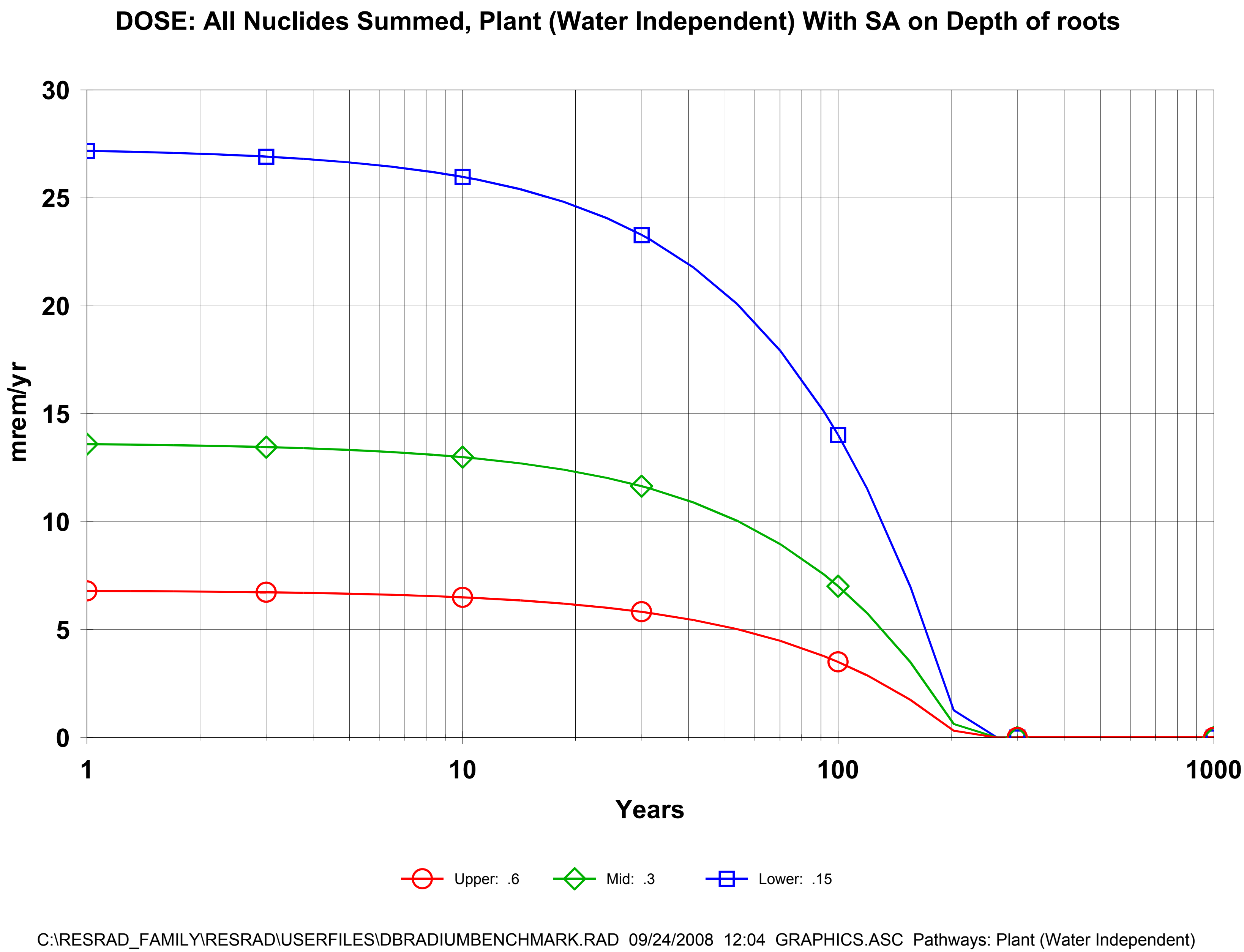
C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD 09/24/2008 10:52 GRAPHICS.ASC Pathways: External

DOSE: All Nuclides Summed, Plant (Water Independent) With SA on Mass loading for foliar deposition

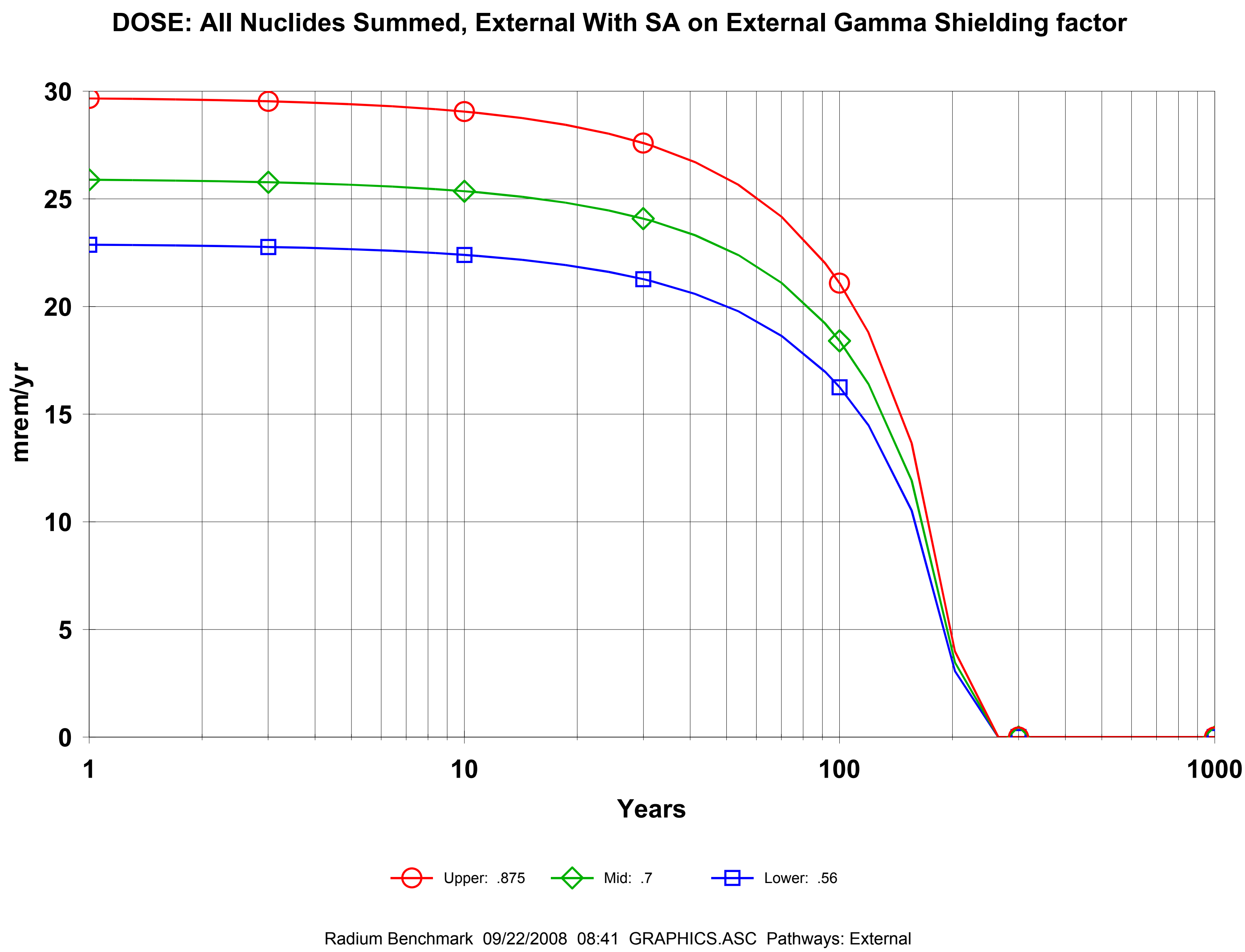


C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD 09/24/2008 12:04 GRAPHICS.ASC Pathways: Plant (Water Independent)

Powertech (USA) Inc.



POWERTECH (USA) INC.



Radium Benchmark Dose Assessment

Attachment 3.0

RESRAD Model Output

Radium

Summary : Dewey Burdock
File   : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 11

0

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(1)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(2)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(3)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(4)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(5)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(6)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(7)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(8)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(9)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(10)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(11)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(1)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(2)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(1)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(2)
D-34	Food transfer factors:			
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(1,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(1,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(1,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(2,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(1,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(1,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(2,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(2,2)

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.
*Base Case means Default.Lib w/o Associate Nuclide contributions.

Site-Specific Parameter Summary

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	1.000E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.000E+02	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	2.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Pb-210	5.000E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Ra-226	5.000E+00	0.000E+00	---	S1(2)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(2)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.260E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.000E-04	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	5.384E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	1.000E-34	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.990E+02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	7.120E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	3.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	9.990E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.200E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	3.600E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	5.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.300E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	2.640E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.400E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.974E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	4.260E-02	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	7.030E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	4.050E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	1.322E+03	2.500E+02	---	UW

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.520E+01	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	2.610E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.200E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	9.200E-02	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	3.280E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.140E+01	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.030E-02	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	5.500E+02	1.000E+02	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.018E-05	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	5.000E+02	7.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	9.100E+03	7.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	5.000E+02	7.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.500E-06	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	5.500E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	9.000E-01	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+02	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	1.000E+00	1.000E+00	---	FDW
R018	Contamination fraction of household water	not used	1.000E+00	---	FHHW
R018	Contamination fraction of livestock water	1.000E+00	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	1.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	0.000E+00	5.000E-01	---	FR9
R018	Contamination fraction of plant food	2.500E-01	-1	---	FPLANT
R018	Contamination fraction of meat	2.500E-01	-1	---	FMEAT
R018	Contamination fraction of milk	0.000E+00	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	3.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	0.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	4.020E-01	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	3.660E-01	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	7.000E-01	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	1.500E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
R021	Total porosity of the cover material	not used	4.000E-01	---	TPCV
R021	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
R021	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
R021	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
R021	Diffusion coefficient for radon gas (m/sec):				
R021	in cover material	not used	2.000E-06	---	DIFCV
R021	in foundation material	not used	3.000E-07	---	DIFFL
R021	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
R021	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
R021	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
R021	Height of the building (room) (m)	not used	2.500E+00	---	HRM
R021	Building interior area factor	not used	0.000E+00	---	FAI
R021	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
R021	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA(1)
R021	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA(2)
TITL	Number of graphical time points	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	KYMAX

Summary of Pathway Selections

Pathway	User Selection
1 -- external gamma	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	active

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	10000.00 square meters	Pb-210	5.000E+00
Thickness:	0.15 meters	Ra-226	5.000E+00
Cover Depth:	0.00 meters		

0

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	3.812E+01	3.800E+01	3.775E+01	3.685E+01	3.422E+01	2.402E+01	0.000E+00	0.000E+00
M(t):	1.525E+00	1.520E+00	1.510E+00	1.474E+00	1.369E+00	9.609E-01	0.000E+00	0.000E+00

0Maximum TDOSE(t): 3.812E+01 mrem/yr   at t = 0.000E+00 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years
0
Water Independent Pathways (Inhalation excludes radon)
0

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	1.478E-02	0.0004	6.341E-03	0.0002	0.000E+00	0.0000	7.776E+00	0.2040	3.785E-01	0.0099	0.000E+00	0.0000	9.784E-01	0.0257
Ra-226	2.269E+01	0.5952	2.485E-03	0.0001	0.000E+00	0.0000	5.876E+00	0.1541	2.015E-01	0.0053	0.000E+00	0.0000	1.956E-01	0.0051
Total	2.270E+01	0.5956	8.826E-03	0.0002	0.000E+00	0.0000	1.365E+01	0.3581	5.801E-01	0.0152	0.000E+00	0.0000	1.174E+00	0.0308

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years
0
Water Dependent Pathways
0

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.154E+00	0.2401
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.897E+01	0.7599
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.812E+01	1.0000

0*Sum of all water independent and dependent pathways.

Summary : Dewey Burdock
File   : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years
0
Water Independent Pathways (Inhalation excludes radon)
0

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	1.432E-02	0.0004	6.118E-03	0.0002	0.000E+00	0.0000	7.503E+00	0.1974	3.653E-01	0.0096	0.000E+00	0.0000	9.440E-01	0.0248
Ra-226	2.264E+01	0.5958	2.665E-03	0.0001	0.000E+00	0.0000	6.087E+00	0.1602	2.125E-01	0.0056	0.000E+00	0.0000	2.244E-01	0.0059
Total	2.265E+01	0.5962	8.783E-03	0.0002	0.000E+00	0.0000	1.359E+01	0.3576	5.778E-01	0.0152	0.000E+00	0.0000	1.168E+00	0.0307

0
Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years
0
Water Dependent Pathways
0

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.833E+00	0.2324
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.917E+01	0.7676
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.800E+01	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio- Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	1.344E-02	0.0004	5.695E-03	0.0002	0.000E+00	0.0000	6.984E+00	0.1850	3.400E-01	0.0090	0.000E+00	0.0000	8.787E-01	0.0233
Ra-226	2.254E+01	0.5971	3.003E-03	0.0001	0.000E+00	0.0000	6.472E+00	0.1715	2.321E-01	0.0061	0.000E+00	0.0000	2.784E-01	0.0074
Total	2.255E+01	0.5975	8.698E-03	0.0002	0.000E+00	0.0000	1.346E+01	0.3565	5.721E-01	0.0152	0.000E+00	0.0000	1.157E+00	0.0307

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

0 Water Dependent Pathways

Radio- Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.222E+00	0.2178
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.952E+01	0.7822
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.775E+01	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
0
Water Independent Pathways (Inhalation excludes radon)
0

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	1.077E-02	0.0003	4.429E-03	0.0001	0.000E+00	0.0000	5.432E+00	0.1474	2.644E-01	0.0072	0.000E+00	0.0000	6.834E-01	0.0185
Ra-226	2.218E+01	0.6017	3.969E-03	0.0001	0.000E+00	0.0000	7.556E+00	0.2050	2.879E-01	0.0078	0.000E+00	0.0000	4.342E-01	0.0118
Total	2.219E+01	0.6020	8.398E-03	0.0002	0.000E+00	0.0000	1.299E+01	0.3524	5.523E-01	0.0150	0.000E+00	0.0000	1.118E+00	0.0303

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years
0
Water Dependent Pathways
0

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.395E+00	0.1735
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.046E+01	0.8265
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.685E+01	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	5.712E-03	0.0002	2.145E-03	0.0001	0.000E+00	0.0000	2.630E+00	0.0769	1.281E-01	0.0037	0.000E+00	0.0000	3.309E-01	0.0097
Ra-226	2.107E+01	0.6156	5.388E-03	0.0002	0.000E+00	0.0000	9.012E+00	0.2634	3.673E-01	0.0107	0.000E+00	0.0000	6.721E-01	0.0196
Total	2.107E+01	0.6158	7.533E-03	0.0002	0.000E+00	0.0000	1.164E+01	0.3402	4.953E-01	0.0145	0.000E+00	0.0000	1.003E+00	0.0293

0
Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years
0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.097E+00	0.0905
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.112E+01	0.9095
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.422E+01	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	5.952E-04	0.0000	1.506E-04	0.0000	0.000E+00	0.0000	1.848E-01	0.0077	8.997E-03	0.0004	0.000E+00	0.0000	2.324E-02	0.0010
Ra-226	1.610E+01	0.6704	4.388E-03	0.0002	0.000E+00	0.0000	6.825E+00	0.2841	2.895E-01	0.0120	0.000E+00	0.0000	5.814E-01	0.0242
Total	1.610E+01	0.6704	4.539E-03	0.0002	0.000E+00	0.0000	7.010E+00	0.2918	2.985E-01	0.0124	0.000E+00	0.0000	6.047E-01	0.0252

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years
0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.177E-01	0.0091
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.380E+01	0.9909
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.402E+01	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years
0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
0
Water Independent Pathways (Inhalation excludes radon)
0

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years
0
Water Dependent Pathways
0

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0*Sum of all water independent and dependent pathways.

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210+D	Pb-210+D	1.000E+00	1.831E+00	1.767E+00	1.644E+00	1.279E+00	6.194E-01	4.355E-02	0.000E+00	0.000E+00
0Ra-226+D	Ra-226+D	1.000E+00	5.760E+00	5.743E+00	5.710E+00	5.594E+00	5.248E+00	3.841E+00	0.000E+00	0.000E+00
Ra-226+D	Pb-210+D	1.000E+00	3.353E-02	8.996E-02	1.945E-01	4.978E-01	9.766E-01	9.202E-01	0.000E+00	0.000E+00
Ra-226+D	ΣDSR(j)		5.793E+00	5.833E+00	5.905E+00	6.092E+00	6.224E+00	4.761E+00	0.000E+00	0.000E+00

The DSR includes contributions from associated (half-life ≤ 180 days) daughters.
0

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

0Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210	1.366E+01	1.415E+01	1.520E+01	1.955E+01	4.036E+01	5.741E+02	*7.634E+13	*7.634E+13
Ra-226	4.315E+00	4.286E+00	4.234E+00	4.104E+00	4.016E+00	5.251E+00	*9.885E+11	*9.885E+11

*At specific activity limit
0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 0.000E+00 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Pb-210	5.000E+00	0.000E+00	1.831E+00	1.366E+01	1.831E+00	1.366E+01
Ra-226	5.000E+00	25.40 ± 0.05	6.235E+00	4.010E+00	5.793E+00	4.315E+00

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210	Pb-210	1.000E+00	9.154E+00	8.833E+00	8.222E+00	6.395E+00	3.097E+00	2.177E-01	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	1.677E-01	4.498E-01	9.723E-01	2.489E+00	4.883E+00	4.601E+00	0.000E+00	0.000E+00
Pb-210	ΣDOSE(j)		9.322E+00	9.282E+00	9.194E+00	8.884E+00	7.980E+00	4.819E+00	0.000E+00	0.000E+00
0Ra-226	Ra-226	1.000E+00	2.880E+01	2.872E+01	2.855E+01	2.797E+01	2.624E+01	1.920E+01	0.000E+00	0.000E+00

THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210	Pb-210	1.000E+00	5.000E+00	4.847E+00	4.555E+00	3.664E+00	1.967E+00	2.232E-01	4.445E-04	1.568E-13
Pb-210	Ra-226	1.000E+00	0.000E+00	1.530E-01	4.449E-01	1.333E+00	3.009E+00	4.626E+00	4.444E+00	3.269E+00
Pb-210	ΣS(j):		5.000E+00	5.000E+00	5.000E+00	4.996E+00	4.976E+00	4.849E+00	4.445E+00	3.269E+00
0Ra-226	Ra-226	1.000E+00	5.000E+00	4.998E+00	4.993E+00	4.978E+00	4.935E+00	4.785E+00	4.383E+00	3.224E+00

THF(i) is the thread fraction of the parent nuclide.
0RESCALC.EXE execution time =   1.35 seconds

Radium Benchmark Dose Assessment

Attachment 3.1

RESRAD Model Output

Uranium

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(2)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(3)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(4)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(5)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(6)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(7)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(8)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(9)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(10)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(11)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(12)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(13)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(14)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(15)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(16)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(17)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(18)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(19)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(20)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(21)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(22)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(23)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(24)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(25)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(26)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(27)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(28)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(29)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(30)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(5)
B-1	U-234	1.320E-01	1.320E-01	DCF2(6)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(7)
B-1	U-238	1.180E-01	1.180E-01	DCF2(8)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(9)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.410E-02	DCF3(1)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(2)
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(3)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(4)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(5)
D-1	U-234	2.830E-04	2.830E-04	DCF3(6)

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-1	U-235+D	2.673E-04	2.660E-04	DCF3(7)
D-1	U-238	2.550E-04	2.550E-04	DCF3(8)
D-1	U-238+D	2.687E-04	2.550E-04	DCF3(9)
D-34	Food transfer factors:			
D-34	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,1)
D-34	Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(5,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(5,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(5,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(6,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(6,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(6,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(7,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(7,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(7,3)
D-34				
D-34	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(8,1)
D-34	U-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(8,2)
D-34	U-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(8,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(9,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(9,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(9,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Ac-227+D , fish	1.500E+01	1.500E+01	BIOFAC(1,1)
D-5	Ac-227+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(1,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(5,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(5,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(6,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(6,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(7,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(7,2)
D-5				
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(8,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(8,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.
*Base Case means Default.Lib w/o Associate Nuclide contributions.

Site-Specific Parameter Summary

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	1.000E+04	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.000E+02	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	2.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): U-234	4.920E+01	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): U-235	2.200E+00	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): U-238	4.860E+01	0.000E+00	---	S1(8)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(8)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.260E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.000E-04	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	5.384E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	1.000E-34	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.990E+02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	7.120E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	3.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	9.990E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.200E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	3.600E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	5.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.300E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	2.640E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.400E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.974E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	4.260E-02	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	7.030E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	4.050E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	1.322E+03	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.520E+01	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	2.610E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.200E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	9.200E-02	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	3.280E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.140E+01	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.030E-02	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(6,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(7,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(8,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.362E-04	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for daughter Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.746E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for daughter Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.919E-05	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for daughter Th-230				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(5,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.585E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	5.500E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	9.000E-01	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+02	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	1.000E+00	1.000E+00	---	FDW
R018	Contamination fraction of household water	not used	1.000E+00	---	FHHW
R018	Contamination fraction of livestock water	1.000E+00	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	1.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	0.000E+00	5.000E-01	---	FR9
R018	Contamination fraction of plant food	2.500E-01	-1	---	FPLANT
R018	Contamination fraction of meat	2.500E-01	-1	---	FMEAT
R018	Contamination fraction of milk	0.000E+00	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	3.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	0.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	not used	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	4.020E-01	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	3.660E-01	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	7.000E-01	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	1.500E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	not used	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	not used	2.400E+00	---	DENSFL
R021	Total porosity of the cover material	not used	4.000E-01	---	TPCV
R021	Total porosity of the building foundation	not used	1.000E-01	---	TPFL
R021	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
R021	Volumetric water content of the foundation	not used	3.000E-02	---	PH2OFL
R021	Diffusion coefficient for radon gas (m/sec):				
R021	in cover material	not used	2.000E-06	---	DIFCV
R021	in foundation material	not used	3.000E-07	---	DIFFL
R021	in contaminated zone soil	not used	2.000E-06	---	DIFCZ
R021	Radon vertical dimension of mixing (m)	not used	2.000E+00	---	HMIX
R021	Average building air exchange rate (1/hr)	not used	5.000E-01	---	REXG
R021	Height of the building (room) (m)	not used	2.500E+00	---	HRM
R021	Building interior area factor	not used	0.000E+00	---	FAI
R021	Building depth below ground surface (m)	not used	-1.000E+00	---	DMFL
R021	Emanating power of Rn-222 gas	not used	2.500E-01	---	EMANA(1)
R021	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA(2)
TITL	Number of graphical time points	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	KYMAX

Summary of Pathway Selections

Pathway	User Selection
1 -- external gamma	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	active

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	10000.00 square meters	U-234	4.920E+01
Thickness:	0.15 meters	U-235	2.200E+00
Cover Depth:	0.00 meters	U-238	4.860E+01

0

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	7.073E+00	7.054E+00	7.015E+00	6.878E+00	6.472E+00	4.824E+00	0.000E+00	0.000E+00
M(t):	2.829E-01	2.821E-01	2.806E-01	2.751E-01	2.589E-01	1.930E-01	0.000E+00	0.000E+00

0Maximum TDOSE(t): 7.073E+00 mrem/yr   at t = 0.000E+00 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years
0
Water Independent Pathways (Inhalation excludes radon)
0

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
U-234	9.939E-03	0.0014	3.606E-01	0.0510	0.000E+00	0.0000	7.561E-01	0.1069	4.355E-02	0.0062	0.000E+00	0.0000	3.803E-01	0.0538
U-235	7.959E-01	0.1125	1.503E-02	0.0021	0.000E+00	0.0000	3.199E-02	0.0045	1.853E-03	0.0003	0.000E+00	0.0000	1.607E-02	0.0023
U-238	3.236E+00	0.4576	3.185E-01	0.0450	0.000E+00	0.0000	7.091E-01	0.1003	4.085E-02	0.0058	0.000E+00	0.0000	3.567E-01	0.0504
Total	4.042E+00	0.5715	6.942E-01	0.0981	0.000E+00	0.0000	1.497E+00	0.2117	8.625E-02	0.0122	0.000E+00	0.0000	7.530E-01	0.1065

0
Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years
0
Water Dependent Pathways
0

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.550E+00	0.2192
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.609E-01	0.1217
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.661E+00	0.6591
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.073E+00	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
U-234	9.937E-03	0.0014	3.589E-01	0.0509	0.000E+00	0.0000	7.525E-01	0.1067	4.335E-02	0.0061	0.000E+00	0.0000	3.785E-01	0.0537
U-235	7.953E-01	0.1127	1.496E-02	0.0021	0.000E+00	0.0000	3.195E-02	0.0045	1.877E-03	0.0003	0.000E+00	0.0000	1.601E-02	0.0023
U-238	3.232E+00	0.4582	3.170E-01	0.0449	0.000E+00	0.0000	7.058E-01	0.1001	4.065E-02	0.0058	0.000E+00	0.0000	3.550E-01	0.0503
Total	4.037E+00	0.5723	6.909E-01	0.0980	0.000E+00	0.0000	1.490E+00	0.2113	8.588E-02	0.0122	0.000E+00	0.0000	7.494E-01	0.1063

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years
0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.543E+00	0.2188
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.601E-01	0.1219
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.650E+00	0.6593
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.054E+00	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
U-234	9.936E-03	0.0014	3.555E-01	0.0507	0.000E+00	0.0000	7.454E-01	0.1063	4.293E-02	0.0061	0.000E+00	0.0000	3.749E-01	0.0534
U-235	7.939E-01	0.1132	1.483E-02	0.0021	0.000E+00	0.0000	3.186E-02	0.0045	1.923E-03	0.0003	0.000E+00	0.0000	1.589E-02	0.0023
U-238	3.223E+00	0.4594	3.140E-01	0.0448	0.000E+00	0.0000	6.991E-01	0.0997	4.027E-02	0.0057	0.000E+00	0.0000	3.516E-01	0.0501
Total	4.027E+00	0.5740	6.844E-01	0.0976	0.000E+00	0.0000	1.476E+00	0.2105	8.513E-02	0.0121	0.000E+00	0.0000	7.424E-01	0.1058

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years
0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.529E+00	0.2179
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.584E-01	0.1224
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.628E+00	0.6597
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.015E+00	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
U-234	9.956E-03	0.0014	3.436E-01	0.0500	0.000E+00	0.0000	7.204E-01	0.1047	4.149E-02	0.0060	0.000E+00	0.0000	3.623E-01	0.0527
U-235	7.888E-01	0.1147	1.437E-02	0.0021	0.000E+00	0.0000	3.155E-02	0.0046	2.077E-03	0.0003	0.000E+00	0.0000	1.547E-02	0.0022
U-238	3.190E+00	0.4638	3.035E-01	0.0441	0.000E+00	0.0000	6.756E-01	0.0982	3.892E-02	0.0057	0.000E+00	0.0000	3.398E-01	0.0494
Total	3.989E+00	0.5799	6.615E-01	0.0962	0.000E+00	0.0000	1.428E+00	0.2076	8.249E-02	0.0120	0.000E+00	0.0000	7.176E-01	0.1043

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.478E+00	0.2149
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.523E-01	0.1239
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.548E+00	0.6612
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.878E+00	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
U-234	1.021E-02	0.0016	3.097E-01	0.0478	0.000E+00	0.0000	6.491E-01	0.1003	3.739E-02	0.0058	0.000E+00	0.0000	3.265E-01	0.0504
U-235	7.717E-01	0.1192	1.315E-02	0.0020	0.000E+00	0.0000	3.057E-02	0.0047	2.433E-03	0.0004	0.000E+00	0.0000	1.432E-02	0.0022
U-238	3.084E+00	0.4765	2.734E-01	0.0422	0.000E+00	0.0000	6.087E-01	0.0940	3.506E-02	0.0054	0.000E+00	0.0000	3.061E-01	0.0473
Total	3.866E+00	0.5973	5.962E-01	0.0921	0.000E+00	0.0000	1.288E+00	0.1991	7.488E-02	0.0116	0.000E+00	0.0000	6.470E-01	0.1000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

0 Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.333E+00	0.2059
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.322E-01	0.1286
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.307E+00	0.6655
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.472E+00	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
U-234	1.234E-02	0.0026	1.913E-01	0.0396	0.000E+00	0.0000	4.015E-01	0.0832	2.311E-02	0.0048	0.000E+00	0.0000	2.017E-01	0.0418
U-235	6.627E-01	0.1374	8.775E-03	0.0018	0.000E+00	0.0000	2.400E-02	0.0050	2.714E-03	0.0006	0.000E+00	0.0000	9.918E-03	0.0021
U-238	2.532E+00	0.5248	1.687E-01	0.0350	0.000E+00	0.0000	3.755E-01	0.0778	2.163E-02	0.0045	0.000E+00	0.0000	1.888E-01	0.0391
Total	3.207E+00	0.6647	3.687E-01	0.0764	0.000E+00	0.0000	8.010E-01	0.1660	4.745E-02	0.0098	0.000E+00	0.0000	4.004E-01	0.0830

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.298E-01	0.1720
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.081E-01	0.1468
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.287E+00	0.6812
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.824E+00	1.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

0

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Dependent Pathways

0

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0*Sum of all water independent and dependent pathways.

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	3.151E-02	3.136E-02	3.107E-02	3.003E-02	2.707E-02	1.676E-02	0.000E+00	0.000E+00
U-234	Th-230	1.000E+00	2.125E-07	6.250E-07	1.437E-06	4.156E-06	1.088E-05	2.230E-05	0.000E+00	0.000E+00
U-234	Ra-226+D	1.000E+00	3.660E-09	2.588E-08	1.368E-07	1.205E-06	9.591E-06	7.763E-05	0.000E+00	0.000E+00
U-234	Pb-210+D	1.000E+00	1.248E-11	1.627E-10	1.708E-09	3.948E-08	7.406E-07	1.074E-05	0.000E+00	0.000E+00
U-234	ΣDSR(j)		3.151E-02	3.137E-02	3.107E-02	3.004E-02	2.709E-02	1.687E-02	0.000E+00	0.000E+00
0U-235+D	U-235+D	1.000E+00	3.913E-01	3.908E-01	3.899E-01	3.866E-01	3.758E-01	3.156E-01	0.000E+00	0.000E+00
U-235+D	Pa-231	1.000E+00	3.422E-05	1.063E-04	2.492E-04	7.281E-04	1.913E-03	3.926E-03	0.000E+00	0.000E+00
U-235+D	Ac-227+D	1.000E+00	3.202E-07	2.065E-06	1.025E-05	8.164E-05	5.240E-04	2.345E-03	0.000E+00	0.000E+00
U-235+D	ΣDSR(j)		3.913E-01	3.909E-01	3.902E-01	3.874E-01	3.783E-01	3.219E-01	0.000E+00	0.000E+00
0U-238	U-238	5.400E-05	1.524E-06	1.516E-06	1.502E-06	1.452E-06	1.308E-06	8.079E-07	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	9.591E-02	9.568E-02	9.522E-02	9.357E-02	8.862E-02	6.762E-02	0.000E+00	0.000E+00
U-238+D	U-234	9.999E-01	4.463E-08	1.333E-07	3.082E-07	8.939E-07	2.341E-06	4.774E-06	0.000E+00	0.000E+00
U-238+D	Th-230	9.999E-01	2.042E-13	1.390E-12	7.205E-12	6.198E-11	4.707E-10	3.175E-09	0.000E+00	0.000E+00
U-238+D	Ra-226+D	9.999E-01	2.576E-15	3.913E-14	4.577E-13	1.197E-11	2.767E-10	7.395E-09	0.000E+00	0.000E+00
U-238+D	Pb-210+D	9.999E-01	7.414E-18	1.982E-16	4.446E-15	3.018E-13	1.678E-11	8.586E-10	0.000E+00	0.000E+00
U-238+D	ΣDSR(j)		9.591E-02	9.568E-02	9.522E-02	9.357E-02	8.863E-02	6.762E-02	0.000E+00	0.000E+00

The DSR includes contributions from associated (half-life ≤ 180 days) daughters.
0

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

0Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	7.933E+02	7.971E+02	8.046E+02	8.323E+02	9.228E+02	1.482E+03	*6.247E+09	*6.247E+09
U-235	6.389E+01	6.395E+01	6.407E+01	6.453E+01	6.609E+01	7.767E+01	*2.161E+06	*2.161E+06
U-238	2.606E+02	2.613E+02	2.625E+02	2.672E+02	2.821E+02	3.697E+02	*3.361E+05	*3.361E+05

*At specific activity limit
0

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 0.000E+00 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
U-234	4.920E+01	0.000E+00	3.151E-02	7.933E+02	3.151E-02	7.933E+02
U-235	2.200E+00	0.000E+00	3.913E-01	6.389E+01	3.913E-01	6.389E+01
U-238	4.860E+01	0.000E+00	9.592E-02	2.606E+02	9.592E-02	2.606E+02

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	1.550E+00	1.543E+00	1.529E+00	1.478E+00	1.332E+00	8.244E-01	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	2.169E-06	6.480E-06	1.498E-05	4.344E-05	1.138E-04	2.320E-04	0.000E+00	0.000E+00
U-234	ΣDOSE(j)		1.550E+00	1.543E+00	1.529E+00	1.478E+00	1.332E+00	8.246E-01	0.000E+00	0.000E+00
0Th-230	U-234	1.000E+00	1.046E-05	3.075E-05	7.068E-05	2.045E-04	5.355E-04	1.097E-03	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	9.922E-12	6.757E-11	3.502E-10	3.012E-09	2.288E-08	1.543E-07	0.000E+00	0.000E+00
Th-230	ΣDOSE(j)		1.046E-05	3.075E-05	7.068E-05	2.045E-04	5.355E-04	1.097E-03	0.000E+00	0.000E+00
0Ra-226	U-234	1.000E+00	1.801E-07	1.273E-06	6.732E-06	5.928E-05	4.719E-04	3.819E-03	0.000E+00	0.000E+00
Ra-226	U-238	9.999E-01	1.252E-13	1.902E-12	2.225E-11	5.817E-10	1.345E-08	3.594E-07	0.000E+00	0.000E+00
Ra-226	ΣDOSE(j)		1.801E-07	1.273E-06	6.732E-06	5.928E-05	4.719E-04	3.820E-03	0.000E+00	0.000E+00
0Pb-210	U-234	1.000E+00	6.141E-10	8.003E-09	8.404E-08	1.942E-06	3.644E-05	5.283E-04	0.000E+00	0.000E+00
Pb-210	U-238	9.999E-01	3.603E-16	9.632E-15	2.161E-13	1.467E-11	8.154E-10	4.173E-08	0.000E+00	0.000E+00
Pb-210	ΣDOSE(j)		6.141E-10	8.003E-09	8.404E-08	1.942E-06	3.644E-05	5.283E-04	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	8.608E-01	8.598E-01	8.578E-01	8.505E-01	8.268E-01	6.943E-01	0.000E+00	0.000E+00
0Pa-231	U-235	1.000E+00	7.529E-05	2.339E-04	5.483E-04	1.602E-03	4.209E-03	8.638E-03	0.000E+00	0.000E+00
0Ac-227	U-235	1.000E+00	7.045E-07	4.542E-06	2.255E-05	1.796E-04	1.153E-03	5.160E-03	0.000E+00	0.000E+00
0U-238	U-238	5.400E-05	7.404E-05	7.370E-05	7.300E-05	7.055E-05	6.357E-05	3.926E-05	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	4.661E+00	4.650E+00	4.628E+00	4.547E+00	4.307E+00	3.286E+00	0.000E+00	0.000E+00
U-238	ΣDOSE(j)		4.661E+00	4.650E+00	4.628E+00	4.548E+00	4.307E+00	3.286E+00	0.000E+00	0.000E+00

THF(i) is the thread fraction of the parent nuclide.

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
U-234	U-234	1.000E+00	4.920E+01	4.920E+01	4.919E+01	4.917E+01	4.912E+01	4.892E+01	4.836E+01	4.644E+01
U-234	U-238	9.999E-01	0.000E+00	1.378E-04	4.132E-04	1.377E-03	4.126E-03	1.370E-02	4.064E-02	1.302E-01
U-234	ΣS(j):		4.920E+01	4.920E+01	4.919E+01	4.917E+01	4.912E+01	4.893E+01	4.840E+01	4.657E+01
0Th-230	U-234	1.000E+00	0.000E+00	4.429E-04	1.329E-03	4.427E-03	1.327E-02	4.414E-02	1.315E-01	4.284E-01
Th-230	U-238	9.999E-01	0.000E+00	6.201E-10	5.580E-09	6.199E-08	5.574E-07	6.176E-06	5.514E-05	5.955E-04
Th-230	ΣS(j):		0.000E+00	4.429E-04	1.329E-03	4.428E-03	1.327E-02	4.415E-02	1.316E-01	4.290E-01
0Ra-226	U-234	1.000E+00	0.000E+00	9.592E-08	8.629E-07	9.576E-06	8.588E-05	9.423E-04	8.185E-03	8.058E-02
Ra-226	U-238	9.999E-01	0.000E+00	8.953E-14	2.417E-12	8.941E-11	2.407E-09	8.823E-08	2.313E-06	7.746E-05
Ra-226	ΣS(j):		0.000E+00	9.592E-08	8.629E-07	9.576E-06	8.588E-05	9.424E-04	8.187E-03	8.066E-02
0Pb-210	U-234	1.000E+00	0.000E+00	9.862E-10	2.621E-08	9.200E-07	2.149E-05	5.236E-04	6.643E-03	7.589E-02
Pb-210	U-238	9.999E-01	0.000E+00	6.914E-16	5.531E-14	6.539E-12	4.711E-10	4.109E-08	1.716E-06	7.068E-05
Pb-210	ΣS(j):		0.000E+00	9.862E-10	2.621E-08	9.200E-07	2.149E-05	5.237E-04	6.645E-03	7.596E-02
0U-235	U-235	1.000E+00	2.200E+00	2.200E+00	2.200E+00	2.199E+00	2.196E+00	2.188E+00	2.164E+00	2.083E+00
0Pa-231	U-235	1.000E+00	0.000E+00	4.655E-05	1.396E-04	4.652E-04	1.394E-03	4.624E-03	1.369E-02	4.360E-02
0Ac-227	U-235	1.000E+00	0.000E+00	7.331E-07	6.459E-06	6.676E-05	4.956E-04	3.228E-03	1.224E-02	4.214E-02
0U-238	U-238	5.400E-05	2.624E-03	2.624E-03	2.624E-03	2.623E-03	2.620E-03	2.610E-03	2.582E-03	2.484E-03
U-238	U-238	9.999E-01	4.860E+01	4.859E+01	4.859E+01	4.857E+01	4.852E+01	4.833E+01	4.780E+01	4.601E+01
U-238	ΣS(j):		4.860E+01	4.860E+01	4.859E+01	4.857E+01	4.852E+01	4.833E+01	4.781E+01	4.601E+01

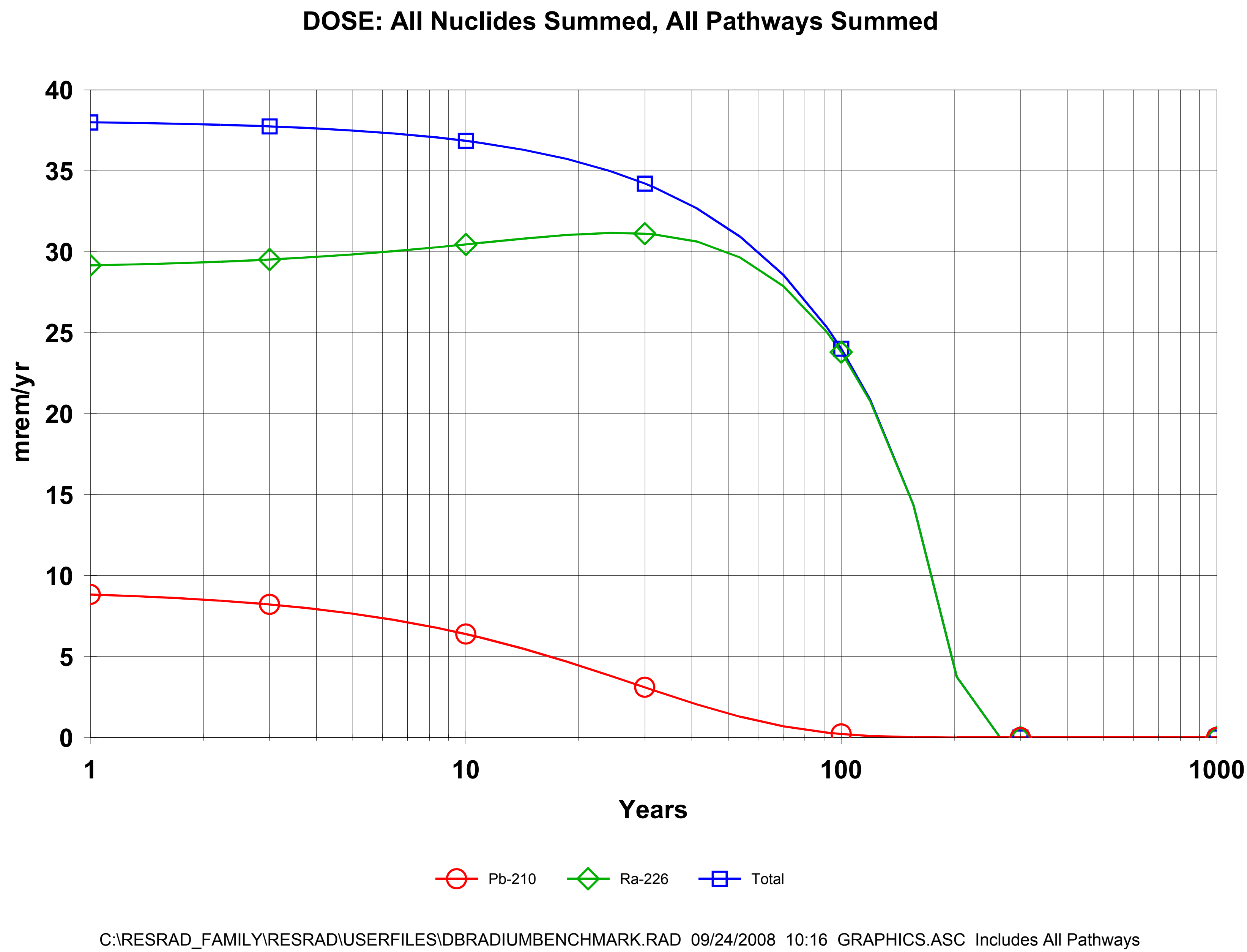
THF(i) is the thread fraction of the parent nuclide.
0RESCALC.EXE execution time =   1.27 seconds

Radium Benchmark Dose Assessment

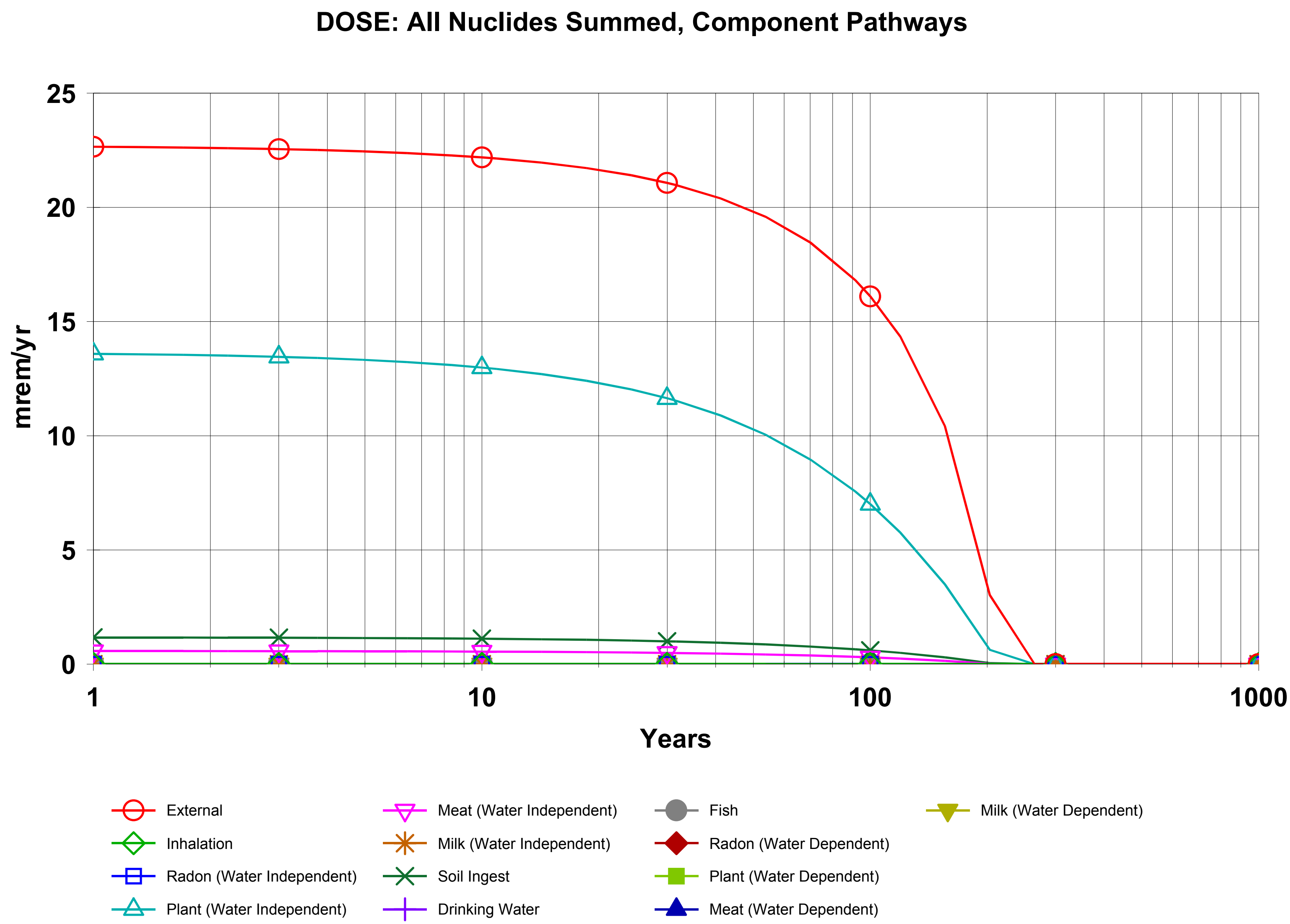
Attachment 4.0

RESRAD Radium Dose Figures

Powertech (USA) Inc.



Powertech (USA) Inc.



C:\RESRAD_FAMILY\RESRAD\USERFILES\DBRADIUMBENCHMARK.RAD 09/24/2008 10:16 GRAPHICS.ASC

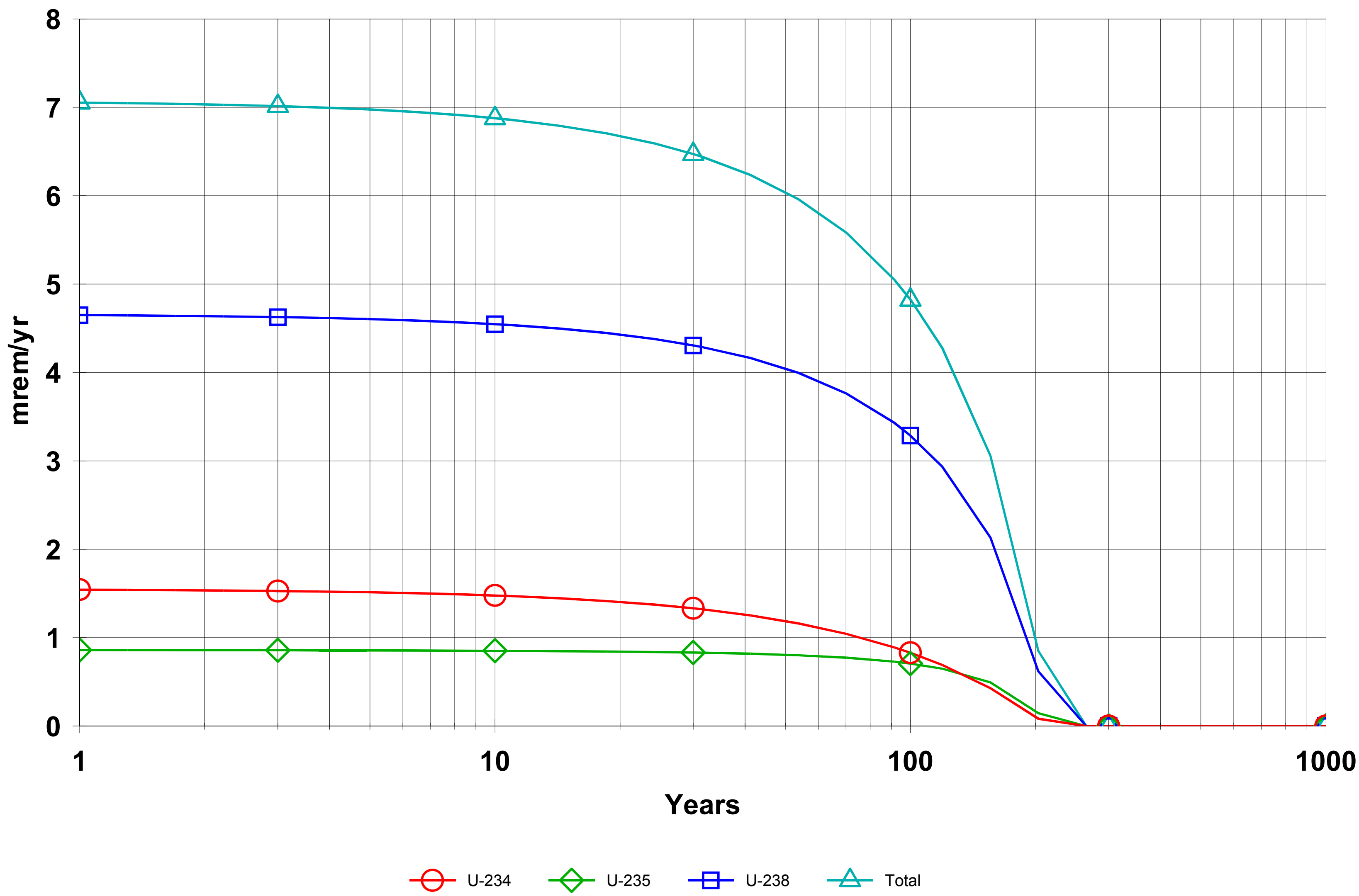
Radium Benchmark Dose Assessment

Attachment 4.1

RESRAD Uranium Dose Graphics

POWERTECH (USA) INC.

DOSE: All Nuclides Summed, All Pathways Summed



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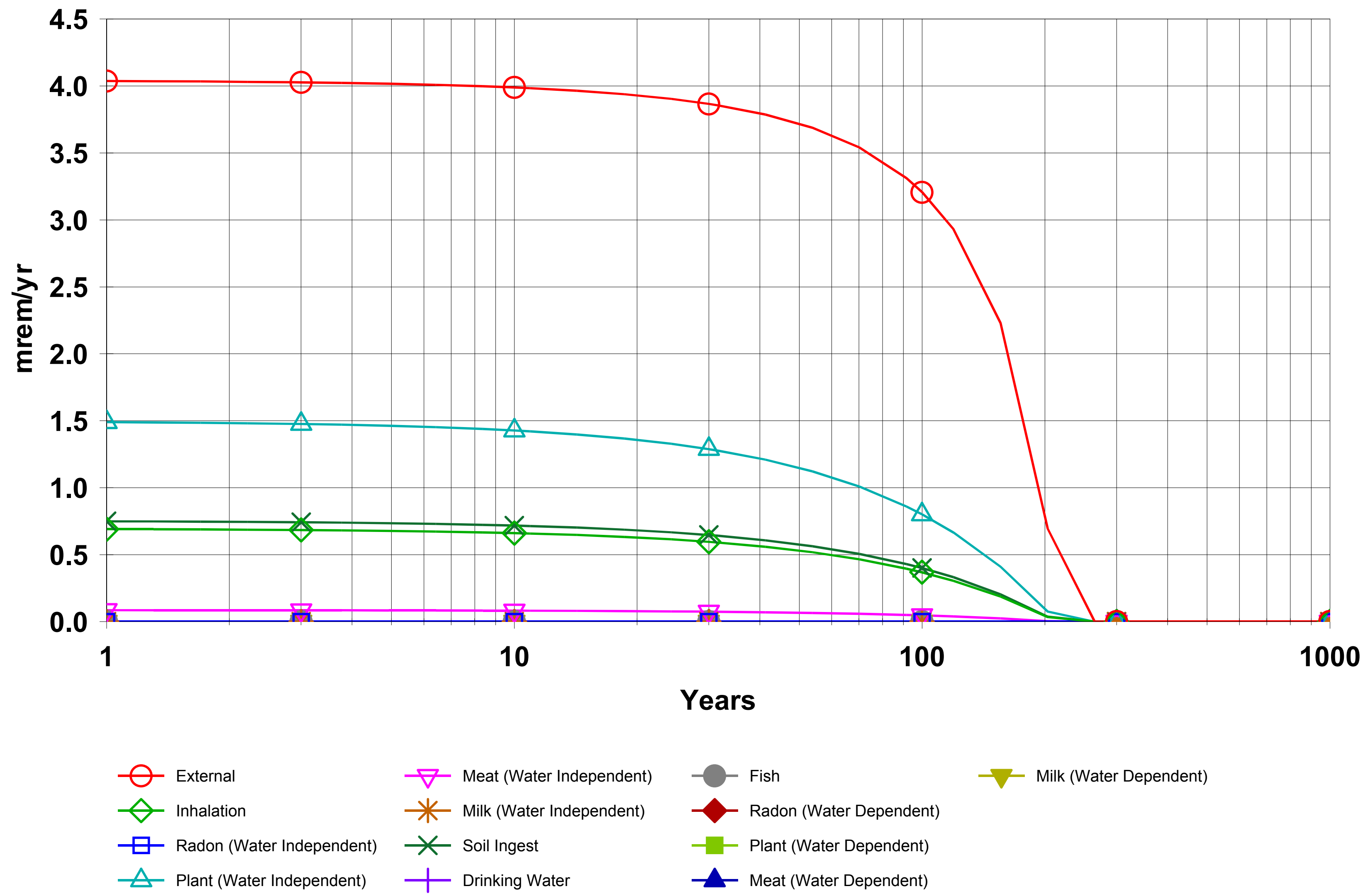
DOSE: All Nuclides Summed, Component Pathways



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APPENDIX 6.6-A

Restoration Action Plan

Powertech (USA) Inc.

Powertech (USA) Inc.
Dewey-Burdock Project
RESTORATION ACTION PLAN
License No: SUA-1600
December 2013

POWERTECH (USA) INC.

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LIST OF ATTACHMENTS

RESTORATION ACTION PLAN

1.0 INTRODUCTION

This Restoration Action Plan (RAP) is submitted in support of Powertech (USA) Inc.'s (Powertech (USA)'s) proposed Dewey-Burdock *in situ* recovery (ISR) uranium project located near Edgemont, South Dakota. Powertech (USA) is submitting this RAP as a stand-alone document so that NRC staff reviewing Powertech (USA)'s license application will be able to review relevant decommissioning and decontamination (D&D) requirements and related financial assurance cost estimates in one document. Preparation of this RAP is in accordance with NRC's requirements as defined in 10 CFR Part 40, Appendix A, Criterion 9.

1.1 RAP Composition

The composition of this RAP follows that of Strata Energy's RAP for the Ross *In Situ* Recovery Project, which was designed to closely follow the RAP for Hydro Resources, Inc.'s Crownpoint Uranium Project. This RAP addresses the aquifer restoration of the affected portions within the first well fields at the Dewey and Burdock areas. It also addresses the D&D of the central processing plant (CPP) in the Burdock area, the satellite facility (SF) in the Dewey area, and all ponds, other facility buildings, pipelines, deep disposal wells or land application systems, roads and other improvements made as part of the Dewey-Burdock Project. The RAP is intended to cover all site activities required to be completed to return the Dewey-Burdock Project site to unrestricted use. These activities include D&D of site equipment and off-site disposal of all wastes, including 11e.(2) byproduct material. The RAP includes preliminary financial assurance cost estimates for all D&D activities that will be incurred as a result of the first year of ISR operations at the Dewey-Burdock Project. The costs reported in the narrative portion of this RAP have been prepared assuming that project water will be disposed by means of injection in Class V deep disposal wells (DDWs). Costs have also been calculated for an alternate land application disposal option. Prior to operation, Powertech (USA) will specify the liquid waste disposal method to be utilized. This RAP will be updated annually following commencement of ISR operations.

The implementation date of the RAP is assumed to be January 1 of the year following the initiation of ISR operations. The financial assurance model is based on the Dewey-Burdock

Project being in operation for one full year prior to a third party taking over reclamation of the facility. Reclamation would include facility decommissioning, groundwater restoration, stability monitoring, well field reclamation, soil reclamation, and radiological surveys. The by-year costs are based on year 1 being the pre-operational construction phase, year 2 the full year of ISR operations, and year 3 the beginning of the financial assurance-funded reclamation activities. Groundwater restoration and stability monitoring would be conducted in years 3-4. Final decommissioning, including building demolition and soil reclamation, would be conducted during years 5-6. The RAP encompasses the full cycle of activities necessary for:

- Aquifer restoration, including active restoration and a monitored stability period, including the treatment and disposal of water.
- An allowance for regulatory approval of stability,
- Facility decommissioning,
- Plugging and abandonment of all wells,
- Radiological survey, and
- Project management and contractor profit.

Powertech (USA)'s submittal presented herein employs assumptions that are based on best professional judgment given the data currently available. Annual reviews will provide the iterative format by which NRC can continually update the financial assurance amount based on work completed at the site and newly available information.

1.2 Financial Assurance Mechanism

The financial assurance mechanism to be used by Powertech (USA) will be provided in Attachment RAP-1 when available. Powertech (USA) commits to supplying a financial assurance mechanism in a form and in an amount approved by NRC staff in accordance with 10 CFR Part 40, Appendix A, Criterion 9 prior to the commencement of operations. Powertech (USA) is required to supply financial assurance cost estimates for NRC staff approval for construction and the first year of operations based on best available information, including contractor and material costs, using standard industry practices (Hydro Resources, Inc., 51 NRC 227, May 25, 2000). However, based on the Commission's decision, Powertech (USA) is not required to commit to a specific financial assurance instrument during the license application review process, nor is it required to supply the actual financial assurance instrument for the proposed cost estimates prior to the commencement of licensed activities.

Copies of financial-assurance-related correspondence submitted to the U.S. Environmental Protection Agency, the Bureau of Land Management and/or the South Dakota Department of Environment and Natural Resources (SD DENR) will be provided in Attachment RAP-3 along with copies of each agency's financial assurance review and the final approved financial assurance arrangement.

1.3 Cost Details for Restoration and Reclamation Activities

Attachment RAP-2 contains tables showing the detailed financial assurance cost estimates. This information is designed to be sufficiently descriptive for the NRC staff to determine the acceptability of Powertech (USA)'s proposed cost figures and is based on the estimated costs for an independent contractor to perform the decommissioning and reclamation work in accordance with 10 CFR Part 40, Appendix A, Criterion 9.

Table 1 summarizes the costs necessary to hire an independent contractor to assume all decommissioning and reclamation activities required after full development of the CPP, the first well fields in each project area and associated facilities. Details on the cost estimate are provided below followed by a description of each major item of work.

The financial assurance cost estimate reflects costs as of 2009. The cost factors found in Attachment RAP-2, Table 2 and elsewhere were obtained from vendor quotes, from the 2009 RS Means cost estimating handbooks, from recent ISR license applications, and from calculations as described. All electrical power costs are conservatively based on a per kWh hour cost of $0.07; the results of a power study (Lyntek, 2010) showed estimated 2013 power costs of $0.0595 to $0.0691 per kWh, depending on the supplier. The costs of 11e.(2) byproduct material disposal, as listed in Attachment RAP-2, Table 2 and as utilized in Table 6, are based on the assumption that Powertech (USA) will secure a byproduct disposal contract with Denison Mines Corporation for disposal at their byproduct disposal facility at White Mesa, UT. The cost estimate is based on a transportation distance of 785 miles from the project area to the White Mesa facility near Blanding, UT. Transportation costs to alternate 11e.(2) byproduct material disposal facilities will be similar or less. For example, the Pathfinder Mines Corporation Shirley Basin Facility is approximately 250 miles away, the Energy Solutions LLC Clive Disposal Site near Clive, UT is approximately 700 miles away, and the Waste Control Specialists LLC facility near Andrews, TX is approximately 900 miles away.

Table 1: Summary of Financial Assurance Amounts

Financial Assurance Estimate - Dewey-Burdock Project			Table Referenced in Attach. RAP-2	Disposal Option	
No.	Description			Disposal wells	Land application
1	Facility Decommissioning				
	A	Salvageable equipment	9	$ 242,000	$ 242,000
	B	Non-salvageable building & equipment disposal	9,13	$ 710,080	$ 1,123,580
	C	11e.(2) byproduct material disposal	6	$ 466,609	$ 527,831
	D	Restore contaminated areas	9	$ 570,300	$ 1,429,100
2	O&M - Aquifer Restoration and Stability Monitoring				
	A	Method: RO treatment with permeate injection	O&M	$ 897,873	
	B	Method: Groundwater sweep with Madison injection	O&M		$ 555,700
3	Well Field Reclamation				
	A	Well plugging & closure	8, 14	$ 751,300	$ 751,300
	B	Remove surface equipment & reclaim	9	$ 975,050	$ 975,050
4	Radiological Survey and Environmental Monitoring		10	$ 10,300	$ 24,400
5	Project Management Costs & Miscellaneous		12	$ 968,700	$ 968,700
6	Labor, 35% overhead + 10% contactor profit		11	$ 1,337,000	$ 1,337,000
7	Contingency @ 15%			$ 1,039,382	$ 1,190,199
Total Financial Assurance Amount				**$ 7,968,594**	**$ 9,124,861**

Powertech (USA) proposes use of a flare factor of 1.44 and the restoration estimate of 6 pore volumes of groundwater for its financial assurance. Basis for the flare factor is found in TR Appendix 6.6-B, “Numerical Modeling of Groundwater Conditions Related to In Situ Recovery.” Refer to Section 2.7 for justification of the flare factor and total number of restoration pore volumes. As explained in more detail in Section 2.7, the flare factor is based on experience gained from ISR operations in Wyoming and on numerical groundwater modeling. The number of PVs necessary for restoration is also based on experience from other ISR operations.

While it is likely that the facility buildings will have a salvage value, the demolition cost estimate assumes that all buildings will be shredded and disposed at an appropriate landfill. Decommissioning costs include a final gamma survey.

Labor costs associated with the reclamation operations will be a combination of contract labor and direct hires, listed in Attachment RAP-2, Table 11. A full-time Radiation Safety Officer will be employed through final decommissioning.

2.0 AQUIFER RESTORATION

2.1 Introduction

Aquifer restoration costs for the first well field at each area are presented in Attachment RAP-2. The costs are broken down into separate phases of work:

- Well field operations,
- Capital equipment,
- Pumping,
- Facility operation,
- Chemicals,
- Monitoring, and
- Miscellaneous.

The tables provided in RAP-2 provide the assumptions and unit prices for all the work necessary to complete each phase of work for the first well field in each area.

During aquifer restoration, Powertech (USA) will restore groundwater quality consistent with the groundwater protection standards contained in 10 CFR 40, Appendix A, Criterion 5(B)(5) on a parameter-by-parameter basis using best practicable technology. The technology selected will depend on the liquid waste disposal option as described below. In the deep disposal well liquid waste disposal option, RO treatment with permeate injection will be the primary restoration method. If land application is used to dispose liquid waste, then groundwater sweep with injection of clean makeup water from the Madison Formation will be used to restore the aquifer. In either case, Powertech (USA) proposes to remove at least six (6) pore volumes during aquifer restoration.

2.2 Groundwater Restoration Criteria

The groundwater restoration program for all well fields will be conducted pursuant to 10 CFR Part 40, Appendix A, Criterion 5, which sets forth groundwater quality standards for uranium milling facilities. Currently, Criterion 5 states that groundwater quality at such facilities shall have primary goals of baseline (background) or an MCL, whichever is higher, or an ACL. Powertech (USA) recognizes that an ACL is a site-specific, constituent-specific, risk-based standard that demonstrates that maintaining groundwater quality at the requested level at a designated point of compliance (POC) will be adequately protective of human health and the environment at the point of exposure (POE) and that groundwater quality outside the boundary of the aquifer exemption approved by EPA would meet background (baseline) levels or MCLs. Powertech (USA) understands that satisfaction of prior class-of-use can be proposed as a factor in demonstrating justification for an ACL.

Powertech (USA) understands that, in the event that the primary goal of groundwater restoration (i.e., baseline or an MCL, whichever is higher) cannot be met after engaging in all practicable (reasonably achievable) efforts, it will be required to submit an ACL application to NRC staff in accordance with its regulatory rights under 10 CFR Part 40, Appendix A, Criterion 5(B)(5). Powertech (USA) understands that any ACL application will be in the form of a license amendment application that addresses, at a minimum, all of the relevant factors in 10 CFR Part 40, Appendix A, Criterion 5B(6), which are described in TR Section 6.1.1.

Prior to operation, the baseline groundwater quality will be determined through the sampling and analysis of water quality indicator constituents in wells screened in the mineralized zone(s) across each well field. TR Section 5.7.8.3 describes the methods used to select baseline wells, sample the wells, and calculate baseline water quality statistics. The baseline samples will be analyzed for all parameters identified in TR Table 6.1-1. The target restoration goals (TRGs) will be established as a function of the average baseline water quality and the variability in each parameter according to statistical methods approved by NRC. The methods used to establish baseline water quality, identify outliers, evaluate variability, and calculate TRGs will be described within the well field hydrogeologic data package for each well field.

2.3 Deep Disposal Well Option

In the deep disposal well liquid waste disposal option, the primary method of aquifer restoration will be RO treatment with permeate injection. In this method, water will be pumped from one or more well fields to the CPP or Satellite Facility for treatment. Treatment will begin with removal of uranium and other dissolved species in IX columns. The water will then pass through the restoration RO unit, which will remove over 90% of dissolved constituents using high pressure RO membranes. The treated effluent, or permeate, will be returned to the well field(s) for injection. The RO reject, or brine, will undergo radium removal in radium settling ponds and will then be disposed in one or more deep disposal well(s).

The RO units will operate at a recovery rate of approximately 70%. Therefore, about 70% of the water that is withdrawn from the well fields and passed through the restoration RO unit will be recovered as nearly pure water, or permeate. In order to avoid excessive restoration bleed and consumptive use of Fall River and Chilson groundwater, permeate will be supplemented with clean makeup water from Madison Formation water supply wells. Permeate and Madison Formation water will be reinjected into the well field(s) at an amount slightly less than the amount withdrawn from the well field(s). This will be done to maintain a slight restoration bleed, which will maintain hydraulic control of the well field(s) throughout active aquifer restoration. The restoration bleed will typically be 1% of the restoration flow rate unless groundwater sweep is used in conjunction with RO treatment with permeate injection, in which case the restoration bleed will average approximately 17%. Refer to the "Optional Groundwater Sweep" discussion in Section 2.6.

2.4 Land Application Option

In the land application liquid waste disposal option, the primary method of aquifer restoration will be groundwater sweep with Madison Formation water injection. This method will begin the same as the method described above for RO treatment with permeate injection; water will be pumped to the CPP or Satellite Facility for removal of uranium and other dissolved species in IX columns. The partially treated water will undergo radium removal in radium settling ponds and will then be disposed in the land application system. Powertech (USA) refers to this portion of the aquifer restoration method as "groundwater sweep," since none of the water recovered from the Fall River or Chilson will be reinjected into the well field(s).

RO will not be used if there are no deep disposal wells available to accept the RO brine. Instead, clean makeup water from the Madison Formation will be injected into the well field(s) at a flow rate sufficient to maintain the restoration bleed. As before, the restoration bleed will typically be 1% of the restoration flow rate unless the optional groundwater sweep method is used as described in Section 2.6.

The water quality of the Madison Formation is expected to be equal to or better than the baseline ore zone water quality, and injection of Madison Formation water will therefore be similar to injection of permeate under the deep disposal well option.

2.5 Combined Liquid Waste Disposal Option

If Class V DDWs are constructed but lack sufficient capacity to dispose of the entire liquid waste stream, Powertech (USA) will combine the use of DDWs and land application. In this option land application facilities will be constructed and used on an as-needed basis depending on the DDW capacity. The financial assurance cost estimate for this option will depend on the DDW capacity and will be prepared prior to construction of the combined liquid waste disposal system.

2.6 Optional Groundwater Sweep

Although a 1% restoration bleed will be adequate to maintain hydraulic control of well fields undergoing active aquifer restoration, additional bleed may be required at times. For example, additional restoration bleed may be used to recover flare of lixiviant outside of the well field pattern area. In addition to the restoration methods described above, Powertech (USA) may withdraw up to one (1) pore volume of water through groundwater sweep over the course of aquifer restoration. This will result in an average restoration bleed of approximately 17%.

2.7 Pore Volume Calculations and Restoration Pore Volumes

The formulas for determining the pore volume and the volume of restoration composite (RC) to be withdrawn during aquifer restoration are as follows:

Pore volume = (well field pattern area) x (thickness) x (porosity) x (flare factor)

RC volume = (pore volume) x (number of pore volumes for aquifer restoration)

The thickness is the average thickness of the mineralized zones as determined by down-hole radiological logging. The average thickness in the Dewey-Burdock project area is 4.6 feet. Pore volumes will be calculated based on the actual screen lengths of injection and production wells and not by the ore zone thickness.

The porosity of the ore zone within the project area was determined by laboratory analysis of core samples. Based on 11 measurements of ore zone porosity from core samples of the Fall River and Chilson host sands, the average porosity of the ore zone sands within the project area is 0.30.

The proposed flare factor is 1.44, accounting for both horizontal and vertical flare of lixiviant during ISR operations. Support for the flare factor is contained in the numerical groundwater modeling results presented in TR Appendix 6.6-B, “Numerical Modeling of Groundwater Conditions Related to In situ Recovery.” TR Appendix 6.6-B describes how horizontal flare from a modeled balanced well field was determined to be 1.19. Vertical flare is expected to be similar to or less than the horizontal flare since the horizontal conductivity is greater than vertical conductivity. An overall flare factor of 1.44 is supported by the numerical modeling results presented in TR Appendix 6.6-B.

The flare factor and number of pore volumes required for aquifer restoration are both a function of the properties of the particular sandstone formations and ore deposits, as well as the operational factors of aquifer bleed rates, the balancing of pattern flow rates, the use of RO during aquifer restoration and the timeliness of beginning aquifer restoration operations following cessation of recovery operations. For the Dewey-Burdock Project, the values of the flare factor and the number of pore volumes removed for aquifer restoration are comparable to those that have been recently approved for other ISR facilities and are consistent with the best practicable technology for aquifer restoration.

The overall (horizontal and vertical) flare factor for ISR uranium projects has varied from 1.44 at Irigaray/Christensen Ranch (COGEMA, 2008 and COGEMA, 2005) to 1.95 at Churchrock/Crownpoint (HRI, 2001). The overall well field flare factor for the Dewey-Burdock Project is estimated to be 1.44, which is equal to the flare factor in approved license applications at ISR facilities located nearby in the State of Wyoming and is supported by numerical groundwater modeling.

The number of pore volumes, including flare, of groundwater to be removed to achieve aquifer restoration is estimated to be 6.0. This figure is consistent with the best practicable technology that includes the following operational practices:

(i) Daily balancing of injection and extraction flow rates during production. This flow rate balancing is designed to ensure that a proper aquifer bleed is maintained both at the well field level and also within each 5-spot pattern within the well field.

(ii) Timeliness of beginning restoration operations. For any particular well field, aquifer restoration operations will begin as soon as is reasonably possible following the cessation of recovery operations.

(iii) Maintenance of aquifer bleeds. Hydraulic control of well fields through the net withdrawal of the aquifer bleed stream will be continuously maintained from the beginning of recovery operations until the end of active aquifer restoration.

For the financial assurance calculations, the pore volume affected in the first year of production is estimated to be approximately 13 million gallons, corresponding to an active well field area of approximately 20 acres. The restoration composite, or volume of groundwater to be extracted during groundwater restoration, is estimated to be approximately 78 million gallons. Calculations are presented in Attachment RAP-2.

Powertech (USA) will adjust the financial assurance budget for aquifer restoration during each annual update review to reflect experience gained from actual operation as well as to add commitments for new well fields to be put into ISR operations. NRC will be able to verify the availability of the restoration equipment during routine inspections.

2.8 Monitoring the Progress of Active Restoration

Powertech (USA) will implement an active aquifer restoration monitoring program to document the progress of aquifer restoration. During active aquifer restoration, each well field will be monitored on a frequency sufficient to determine the success of aquifer restoration, optimize the efficiency of aquifer restoration and determine if any areas of the well field need additional attention. At the beginning of aquifer restoration, water level will be measured and groundwater analyzed for all parameters listed in TR Table 6.1-1 for the subset of production zone sampling wells used in baseline. Thereafter, samples will be collected and analyzed for all or selected parameters as needed.

The success of aquifer restoration will be demonstrated during the well field stabilization period.

The results of the active restoration monitoring will be used to evaluate potential areas of flare or hot spots. If potential flare or hot spots are identified, appropriate corrective measures will be taken. These may include adjusting the flows in the area, changing wells from injection to production or vice-versa, or adjusting the restoration bleed in specific areas. Additional information on statistical methods used to identify hot spots is provided in TR Section 6.1.8.2.

2.9 Restoration Stability Monitoring

A groundwater stability monitoring period will be implemented to show that the restoration goal has been adequately maintained. The stability monitoring period will consist of twelve (12) months with quarterly sampling. Over the 12-month minimum stability monitoring period, there will be at least five (5) sample events, including one at the beginning of the stability monitoring period and following each of the following four quarters. The criteria to establish restoration stability will be based on well field averages for water quality, except that hot spots will be evaluated based on the results from individual wells.

During the restoration stability period, the following monitoring program will be utilized:

Monitoring wells in the perimeter ring and those wells in the overlying and underlying aquifers will continue to be sampled once every 60 days for the UCL indicator parameters of chloride, total alkalinity (or bicarbonate), and conductivity. The NRC will be contacted if any of the wells cannot be sampled within 65 days of the last sampling event due to unforeseen conditions such as snowstorms, flooding, or equipment malfunctions.

Quarterly, the production-zone wells that were sampled to determine well field baseline will be sampled and analyzed for the water quality parameters listed in TR Table 6.1-1. The criteria to establish successful stability will be that, for each sampling event, the mean constituent concentration of each water quality parameter meets the target restoration goal established for that parameter from baseline sampling, as described in TR Section 5.7.8.3.

Linear regression analysis will be performed on each monitored constituent measured in the production zone baseline wells. This statistical method will assist in determining if the concentration of a given constituent exhibits a significantly increasing trend during the stability period. If a constituent exhibits a strongly increasing trend, or in the case of pH a strongly increasing or decreasing trend, Powertech (USA) will take action to resolve the situation. The action taken will depend on the constituent and the status of the restored groundwater system. Due to the complexity of the aqueous geochemical groundwater systems involved, these statistical techniques will not be relied on as the sole determinant when evaluating the effectiveness of groundwater restoration. Therefore, Powertech (USA) will consider which constituent(s) shows an increasing trend in concentration and base the decision on further action on the status of the production zone groundwater geochemistry. These actions may include extending the stability period or returning the well field to a previous phase of active restoration to resolve the issue. The phase of active restoration that will be used will be determined by the constituent and the process required to bring it to stability.

If the analytical results from the stability period continue to meet the target restoration goals and do not exhibit significant increasing trends, then Powertech (USA) will submit supporting documentation to the regulatory agencies showing that the restoration parameters have remained at or below the restoration standards and will request that the well field be declared restored.

For one or two parameters, localized, elevated concentrations above the restoration criteria may remain in the production zone following restoration. These isolated, residual elevated concentrations are referred to as “hot spots.” The primary indicator of a hot spot for a specific constituent or parameter will be the mean production zone concentration plus two standard deviations. For pH, the indication of a hot spot will be plus or minus two standard deviations. If a constituent or parameter at a production zone baseline sampling well exceeds that criterion during the stability period, the location of the well will be identified as a hot spot. Once a hot spot is identified, additional evaluation will be conducted to determine potential impacts that such a hot spot could have on water quality outside of the exempted aquifer. The additional evaluation may include collection of additional water samples, analysis of added parameters, trend analysis, or flow and transport modeling. Based on the results of the evaluation, additional stability monitoring or restoration may be conducted as needed to ensure the protection of water quality outside the exempted aquifer. If hot spots are sufficiently demonstrated not to have the potential to affect water quality outside of the exempted aquifer and the restoration criteria are otherwise met without increasing trends, then no additional action will be taken and Powertech (USA) will submit supporting documentation to the regulatory agencies showing that the restoration parameters have remained at or below the restoration standards and will request that the well field be declared restored.

3.0 FACILITIES DECOMMISSIONING AND RECLAMATION

Following well field restoration, stability monitoring, and regulatory signoff, when it is certain that the water treatment equipment is no longer needed, reclamation can begin on the surface facilities. The procedures for removing and disposing of structures and equipment include the establishment of surface contamination limits; preliminary radiological surveys of process building surfaces, equipment and piping systems; strategic cleanup and removal of process building materials and equipment; sorting materials according to contamination levels and salvageability; and preparing materials for transport and offsite use or disposal. Although not mentioned hereafter, the procedures also apply to tools and other equipment, such as backhoes.

All decommissioning activities will be done in accordance with the NRC license, Titles 10 and 49 of the CFR, and other applicable regulatory requirements.

3.1 Establishment of Surface Contamination Limits

Powertech (USA) will use surface contamination release limits contained in Enclosure 2 to Policy and Guidance Directive FC-82-23 (as updated) to release material and equipment that has potentially come into contact with licensed material.

Surface contamination release limits for surfaces on structures intended for unrestricted release following decommissioning are subject to Criterion 6(6) of Appendix A to 10 CFR 40. Acceptable dose-based surface contamination release limits will be established using the RESRAD-Build model or an equivalent model and will be provided in the final Decommissioning Plan, which will be submitted 12 months prior to any planned decommissioning. In the Decommissioning Plan, Powertech (USA) will assume that all premises, equipment, or scrap likely to be contaminated in excess of limits, but that cannot be measured, is contaminated in excess of limits and will be treated accordingly.

3.2 Pre-Reclamation Radiological Surveys

Consistent with NUREG-1569, Acceptance Criterion 6.2.3(2), Powertech (USA) will implement a pre-reclamation radiological survey program to identify areas for cleanup operations. The instruments and techniques for pre-reclamation radiological surveys to identify areas of the site that need to be cleaned up to comply with NRC concentration limits will be the same or similar to those used to survey the project area for pre-operational radiological conditions. The instruments used for the pre-operational survey are described in TR Section 2.9 and include unshielded Ludlum Model 44-10 2" x 2" sodium iodide (NaI) detectors coupled to Ludlum Model 2221 rate meter/scalers (set in rate meter mode) and a Trimble Pro XRS GPS receiver with Trimble TSCe data logger.

Consistent with NUREG-1569, 6.2.1 Areas of Review, Powertech (USA) will provide the NRC and SD DENR with maps and data that document the post-operational condition. The techniques to be used during the pre-reclamation radiological survey include putting special emphasis on those areas with the highest potential for surface contamination, including diversion ditches, surface impoundment areas, well fields (particularly those areas where potential spills or leaks may have occurred), process structures, storage areas, on-site transportation routes for contaminated material and equipment, and areas associated with liquid waste disposal. Powertech (USA) will also consider results from operational monitoring and any other information that provides insight to areas with the greatest potential to be contaminated. Powertech (USA) will use a sampling grid of 100 m^2 for soil and other specifications to ensure that radium and other radionuclides will not exceed the standards in 10 CFR Part 40, Appendix A, Criterion 6(6). Guidance for sample size and other techniques provided in NUREG-1575 will be used as reference for the pre-reclamation radiological survey.

The following general procedures for interpretation of the pre-reclamation survey results will be used to identify areas for cleanup operations:

1) Pursuant to 10 CFR Part 40, Appendix A, Criterion 6(6), the radium-226 content in soils, averaged over areas of 100 m^2, will not exceed the background concentration by more than (i) 5 pCi/g of Ra-226 averaged over the first 15 cm (5.9 in) below the surface, and (ii) 15 pCi/g of radium-226 averaged over 15 cm thick layers more than 15 cm below the surface.
2) The background radionuclide concentrations have been determined using appropriate methods as described in TR Section 2.9. There are two areas within the project area where the gamma survey recorded levels higher than the majority of the project area. These are the surface mine area in the northeast portion of the project area and a naturally anomalous area in the northern portion of the project area. These areas may warrant a different background concentration. Should Powertech (USA) determine that use of a different background radionuclide concentration is warranted, it will propose one with its final decommissioning plan.
3) For areas that meet the radium cleanup criteria, but that still have elevated thorium-230 levels, Powertech (USA) proposes to provide in its final decommissioning plan an acceptable cleanup criterion for thorium-230, one that when combined with residual

concentrations of radium-226, would result in the radium concentration (both radium residual and from thorium decay) that would meet the radium cleanup standard in 1,000 years.

4) Likewise, Powertech (USA) will propose acceptable criteria for uranium in soil, such as those found in Appendix E of NUREG-1569.
5) Lastly, the survey method for cleanup operations will be designed to provide 95% confidence that any residual radionuclides on the project area will be identified and cleaned up. Powertech (USA) will apply appropriate statistical tests for analysis of survey data.

3.3 Removal of Process Buildings and Equipment

Powertech (USA) will develop plans for the strategic removal of process building and equipment, based on inventory, the results of the radiological surveys, decontamination options and available methods, reuse/disposal pathways, and information obtained during the effort. To the extent possible, Powertech (USA) intends to decontaminate salvageable equipment for unrestricted release. Decontamination methods may include a combination of washing, high pressure sprays, or steam cleaning. Cleaned surfaces will be air-dried prior to radiological monitoring. The ALARA principle applies to decommissioning activities. As such, surface contamination will be reduced to levels as far below applicable limits as practical.

Powertech (USA) will document the results of radiological surveys for all building materials, systems, and equipment. These items will be sorted as follows:

- Salvageable and contaminated above release limits (not releasable but potentially disposable or transferrable),
- Salvageable and contaminated below release limits (releasable) for unrestricted use,
- Not salvageable and contaminated above release limits (offsite disposal at a facility licensed to accept 11e.(2) byproduct material), and
- Not salvageable and contaminated below release limits (offsite disposal at a permitted facility).

In the first case, the item may be transferred to another NRC or Agreement State licensee. If it cannot be transferred or decontaminated to be released for unrestricted use, it will be disposed of at a licensed disposal facility. In all cases, Powertech (USA) will strictly maintain an inventory of all process building and equipment and the results of radiological surveys.

All structures will be decontaminated, if necessary, and moved to a new location and salvaged or disposed at an appropriately licensed solid waste facility. Concrete slabs will be surveyed and if found to contain radionuclides in excess of the release limits, an attempt will be made to decontaminate the concrete slab(s). If after a second survey radionuclides are in excess of the release limits, the concrete will be broken up and disposed of at a licensed 11e.(2) disposal site. If the survey results indicate that the concrete is not contaminated above release limits, it may be disposed in an appropriately permitted landfill, used for fill elsewhere, or left in place for use by the landowner.

3.4 Plans for Decommissioning Non-Radiological Constituents

Consistent with NUREG-1569 and 10 CFR Part 40, Appendix A, Criterion 6(7), Powertech (USA) will ensure that non-radiological hazards are addressed in the planning and implementation processes of decommissioning and closure. TR Section 1.10 includes a discussion of non-radiological wastes and their disposition at closure. Non-radiological cleanup concerns related to the land application option are addressed in TR Section 7.3.3.8.2.

Any non-radiological hazardous waste that is determined to be 11e.(2) byproduct material will be disposed of offsite at a licensed 11e.(2) waste disposal site in accordance with NRC's directive in 10 CFR Part 40, Appendix A, Criterion 2. Any non-radiological hazardous waste that is not 11e.(2) byproduct material will be disposed offsite at a permitted hazardous waste disposal facility. As described in TR Section 1.10, potentially hazardous liquid wastes such as used oil, hydraulic fluid, cleaners, solvents and degreasers will be recycled or disposed offsite at an appropriately permitted hazardous or solid waste disposal facility. In addition, as described in TR Section 7.3.3.8.2, residual non-radiological metal concentrations in land application areas are not expected to exceed their respective EPA soil screening levels (SSLs). Powertech (USA) will include more details on decommissioning non-radiological hazardous constituents in its final decommissioning plan, which will be submitted 12 months prior to any planned reclamation.

3.5 Ponds

Work required to reclaim the ponds will include wastewater disposal and removal of the pond liners and leak detection systems, along with any residual brine residue or pond sludge, to an appropriately permitted disposal site. Regrading will be conducted to approximate original topography, topsoil will be replaced and disturbed areas will be revegetated. Estimates of the quantities and the unit prices used to estimate the reclamation costs are provided in Attachment RAP-2.

3.6 Surface Soil Cleanup Verification and Sampling Plans

Powertech (USA) will comply with the cleanup standard of Criterion 6(6) of 10 CFR Part 40, Appendix A: 11e.(2) byproduct material containing concentrations of radionuclides other than radium in soil, and surface activity on remaining structures, will not result in a Total Effective Dose Equivalent (TEDE) exceeding the dose from cleanup of radium-contaminated soil to the above standard (benchmark dose), and will be at levels which are ALARA. If more than one residual radionuclide is present in the same 100 m^2 area, the sum of the ratios for each radionuclide of concentration present to the concentration limit will not exceed 1 (unity).

In areas that meet the Ra-226 cleanup criteria post-reclamation but that still have elevated Th-230 levels, Powertech (USA) will propose an acceptable protocol for Th-230 cleanup. Powertech (USA), in its final decommissioning plan, which will be submitted 12 months prior to any planned reclamation, will propose a concentration for Th-230 that, when combined with the residual concentration (residual thorium and products from thorium decay) that would be present in 1,000 years, meets the radium cleanup standard. In addition, Powertech (USA) will consider other potentially acceptable criteria before selecting and proposing a final cleanup criterion for Th-230 in the decommissioning plan.

Compliance with cleanup criteria will be evaluated in terms of soil concentrations, which will be supplemented by field surveys employing gamma-ray measurements. A final gamma survey of the affected area and buffer zone will be performed using the GPS-based equipment or conventional equipment. Affected areas are those areas that have greater potential to be impacted by uranium solutions, dried uranium product (yellowcake) or liquid or solid waste streams that contain uranium or other radionuclides associated with uranium recovery operations. The areas that are most likely to be considered affected areas include diversion ditches, surface impoundment areas, well fields (particularly those areas where potential spills or leaks may have occurred), process structures, storage areas, on-site transportation routes for contaminated material and equipment, and areas associated with liquid waste disposal. Consistent with NUREG-1569, Acceptance Criterion 6.4.3(5), the survey method for verification of soil cleanup will be designed to provide 95% confidence that the survey units will meet the cleanup guidelines.

A calculation of the potential peak annual total effective dose equivalent (TEDE) within 1,000 years to the average member of the critical group that would result from applying the radium standard (not including radon) on the site will be submitted to NRC for approval. Details will be provided in the decommissioning plan to be submitted for review at least 12 months prior to decommissioning activities. A key component of the plan would be that 11e.(2) byproduct material containing concentrations of radionuclides, other than radium in soil, and surface activity on remaining structures, must not result in a TEDE exceeding the dose from cleanup of radium contaminated soil to the radium benchmark dose, and must be at levels which are ALARA. Powertech (USA) is aware that the use of decommissioning plans with radium benchmark doses which exceed 100 mrem/yr, before application of ALARA, requires the approval of the Commission after consideration of the recommendation of the NRC staff.

3.7 Grading, Topsoil Replacement and Revegetation

Disturbed areas will be regraded, topsoil replaced, and revegetated according to SD DENR requirements. The seed mixture selected will be compatible with the SD DENR-approved post-reclamation land use.

4.0 WELL FIELD RECLAMATION

Decommissioning and reclamation of the well fields will include removal of the header houses and all pipes and utilities connecting the wells to the header houses and the CPP or SF, disposing of these materials in an appropriately permitted landfill or licensed 11e.(2) byproduct disposal site as appropriate, and reclaiming the surface as described for the other surface facilities. The costs for this phase of work are provided in Attachment RAP-2 (Table 8).

4.1 Well Plugging and Abandonment

Prior to plugging, each well will undergo mechanical integrity testing (MIT) to demonstrate the integrity of casing and cement that will be left in the ground after closure. Alternatively, cementing records or other evidence (such as cement bond logs) will be used to show that an adequate quantity of cement is present to prevent upward fluid movement within the borehole outside of the casing.

Powertech (USA) will plug all wells with bentonite or cement grout. The weight and composition of the grout will be sufficient to control artesian conditions and meet the well abandonment standards of the State of South Dakota, including Chapter 74:02:04:67 (Requirements for Plugging Wells or Test Holes Completed into Confined Aquifers or Encountering More than One Aquifer) of the South Dakota Administrative Rules. Cementing will be completed from total depth to surface using a drill pipe. Records will be kept of each well cemented including at a minimum the following information:

- well ID, total depth, and location,
- driller, company, or person doing the cementing work,
- total volume of cement placed down hole, and
- viscosity and density of the slurry used.

Powertech (USA) will remove surface casing and set a cement plug to a depth 6 ft below the ground surface on each well or borehole plugged and abandoned.

5.0 RADIOLOGICAL SURVEY AND ENVIRONMENTAL MONITORING

Gamma surveys will be relied on to guide soil remediation efforts. At least 12 months prior to commencing reclamation, Powertech (USA) will submit a decommissioning plan that will contain descriptions of methodology for both pre- and post-reclamation gamma ray surveys. The gamma ray surveys for excavation control monitoring and final cleanup status will be designed to be consistent with NUREG-1569, Acceptance Criteria 6.4.3(1), 6.4.3(3) and 6.4.3(5), including the use of a methodology for gamma-ray surveys for excavation control monitoring and final status surveys that will provide 95% confidence that the survey units will meet the cleanup guidelines.

The post-operation (pre-decommissioning) radiological survey will consist of an integrated area gamma survey and confirmation soil sampling and analysis to verify that the required cleanup standard(s) are met. The areas that will receive particular attention are those that are expected to have higher readings than surrounding areas and include diversion ditches, surface impoundment areas, well fields (particularly those areas where spills or leaks may have occurred), process structures, storage areas, and on-site transportation routes for contaminated material and equipment. Areas associated with liquid waste disposal will also receive close attention. The surveys will identify soil contamination that exceeds the cleanup criteria and will be used to guide the cleanup efforts. After cleanup, the surveys will be used, in conjunction with surface soil sample analyses, to verify cleanup to the site cleanup criteria. Gamma surveys and action levels are discussed in more detail in TR Section 6.4.2.

6.0 REFERENCES

COGEMA, 2008, Wellfield Restoration Report, Christensen Ranch Project, Prepared by COGEMA Mining, Inc. and Petrotek Engineering Corporation, March 5, 2008, NRC Accession No. ML081060131.

_____, 2005, Response to LQD/DEQ January 10, 2005 Comments and Irigaray Wellfield Restoration Report, TFN 4 1/170, Prepared by COGEMA Mining, Inc., Petrotek Engineering Corporation, and Resource Technologies Group, May 4, 2005, NRC Accession No. ML053270037.

Hydro Resources, Inc. (HRI), 2001, Church Rock Section 17 Restoration Action Plan, Prepared by Hydro Resources, Inc. July 23, 2001, NRC Accession No. ML012070171.

Lyntek, 2010, Updated Power Study Report, Dewey Burdock Project, Custer & Fall River County, South Dakota, unpublished report prepared for Powertech (USA) Inc. by Lyntek, February 25, 2010

Attachment RAP-1

Financial Assurance Mechanism

Powertech (USA) Inc.

Attachment RAP-2

Financial Assurance Cost Estimate

Dewey-Burdock Project Financial Assurance - Attachment RAP-2
Table of Contents

Summary of Costs by Year
Dewey-Burdock Project
Powertech (USA), Inc.

Dewey-Burdock - Restoration and Reclamation Costs - Deep Well Disposal Option

No.		Description	1	2	3	4	5	6	Total
		Project Year	1	2	3	4	5	6	Total
		Operation Phase	Construction	Production	Restoration + Stability		Decommissioning		
		Production (lbs U3O8)	-	1,000,000	2,588	-	-	-	
1		Facility Decommissioning							
	A	Salvageable Equipment					121,000	121,000	242,000
	B	Non-salvageable bldg. & equipment disposal					355,040	355,040	710,080
	C	11e.(2) byproduct material disposal			4,400		231,105	231,105	466,609
	D	Restore contaminated areas						570,300	570,300
2		O&M - Aquifer restoration and stability monitoring							-
	A	Method: RO treatment with permeate injection			448,937	448,937			897,873
	B	Method: groundwater sweep with Madison injection							
3		Well field reclamation							-
	A	Well plugging & closure					375,650	375,650	751,300
	B	Remove surface equipment & reclaim					487,525	487,525	975,050
4		Radiological Survey						10,300	10,300
5		Project Management Costs & Miscellaneous			268,400	242,300	229,500	228,500	968,700
6		Labor incl. 35% overhead + 10% contractor profit			534,000	398,000	270,000	135,000	1,337,000
7		Contingency @ 15%			188,360	163,385	310,473	377,163	1,039,382
		Total Financial Assurance Amount	-	-	1,444,097	1,252,622	2,380,293	2,891,583	7,968,594

Summary of Costs by Year
Dewey-Burdock Project
Powertech (USA), Inc.

POWERTECH (USA) INC.

Dewey-Burdock - Restoration and Reclamation Costs - Land Application Option

No.		Description	1	2	3	4	5	6	Total
		Project Year	**1**	**2**	**3**	**4**	**5**	**6**	**Total**
		Operation Phase	**Construction**	**Production**	**Restoration+ stability**		**Decommissioning**		
		Production (lbs U3O8)	**-**	**1,000,000**	**2,588**	**-**	**-**	**-**	
No.		Description							
1		Facility Decommissioning							
	A	Salvageable Equipment					**121,000**	**121,000**	**242,000**
	B	Non-salvageable bldg. & equipment disposal					**561,790**	**561,790**	**1,123,580**
	C	11e.(2) Byproduct material disposal			**4,400**		**261,716**	**261,716**	**527,831**
	D	Restore contaminated areas						**1,429,100**	**1,429,100**
2		O&M - Aquifer restoration and stability monitoring							
	A	Method: RO treatment with permeate injection							
	B	Method: groundwater sweep with Madison injection			**277,850**	**277,850**			**555,700**
3		Well field reclamation							**-**
	A	Well plugging & closure					**375,650**	**375,650**	**751,300**
	B	Remove surface equipment & reclaim					**487,525**	**487,525**	**975,050**
4		Radiological Survey						**24,400**	**24,400**
5		Project Management Costs & Miscellaneous			**268,400**	**242,300**	**229,500**	**228,500**	**968,700**
6		Labor incl. 35% overhead + 10% contractor profit			**534,000**	**398,000**	**270,000**	**135,000**	**1,337,000**
7		Contingency @ 15%			**162,698**	**137,723**	**346,077**	**543,702**	**1,190,199**
		Total Financial Assurance Amount	**-**	**-**	**1,247,348**	**1,055,873**	**2,653,258**	**4,168,383**	**9,124,861**

Notation

Abbrev.	Definition
ac	acres
ac-ft	acre-feet
BSW	baseline sampling well
CF	cubic feet
CPP	Central Processing Plant
CY	cubic yards
d	days
DDW	deep disposal well
est.	estimated
ft	feet
ft^3	cubic feet
gpm	US gallons/minute
HH	header house
IMW	internal monitor wells
IW	injection wells
IX	ion exchange
kgal	thousand gallons
kW	kiloWatt
kWh	kiloWatt-hour
L	liter
LA	land application
lb	pounds mass
lf	linear foot
M#	million pounds
MET	meteorological
mg	milligrams
Mgal	million gallons
MW	monitor wells
MWh	megaWatt-hour
PMW	perimeter monitor wells
ppm	parts per million
PV	pore volumes
PW	production wells
RC	restoration composite
R/T	round trips
SF	Satellite Facility
TDH	total dynamic head
U3O8	uranium oxide product
WF	well field
y	year

POWERTECH (USA) INC.

Table 1: Assumptions

Dewey-Burdock Project

Powertech USA, Inc.

	Description	Quantity	Units
Producton phase parameters			
1	Production objective	1,000,000	lb/y U3O8
2	Ore zone mass per unit area (Total resource/total ore body area)	1.59	lb/sq ft
3	ISR recovery efficiency	0.75	
4	Ore body area in active ISR (1Mlb/y U3O8/0.75/(1.59 lb/ft^2)	836,050	sq. ft
5	Ratio of actual pattern area/ ore body area	1.04	
6	Active ISR wellfield area	869,493	sq ft
7	Active ISR wellfield area	20.0	acres
8	Area per 70' x 70' pattern, mean	4,450	sq ft/pattern
9	Design flow rate of production composite	4000	gpm
10	Design flow rate of production composite per production well	20	gpm
11	Mean grade of extracted water (ppm U3O8) (design)	60	mg/L U3O8
12	Number of online patterns to meet production goal (active area/(area/pattern))	195	patterns
13	Ratio of injection wells to production wells (design)	2.1	IJ/PW
14	Number of online injection wells required to meet objective	411	IW
15	Number of online production wells per header house (design)	18	PW/HH
16	Number of HH required to meet production objective (PW/18)	11	HH
17	Number of perimeter monitor wells in Burdock WF#1 and Dewey WF#1	70	PMW
19	Number of overlying internal mon. wels in active production zone @ 1 per 4 ac.	5	MW
20	Number of underlying internal monitor wells in active prod. zone @ 1 per 8 ac.	2	MW
21	Total number of active internal monitor wells in Burd. WF#1 and Dew. WF#1	7	Int. MWs;
22	Number of internal monitor wells per HH	1	Int. MW/HH
24	Baseline sampling wells in active production area (1 per 4 acres)	5	BSW
26	Length of large (10' wide) pipeline trench	10,000	ft
28	Length of medium (5' wide) pipeline trench	5,050	ft
30	Length of small (2' wide) pipeline trench	2,000	ft
Summary of active wells for production phase			
1	Production wells	195	PW
2	Injection wells	411	IW
3	Perimeter ring wells	70	PMW
4	Internal monitor wells	7	IMW
5	Baseline sampling wells	5	BSW
6	Header houses	11	HH
7	Total # monitor wells per 1MM lb/y produced during production	77	MW
8	WF access roads	17,000	ft

Assumptions
Dewey-Burdock Project

Assumptions - continued

Description			Quantity	Units
Well field equipment in place at end of 1st year production				
	1	Total wells to be plugged & abandoned	683	wells
	2	Wellhead covers to be heated during aquifer restoration (PW + IW + MW)	683	wells
	3	Header houses	11	HH
	4	Overhead electric lines	101,000	ft
	5	Facility access roads (24') (Burd. - 7,975 ft., Dew. - 8,550 ft.)	16,525	ft
	6	Well field access roads (12') (Burd. - 11076 ft., Dew. - 11,710 ft.)	22,786	ft
General aquifer restoraton assumptions				
	1	Restoration flow rate	500	gpm
	2	Restoration operating days	365	day/y
	3	Ore zone porosity	0.30	
	4	Ore zone thickness	4.6	ft
	5	Flare factor, volumetric	1.44	
	6	Pore volumes required for restoration	6.0	PV
Restoration parameters				
	1	Pore volume affected in year 1 = (ore body area/1M pounds U3O8 recovered) x thickness x porosity x flare factor	12,924,359	gallons/M# recovered
	2	Total volume restoration composite, including excess wellfield area, for 6 PV	77,546,156	gallons
	3	Months to restore a pattern (6 PV @ 20 gpm)	0.5	month
	4	Years to restore aquifer for 1M lbs of U3O8 recovered (total vol RC/500 gpm)	0.30	years
Well plugging parameters				
	1	Mean well depth (Inj., Prod., Monitoring) (Burd.-450', Dew.-600')	525	ft
	2	Inside diameter	4.91	inch
	3	Volume per foot (for plugging)	0.131	ft^3/ft
	4	Volume to be plugged per well	69	ft^3
Pipeline disposal				
	1	HDPE pipe density, SG	0.95	
	2	Void volume in chipped pipe	10%	
Pond solids				
	1	Addition rate of barium chloride to restoration composite	20	mg/L
	2	Percent solids	40%	
	3	Specific gravity	1.4	
	4	Pond sludge density	87.2	lb/CF

Assumptions
Dewey-Burdock Project

Assumptions - continued

Description		Units	Disposal Option	
Flow rates during restoration period (gpm)			**DDW**	**LA**
1	Madison water (gpm)	gpm	150	500
2	Well field wastewater to disposal system (gpm)	gpm	150	500
Pond inventories at beginning of financial assurance period				
1	CPP pond capacity	ac-ft	15.9	36.2
2	CPP pond - 50% capacity	Mgal	3	6
3	Storage ponds - 50% capacity of 8 ponds @ 63.8 ac-ft	Mgal		83
4	Surge ponds - 50% capacity of 2 ponds @ 8.4 ac-ft	Mgal	3	
5	Radium settling & outlet ponds 100% capacity	Mgal	14	29
6	Total inventory at beginning of financial assurance period	Mgal	20	118
Wastewater disposal				
1	Volume of restoration wastewater (Mgal)	Mgal	23	78
2	Total wastewater (Mgal)	Mgal	43	196
3	Volume to DDW (Mgal)	Mgal	43	
4	Volume to land application (Mgal)	Mgal		196
Madison water required				
1	Volume of Madison water required	Mgal	23	78
Stability Period				
1	Length of stability period		12	
2	Number of sampling events		5	
Pump/motor parameters				
1	Pump efficiency - variable frequency drive		0.90	

Unit Costs
Dewey-Burdock Project

Unit Costs

Cost factors presented here and elsewhere in this Appendix are from vendor quotes, from the 2009 RS Means cost estimating handbooks, from recent ISR license applications, and from calculations as described.

		Unit	Price
1	**Energy costs**	**Unit**	**Price**
	Electrical power	$/kWh	0.07
	Propane	$/gal	2.15
2	**Chemical Costs**	**unit**	**$/unit**
	Hydrogen peroxide - 50% solution	lb	0.30
	Sulfuric acid - 93%	lb	0.135
	Sodium hydroxide - 50% solution	lb	0.145
	Sodium chloride	lb	0.09
	Sodium carbonate	lb	0.135
	Barium chloride dihydrate	lb	0.67
3	**Well plugging costs**		
	Cost of plugging mix.	$/CF	9.00
	Cost of plugging cement per well	$/well	621.29
	Contract labor w/ equipment, 4 crew-hr/well @ $125/hr	$/well	500.00
	Total plugging cost per well	$/well	1121.29
4	**11e.(2) byproduct material disposal cost**		
	Transportation to White Mesa, UT (785 miles 1-way) @ $3.55/loaded mile + $1.85/unloaded mile for 30 CY load	$/CY	140
	11e.(2) disposal fee, soil-like material	$/CY	150
	11e.(2) disposal fee, equipment	$/CY	150
5	**Pipeline removal cost**		
	Excavation & pipe removal - from Table 14		
	Pipelines ≥ 8"	$/(ft-pipe)	0.533
	Pipelines ≥ 3"-6" @ 50% rate of large pipe	$/(ft-pipe)	0.267
	well field pipelines 1"-2" @ 25% rate of large pipe	$/(ft-pipe)	0.133
	Pond disposal		
	Liner removal and shredding	$/($ft^2$-liner)	0.05
	Pipe chipping	$/CF	0.15

Operation and Maintenance during Aquifer Restoration
Dewey-Burdock Project

O&M During aquifer restoration phase				
Dewey-Burdock Project			Subtotals	
O&M	DDW	LA	DDW	LA
1 Well field operations, prorated for length of restoration (years = 0.30)				
General well maintenance	54,000	54,000		
Well MIT- none in first 5 years	0	0		
Replacement of submersible pumps	12,000	12,000		
Header house maintenance	9,000	9,000		
Pipelines & road maintenance	9,000	9,000		
Subtotal well field operation			84,000	84,000
2 Capital equipment				
RO units, RO sump pumps, roll-offs (direct & indirect)	593,000	70,000		
Subtotal capital equipment			593,000	70,000
3 Pumping costs				
RO pumps	19,900			
Madison aquifer booster	1,700	5,700		
Plant to radium settling ponds	7,100	32,200		
From outlet pond to disposal (LA or DDW)	7,100	71,500		
Subtotal pumping costs			35,800	109,400
4 Facility operation				
Resin replacement	0	0		
Resin transport	300	300		
Electricity	17,000	17,000		
Propane	59000	59000		
Maintenance	12,000	12,000		
Subtotal facility operation			88,300	88,300
5 Chemicals				
For resin elution	2,300	2,300		
For Radium precipitation	2,610	8700		
Subtotal chemicals			4,910	11,000
6 Groundwater, Surface water monitoring				
	62,000	62,000		
Subtotal groundwater and surface water monitoring			62,000	62,000

Operation and Maintenance during Aquifer Restoration
Dewey-Burdock Project

O&M During aquifer restoration phase Dewey-Burdock Project				Subtotals	
		DDW	LA	DDW	LA
7 Disposal well					
Electricity		20,000			
Maintenance		9,863			
	Subtotal disposal well			29,863	-
8 Land application system					
Electricity			96,000		
Maintenance			35,000		
	Subtotal land application system			-	131,000
Total O&M for aquifer restoration	Totals	897,873	555,700	897,873	555,700
		DDW	LA	DDW	LA

Operation and Maintenance Costs
Dewey-Burdock Project

Table 3: Operating and maintenance costs					
Dewey-Burdock Project					
Powertech (USA), Inc.					
	Number	**Quantity**	**Units**	**Rate**	**Cost ($/yr)**
Annual well field costs during aquifer restoration assuming continuous 365-day/y operation					
Wells (per well)					
General well maintenance	1	1	lump sum	300	300
Well Mechanical Integrity Testing (every 5 yr)	1	0			0
Electric utilities:					
Well head heaters (0.5 kW, 8 hr/day, 180 days/yr)	1	720	kWh	0.070	50
Header houses (per HH)					
Flow meter maintenance (2 @ $50 ea.) per HH	2	1	ea	50	100
Replacement pressure gauges/switches	20	1	ea	50	1,000
Equip. maintenance (@ 2% of new equipment capital)	1	80,000	%	0.02	1,600
Subtotal maintenance					**2,700**
Electric utilities:					
Bldg. heating (5 kw, 180 days/yr)	1	22,000	kWh	0.070	1,500
Instrumentation (1 kw)	1	9,000	kWh	0.070	600
Subtotal power					**2,100**
Wellfield maintenance					
# Production (extraction) wells		195	prod wells		
# Injection wells		411	inj wells		
General well maintenance ($300/well * (PW+IW)/y)					182,000
Well MIT - none in first 5 years		-			
Replacement of submersible pumps (10%/yr @ $2,000 each)		39,000	$		
# Header houses (per MM # produced)		11.0	HH		
Header house maintenance (# HH x $2700/HH)			per HH	2,700	29,700
General well field maintenance					
Pipelines		1	lump sum	20,000	20,000
Road maintenance materials (gravel/culverts)		1	lump sum	10,000	10,000
Wireless telemetry and security systems maintenance		1	lump sum	2,000	2,000
Subtotal maintenance					**32,000**

POWERTECH (USA) INC.

Operation and Maintenance Costs
Dewey-Burdock Project

	Number	Quantity	Units	Rate	Cost ($/yr)
Annual Facility/Plant costs					
Ion exchange resin replacement - DOWEX 21K XLT		0	CF	221	0
Utilities:					
Electricity					
PC booster pump 250 gpm @ 90' TDH	2	83,000	kWh	0.070	5,800
IC booster pump 250 gpm @ 90' TDH	2	83,000	kWh	0.070	5,800
Resin transfer pump 100 gpm @ 50' TDH	1	9,180	kWh	0.070	643
Utility water pump (300 gpm @ 40' TDH)	1	22,020	kWh	0.070	1,500
RO unit - included in deep well disposal option below					
CPP HVAC	1	175	MWh	0.070	12,300
CPP lighting (0.8 W/ft^2 for 10^4 $ft^{2)}$	10,000	70,000	kWh	0.070	4,900
CPP instrumentation (2 kw)	1	18,000	kWh	0.070	1,300
Maintenance bldg. HVAC	1	87.6	MWh	0.070	6,100
Office bldg. HVAC	1	87.6	MWh	0.070	6,100
Satellite faiclity HVAC	1	88	MWh	0.070	6,100
Satellite facility instrumentation	1	18,000	kWh	0.070	1,300
Exterior lighting	1	88	MWh	0.070	6,100
Subtotal annual electric power					**57,943**
Propane @ 21,600 Btu/gal (gallons from ER)					
CPP/SF space heating	1	77,220	gal/y	2.150	166,000
CPP thermal fluid heater, prorated for restoration production of U3O8	2.59E-03	14,145	gal/y	2.150	100
Maintenance bldg	1	11,598	gal/y	2.150	24,900
Office bldg	1	4,883	gal/y	2.150	10,500
Subtotal annual propane					**201,500**
Resin transport to CPP		6	R/T per yr	50	**300**
Land Application Option Operating Cost	**Mgal**	**kWh/kgal**	**kWh**	**$/kWh**	**Lump Sum $**
Land app. pumps from pond to pivots (200' TDH) (water vol. from Table 1)	196	5.220	1,021,000	0.07	71,470
Days of irrigation	Days				
March 29-May 10	42				
May 11-Sept 24	136				
Sept 25-Oct 31	37				
Total available irrigation days per year	215				

Operation and Maintenance Costs
Dewey-Burdock Project

	Number	Quantity	Units	Rate	Cost ($/yr)
Pivot Irrigation system capacity	**# installed**	**# used**	**@ gpm**	**subtotal gpm**	
50 acre Pivot - 15 hp drive	5	5	104	520	
25 acre Pivot - 10 hp drive	0	0	52	0	
15 are Pivot - 7.5 hp	0	0	31	0	
Total land application rate (gpm)				520	
Total days of irrigation required (wastewater volume/total LA rate)				261	
Irrigation Years @ 215 days/y				1.2	
Cost of pivot irrigation operation				**$/kWh**	**Cost $**
Center pivot hydraulic pump; 15 hp for 50 ac areas (use 13 RHP)	5	350,471	kWh	0.07	24,500
Center pivot hydraulic pump; 10 hp for 25 ac areas (use 8 RHP)	0	0	kWh	0.07	0
Center pivot hydraulic pump; 7.5 hp for 15 ac areas	0	0	kWh		0
Sump pump at 25 ac land app site (return irrigation tailwater/runoff)	0	3,000	kWh	0.07	0
Sump pump at 50 ac land app site (return irrigation tailwater/runoff)	5	10,000	kWh	0.07	3,500
Subtotal land application power					**99,000**
Equipment maintenance				$	**Annual Cost**
Center pivot machines	5	1	year	500	2,500
Equip. maintenance (@ 3% of new equipment capital) - pumps only		78,000	%	3	2,300
Equipment replacement (@ 3% of new equipment capital)		1,464,000	%	3	43,900
Subtotal annual maintenance					**49,000**
Prorated pivot maintenance (129/365)					**35,038**
Total cost land application					**205,508**
Deep disposal well operating cost					
Injection pump maintenance and repair (assume 6%/y of cap cost)	2	150,000	Cap cost	0.06	**18,000**
Wastewater volume (Mgal)	43				
Days of DDW operaton (ww volume/(150 gpm total flow rate))	200				
Prorated DDW maintenance					**9,863**
Electric utilities:					
Deep disposal well PD pump (4, but only one operating)					
150 gpm @ 1000' TDH)	1	275,300	kwh	0.070	19,300
Bldg. heating (1 kw, 180 days/yr)	1	4,000	kwh	0.070	300
RO unit power	1	284	MWh	0.070	19,900
Subtotal annual DDW power					**20,000**
Prorated DDW power (216/365)					**10,959**
Total deep well cost (power + maint.)					**20,822**

Operation and Maintenance Costs
Dewey-Burdock Project

	Number	Quantity	Units	Rate	Cost ($/yr)
Restoration					
Treatment chemicals					
IX cost (from Operating Chemicals)			LS	1.000	11,000
Subtotal					**11,000**
Treatment maintenance					
Process hardware maintenance + replacement @ 4% of Capital		994,000	cap cost	0.040	39,760
Subtotal					**40,000**
Madison water supply power					
Maintenance @ 10%/y of replacement cost of ($75K/pump)	2	75,000		0.100	15,000
Madison booster pump (150 gpm; 500 TDH; 24 hr/day)	1	184,000	kwh	0.070	13,000
Subtotal					**28,000**
Power costs that vary with disposal option					
Madison water supply booster pump (free flowing) @ 40' TDH	Mgal	**kWh/kgal**	**$/kWh**	**Cost $**	
DDW option	23	1.040	0.07	1,700	
LA option	78	1.040	0.07	5,700	
Pump power from ponds to disposal	Mgal	**kWh/kgal**		**Cost $**	
DDW option Booster Pumps (90 TDH)	43	2.350	0.070	7,100	
LA option Booster Pumps (200 TDH)	196	5.220	0.070	71,500	
Booster pumps from plant to radium settling ponds	Mgal	**kWh/kgal**		**Cost $**	
DDW option booster pumps (90 TDH)	43	2.350	0.070	7,100	
LA option booster pumps (90 TDH)	196	2.350	0.070	32,200	

Capital Equipment
Dewey-Burdock Project

Description	Equipment List Number	No./Size	Quantity	Units	Unit Cost	Purchase Cost	Shipping Cost	Estimated Capital Cost
Table 4: Capital Equipment								
Disposal well option								
Capital equipment to be purchased								
					0	0	0	0
					0	0	0	0
Shredder (HDPE/poly/PVC/FRP)		1	1	each	50,000	50,000	2,500	53,000
BFI 30 CY roll-off containers		2	1	each	7,800	16,000	800	17,000
RO sump pump	300-P-011, spare	0	1	each	1,915	0	0	0
RO skid (Incl pretreatment, filtration and feed pump) 100 gpm	100-RO-001	2	1	each	248,841	498,000	24,900	523,000
Estimated Restoration Equipment - Subtotal:								**593,000**
Land application option								
Description	**Equipment List Number**	**No./Size**	**Quantity**	**Units**	**Unit Cost**	**Purchase Cost**	**Shipping Cost**	**Estimated Capital Cost**
Restoration system								
					0	0	0	0
					0	0	0	0
Shredder (HDPE/poly/PVC/FRP)		1	1	each	50,000	50,000	2,500	53,000
BFI 30 CY roll-off containers		2	1	each	7,800	16,000	800	17,000
RO sump pump	300-P-011, spare	0	1	each	1,915	0	0	0
RO skid (Incl pretreatment, filtration and feed pump) 100 gpm	100-RO-001	0	1	each	248,841	0	0	0
Estimated Restoration Equipment - Subtotal:								**70,000**

Chemicals
Dewey-Burdock Project

Table 5: Chemicals						
Dewey-Burdock Project						
Chemical usage		**usage rate**				
Hydrogen peroxide - 50% solution		0.36	lb/(lb U3O8)			
Sulfuric acid - 93%		1.00	lb/(lb U3O8)			
Sodium hydroxide - 50% solution		0.92	lb/(lb U3O8)			
Sodium chloride		4.60	lb/(lb U3O8)			
Sodium carbonate		0.92	lb/(lb U3O8)			
Barium chloride dihydrate		20	mg/(L-RC)			
Flow rate		500	gpm			
Uranium concentration		5	ppm			
Uranium concentration in IX tails		1	ppm			
Volume of restoration composite extracted		77,550,000	gal			
U3O8 production during restoration activities		2588	lb U3O8			
Chemical Costs ($/y)						
Project year	1	2	3	4	5	6
U3O8 production from restoration activities (lb U3O8)			2588	0	0	0
Cost of Chemicals						
Hydrogen peroxide - 50% solution			300			
Sulfuric acid - 93%			300			
Sodium hydroxide - 50% solution			300			
Sodium chloride			1100			
Sodium carbonate			300			
Barium chloride dihydrate			8,700			
Subtotal			**11,000**	-	-	-

11e.(2) Byproduct Material Disposal
Dewey-Burdock Project

Table 6: 11e(2) Byproduct Material Disposal
Dewey-Burdock Project

Item	Description	Quantity	Units	Disposal Rate	Transportation Cost	Annual Disposal Cost	Years of Rest. + Stability	Total Cost
RO and IX waste	Costs included in CPP	0		$/CF	$/CF			
Well field waste	Assume 1 drum/4 weeks = 2 CF/wk	104	CF/yr	5.56	5.19	1,117	1.30	1,452
PPE	Assume 1 drum/4 weeks = 2 CF/wk	104	CF/yr	5.56	5.19	1,117	1.30	1,452
Decontamination waste	Assume 1 drum/4 weeks = 2 CF/wk	104	CF/yr	5.56	5.19	1,117	1.30	1,452
		Subtotal Byproduct Disposal during Restoration Ops.						**4,356**

11e.(2) byproduct material waste during decommissioning	Quantity	Units	Disposal Rate ($/unit)	Transportation Cost			Lump Sum transport +disposal $
				unit	no. units	$/unit	
Well field waste - from Table 6	8,230.00	CF	5.56	CF		5.19	88,396
Pond liners							
DDW option facility waste - from Table 9	19,930	CF	5.56	CF		5.19	214,063
LA option Facility waste - from Table 9	25,630	CF	5.56	CF		5.19	275,285
Equipment and resin - from Table 9	21,951	CF	5.56	Semi load	9	4,200.00	159,750
	Summary of Byproduct Disposal costs during Decommissioning						
						DDW	LA
			11e.(2) Byproduct Material Disposal			462,209	523,431

Monitoring
Dewey-Burdock Project

Table 7: Monitoring								
Dewey-Burdock Project								
Ennironmental Monitoring		**Number**	**Quantity**	**Units**	**Rate ($)**	**Cost ($/yr)**		
Met Station	Met station for site	1	12	visits/yr	200	2400		
Water Qual.								
	20 metals, mercury, alk, Cl, SO4, NO3, Fl, EC, pH, and TDS (Test America) @ $350 (w/ shipping)							
	spec, Th, U, and gross A/B (Test America) @ $550 (w/ shipping)							
	End-of-ISR sampling Sampling from set of 6 baseline wells in production zone for all analytes of TR Table 6.1-1. Assume analytical cost of $1,000/sample. Sample prior to beginning of restoration activity.	1	6	wells/ sampling event	1000	6,000	$/sampling event	
	Restoration: Monitoring during restoration for optimization, efficiency and to identify spatial discrepancies. Sample composite restoration stream at completion of of each pore volume extracted at each site, analyze for Table 6.1-1 analytes.	2	6	wells/ sampling event	1000	12,000	$ total	
	Excursion monitoring: Sampling every 60 days of all monitor wells for excursion indicator parameters + water level. Analytes tested in CPP lab @ ~ $10/sample.	1	77	wells/ sampling event	10	770	$/sampling event	
	Stability: Same as End-of-ISR sampling at beginning of stability period and after each quarter for 12-month stability period	5	6	wells/ sampling event	1000	30,000	$/stability period	
Radon	CPP (10 dose buttons quarterly)	4	10	buttons/qtr	50	2,000	$/year	
	Satell/Well Field (5 dose buttons/quarter)	4	5	buttons/qtr	50	1,000	$/year	
	Restor/Decom (5 buttons quarterly)	4	5	buttons/qtr	50	1,000	$/year	
	Project Year		1	2	3	4	5	6
	Restoration/Stability		Construction	production	restoration + stability mon.		Decomm.	Decomm.
	End-of-ISR				6,000			
	Met station				2,400	720		
	Restoration				12,000			
	Stability				20,000	10,000		
	Excursion monitoring				4,620	1,500		
	Radon				2,600.0	2,000		
	Annual Subtotals				48,000	14,000	-	-
	Total Monitoring	62,000						

Well Field Reclamation
Dewey-Burdock Project

Table 8: Well Field Reclamation
Dewey-Burdock Project

			Value	Units
Well Decommissioning			**Value**	**Units**
Unit cost per well (assume avg. depth of 650 feet)				
5" diameter casing =			0.131	CF/LF
Average well depth =			525	LF
Volume per well =			69.0	CF
Cement grout cost =			9.00	$/CF
Cement plug cost/well			621.29	$/well
Equipment + labor: pull tube, pump; cut & remove casing below grade.				
Contract labor/equipment (incl. mob/demob) = 4 crew-hr/well @ $125/hr			500	$/well
Total abandonment cost/well (rounded) =			1,100	$/well
Cost of plugging wells	# wells (from Table 1) =	683	751,300	$LS
	Total well plugging & abandonment costs		**751,000**	**$LS**

Surface Structures		**No./Size**	**Quantity**	**Units**	**Cost**	**Demo Cost**	**Waste vol (Cu. Ft)** SubtitleD	11e.(2)
Overhead Power								
Power poles: one every 200' (40' H, 5' in ground); pull + cut in half, place pole and cross arms in roll-off	47+54K' OHE	505	505	each	297	150,000	27,888	
Power cables	Assumed zero net cost (removal cost = salvage value)					0		
Wells	**CF per well**	**# wells**	**Quantity**					
Casing/wellhead appurtenances/cover from prod/inj/mon. wells @ 64 CF/well	64	683	683				43,712	
Well pumps from PW+MW	1	272	272					272
Down-hole tubing wells (2" X 625' x 0.36" wall)	14	683	683					9,579
Total WF Surface structures							71,600	9,851

Well Field Reclamation
Dewey-Burdock Project

Table 8: Well Field Reclamation (cont.)

Header Houses Included with building demolition/disposal in Table 9

Pipelines to be chipped and disposed as 11e.(2) byproduct material
Trunklines from CPP or SF to well fields;

	No.	pipes	ft.	lb/ft	Chipped vol (CF)
Burdock (CPP to WF)					
1 16" HDPE per site	1	2	4000	24.2	3,600
2 10" HDPE per site	1	2	4000	10.93	1,600
Dewey (SF to WF)					
1 16" HDPE per site	1	2	1000	24.2	900
2 10" HDPE per site	1	2	1000	10.93	400
Per HH (valve vaults to HH)					
1 6" HDPE per HH	11	2	120	4.15	200
2 2" HDPE per HH	11	2	120	0.534	30
Per Well (HH to well)					
1 2" HDPE per PW, IMW	202	1	210	0.534	400
2 2" HDPE per PMW	70	1	720	0.534	500
3 1.5" HDPE per Inj. Well	411	1	210	0.342	600
Total to 11e.(2) byproduct material disposal - Table 6					8,230

	# pipes	ft of trench	$/(ft-pipe)	Cost $
Pipeline chipping @ $0.15/CF				1,235
Pipeline removal				
CPP-SF Trunklines	4	5,000	0.533	10,660
CPP-SF trunklines	4	19,800	0.533	42,214
Valve vaults to HH	3	1320	0.267	1,057
Well field pipelines	4	35,498	0.133	18,885
Cost of pipeline removal				72,816
Total Well Field Decommissioning Costs				975,050

Site Demolition
Dewey-Burdock Project

Table 9: Site Demolition								
Dewey-Burdock Project								
Description	**Units**	**No./Size**	**Quantity**	**Units**	**Unit Cost**	**Estimated Demo Cost**	**Vol. (CF) to Load on Trucks**	
Byproduct Materials								
Pond Demo and Send to 11e(2) Disposal Site								
Accumulated solids - radium settling pond (@ 20 mg/L)							**10,430**	CF
Load 30 CY roll-offs at site w/ front-end loader			386	cy	2	770		
Deep Well Disposal Option								
CPP pond (liner and leak detection system)								
80 mil HDPE primary liner @ 26 ft^2/CF		1	123,281	sq ft	0.05	6,200	**4,742**	
Radium settling & spare ponds (liner and leak detection system)								
80 mil HDPE primary liner @ 26 ft^2/CF		2	123,281	sq ft	0.05	12,300	**4,742**	
Subtotal Materials to Demo and Send to Rad Waste Disposal Site:						18,500	**9,500**	CF
Load 30 CY roll-offs at site w/ front-end loader			352	cy	2	700		
Subtotal pond disposal - DDW option						**19,970**	19930	CF
Land Application Disposal option								
CPP pond (liner and leak detection system)								
80 mil HDPE primary liner @ 26 ft^2/cu.ft		1	189,231	sq ft	0.05	9,500	**7,278**	
Radium settling ponds (liner and leak detection system)								
80 mil HDPE primary liner @ 26 ft^2/cu. ft.		2	205,959	sq ft	0.05	20,600	**7,922**	
Subtotal Materials to Demo and Send to Rad Waste Disposal Site:						30,100	**15,200**	CF
Load 30 CY rolloffs at site w/ front-end loader			563	cy	2	1,100		
Subtotal pond disposal - land application option						**31,970**	25630	CF
Equipment to be transported to 11e.(2) byproduct material disposal							**CF**	**Semi-loads**
Ion exchange columns, incl. resin: assume 12' dia. x 15'H	1,700	12	12	LS	1,000	12,000	**20,400**	6
Vacuum dryers and appurtenances								
Dryers	1071	1	2	LS	10,000	20,000	**1,071**	2
Vacuum pump/condensor skids, hot oil boiler skids, cooling tower system	480	1	2	LS	2,000	4,000	**480**	1
Subtotal removal/loading of (byproduct) equipment						36,000	21951	**9**
Equipment/Materials for transport to re-use or recycling facility							**CF**	**Semi-loads**
Pad or pole-mounted transformers (one per Header Hse) - 10 per truckload		11	1	LS	500	600		
Haul transformers to Rapid City (100 mi one-way)		1	200	mile	3.50	800		
Wire in OHE lines - 47,000' of OHE at Dewey; 54,000' at Burdock - 4 wires			404,000	lf	0	0		

Site Demolition
Dewey-Burdock Project

Description	Units	No./Size	Quantity	Units	Unit Cost	Estimated Demo Cost	Vol. (CF) to Load on Trucks	
Valve vaults: cut off lid and dispose of lid	200	11	0.5	hrs	50	275		
Valve vaults: truck haul to recycler			200	mile	3.50	700		
Resin transfer truck and trailers (1 truck; 2 trailers)			1	LS	0	0		2
Chain-link fencing								
Around CPP site			2,240	lf	3.43	7,700		
Around Satellite site			1,440	lf	3.43	4,900		
Around CPP pond (380' sq)		440 ft. per side	1,760	lf	3.43	6,000		
Around radium settling ponds; CPP			9,700	lf	3.43	33,300		
Around radium settling ponds; Satellite			8,200	lf	3.43	28,100		
Barbed wire fencing in wellfields - 3 strand			87,000	lf	1.75	152,300		
Support steel in Drying area	4,500	1	1	LS	5,000	5,000	**4,500**	2
Standby generator	512	1	1	each	500	500	**512**	0.5
Diesel fuel tank - above ground, assume 15,000 gal	2,005	1	1	each	500	500	**2,005**	1
Gasoline fuel tank - above ground, assume 15,000 gal	2,005	1	1	each	500	500	**2,005**	1
Fire suppression pump system	512	1	1	LS	500	500	**512**	0.5
Subtotal Demolition and Transportation/Disposal Equip/Mat'ls to be Sold or Recycled						**242,000**	**9,500**	**7**
Equipment re-used/recycled						**242,000**		
Equipment disposal specific to Wastewater Disposal method.								
DDW option								**Semi-loads**
Equipment at DDW		1	4	LS	1,000	4,000		1
Pond outlet structures, pumps (DDW option)		1	4	LS	**500**	2,000		1
CPP pond (liner and leak detection system)								
60 mil HDPE secondary liner		1	123,281	sq ft	0.05	6,200	**3,522**	
Geonet		1	123,281	sq ft	0.05	6,200	**3,522**	
Single lined ponds (liner and leak detection system)								
40 mil single liner (outlet, surge)			280,946	sq. ft	0.05	14,000	**8,027**	
Uncontaminated 80 mil liner from unused spare ponds								
80 mil liner		2	123,281	sq ft	0.05	12,300	**3,522**	
Radium settling ponds (liner and leak detection system)								
60 mil HDPE secondary liner		2	123,281	sq ft	0.05	12,300	**3,522**	
Geonet (radium settling + spare ponds)		4	123,281	sq ft	0.05	24,700	**3,522**	
							25,639	2
Load 30 CY roll-offs at site w/ front-end loader			950	cy	2	1,900		
Subtotal DDW option						83,600		
LA option								**Semi-loads**
Land application center pivot machines	4,000	21	21	LS	1,000	21,000		5
Pond outlet structures, pumps (LA option)		1	5	LS	500	2,500		2

Site Demolition
Dewey-Burdock Project

Description	Units	No./Size	Quantity	Units	Unit Cost	Estimated Demo Cost	Vol. (CF) to Load on Trucks	
Single lined ponds (liner and leak detection system)								
40 mil single liner (outlet, storage, spare storage)			2,457,374	sq. ft	0.05	122,900	**70,211**	
CPP pond (liner and leak detection system)								
60 mil HDPE secondary liner		1	189,231	sq ft	0.05	9,500	**5,407**	
Geonet		1	189,231	sq ft	0.05	9,500	**5,407**	
Uncontaminated 80 mil liner from unused spare ponds								
80 mil liner		2	205,959	sq ft	0.05	20,600	**5,885**	
Radium Settling Ponds (liner and leak detection system)								
60 mil HDPE secondary liner		2	205,959	sq ft	0.05	20,600	**5,885**	
Geonet (radium settling + spare ponds)		4	205,959	sq ft	0.05	41,200	**5,885**	
							98,678	7
Load 30 CY roll-offs at site w/ front-end loader			3,655	cy	2	7,300		
Subtotal LA option						255,100		
Equipment/Materials to Demo and Dispose at Construction and Demolition Landfill								
Process pumps in buildings	16	60	60	LS	200	12,000	**960**	1
Shaker screens: 10'x7'x5'H	400	2	2	LS	2,000	4,000	**800**	1
Elution columns: 7' dia x 15'H	600	4	4	LS	1,000	4,000	**2,400**	2
13' dia. tanks x 16'H	2,100	22	22	LS	500	11,000	**46,200**	11
11' dia. tanks x 16'H	1,500	2	2	LS	1,000	2,000	**3,000**	1
10' dia. tanks x 16'H	1,300	1	1	LS	1,000	1,000	**1,300**	1
RO units	400	4	4	LS	1,000	4,000	**1,600**	1
Thickeners	10,600	2	2	LS	10,000	20,000	**21,200**	5
Screw conveyors	100	2	2	LS	1,000	2,000	**200**	6
Filter presses	2000	2	2	LS	5,000	10,000	**4,000**	1
Chemical storage tanks outside CPP - assume 20,000 gal	2674	3	3	LS	500	1,500	**8,021**	3
Drum conveying system	2,900	1	1	LS	1,000	1,000	**2,900**	0.5
Drum washer and drying system	1,200	1	1	LS	1,000	1,000	**1,200**	0.5
Paint booth	400	1	1	LS	500	500	**400**	0
Building Structures								
Office building	60x90x20+roof		148,500	CF	0.15	22,300	**18,600**	
Maintenance/Warehouse	140x120x20		462,000	CF	0.15	69,300	**33,800**	
Fire suppression tank	240,000 gal		30,968	CF	0.15	4,600		
Building Structure								
CPP, includes loading dock area	392'x130'x20'+roof		1,486,840	CF	0.15	223,000	**77,560**	
Lab/control rm/break rm/showers/restrooms w/in CPP	30x90x20'		54,000	CF	0.15	8,100	**10,200**	
Rad container bldg	30x24x15		10,800	CF	0.15	1,600	**2,340**	
Header houses - assume equip/piping inside demo'd w/ bldg	10x40x8	11	3,200	CF	0.15	5,280	**8,800**	
Satellite bldg, incl interior wall	124x156x20		396,552	CF	0.15	59,500	**39,448**	
Lab/control rm/break rm/showers/restrooms w/in Satellite	45x45x20		40,500	CF	0.15	6,100	**4,950**	
				Subtotal Bldgs Demo:		**399,780**	**342,600**	34

Site Demolition
Dewey-Burdock Project

Description	Units	No./Size	Quantity	Units	Unit Cost	Estimated Demo Cost	Vol. (CF) to Load on Trucks
Transportation/Disposal							
Loading 30 CY rolloffs at site w/ front-end loader			12,689	CY	2	25,400	
Loading process equipment			34	semi load	1,000	34,000	
Transportation to Regional landfill at Edgemont, SD @ 16 miles	$3.50/mi x 16 mi + $1.98/mi x 1		423	semi-load	88	37,100	
Transportation to RE-use/Recycling sit @ Rapid City, SD @ 87 miles	$3.50/mi x 87 mi + $1.98/mi x 8		7	semi load	477	3,300	
Disposal fee at Custer -Fall River landfill, Edgemont, SD			12,689	CY	10	126,900	
	Subtotal Transportation/Disposal - Subtitle D Material:					**226,700**	
			Transportation/Disposal in Landfill			**626,000**	
Other Misc Demo Activities							
Rinse piping and treat rinsewater - assume 3 piping volumes	2,263,486 gal/pipe vol		6,790	1,000 gal	3	20,400	
Valve vaults at well fields - leave in place fill with soil		11	11	CY	20	2,500	
Septic tank - CPP: 15,000 gal (fill with soil, leave in place)	15,000 gal	1	2,005	CY	10	20,100	
Septic tank - Satellite: 10,000 gal (fill with soil, leave in place)	10,000 gal	1	1,337	CY	10	13,400	
Backfill excavation and compact surge pond (Dewey)			59,259	CY	1	59,300	
Backfill excavation and compact radium settling ponds volume (Dewey)			185,185	CY	1	185,200	
Abandon DDWs			0	wells	100,000	0	
Reseed well field areas (fertilize, seeding, mulching)			67	acre	1,500	100,700	
Reseed CPP site			11	acre	1,500	16,600	
Reseed CPP radium settling ponds			48	acre	1,500	71,300	
Reseed Satellite plant area			35	acre	1,500	52,300	
Reseed access road to CPP			11	acre	1,500	16,500	
Reseed access road to Satellite			8	acre	1,500	12,000	
			Subtotal Other Misc Demo Activities:			**570,300**	
LA Option only							
Backfill excavation and compact storage ponds	8 x 63.8 ac ft		823,000	CY	1	823,000	
Reseed storage pond area			24	acre	1,500	35,800	
		Subtotal addl other Misc for LA option				**858,800**	

	Summary of Facility Decommissioning Costs	DDW	LA
A	Reclyclable/salvageable equipment	242,000	242,000
B	Non-salvageable buildings & equipment disposal	710,080	1,123,580
C	11e.(2) byproduct material processing/loading	55,970	67,970
D	Restore contaminated areas	570,300	1,429,100

Survey
Dewey-Burdock Project

Table 10: Survey Dewey-Burdock Project		
	Disposal Option	
Gamma Survey Area (acre)	DDW	LA
Disturbed area after first year of production		
Well fields		
Burdock WF1	17.6	17.6
Dewey WF1	39.3	39.3
Site areas: CPP, SF, pipelines between CPP-SF, site access roads	23.8	23.8
Major pipelines (est. 30% of 24.79 ac total)	7.4	7.4
WF access roads (est. 30% of 140 acres total)	6.2	6.2
DDWs (assume 0.1 acre per DDW)	0.2	0
Irrigation area		1,052
Impoundments, topsoils	33	136
Total survey area (acre)	**128**	**1,282**
Gamma Survey Costs		
Mob/Demob	4,000	4,000
100-m transects ($/acre)	10	12
Survey cost	1,280	15,384
Survey report	5,000	5,000
Survey Total $	10,300	24,400
Total Survey Cost	10,300	24,400

Labor
Dewey-Burdock Project

Table 11: Labor				Project Year					
				1	2	3	4	5	6
			Activity	Constrctn	Prodctn	Restoration+ stability		Recl. + Decomm.	
	Administration								
		Radiation Safety Officer				1	1	1	1
	Restoration								
		Superintendent				1	1	1	
		Restoration Engineer				1	1	0	0
		Restoration Operator				2	0	0	0
		Lab Technicians				1	1	0	0
Unit Labor Costs including 35% overhead									
	Administration								
		Radiation Safety Officer	135,000			135,000	135,000	135,000	135,000
	Restoration								
		Superintendent	135,000			135,000	135,000	135,000	0
		Restoration Engineer	81,000			81,000	81,000	0	0
		Restoration Operator	68,000			136,000	0	0	0
		Lab Technicians	47,000			47,000	47,000	0	0
		Project Year		1	2	3	4	5	6
		Restoration and Reclamation Labor Cost				534,000	398,000	270,000	135,000

Management
Dewey-Burdock Project

Table 12: Management and Miscellaneous Costs
Dewey-Burdock Project

		Project year				
		3	4	5	6	Total
Mob/Demob		12,500			12,500	25,000
Total Management						
Facility Manager @ $150,000 + 35%		202,500	202,500	202,500	202,500	810,000
Contractor Profit						
Percent of labor	10%	53,400	39,800	27,000	13,500	133,700
Subtotals Mgmt & Misc. - $		268,400	242,300	229,500	228,500	968,700

Impoundments
Dewey-Burdock Project

Table 13: Impoundments											
Dewey-Burdock Project											
			# ponds	DDW				LA			
		PONDS		capacity	liner/pond	Primary	Secondary	capacity	Liner	Primary	Secondary
				ac-ft	ft^2 *	mil	mil	ac-ft	ft^2 *	mil	mil
		CPP	1	15.9	123,281	80	60	36.2	189,231	80	60
		Radium Settling	2	15.9	123,281	80	60	39.4	205,959	80	60
		Spare	2	15.9	123,281	80	60	39.4	205,959	80	60
		Outlet	2	5.1	53,068	40		4.9	18,588	40	
		Surge	2	8.4	87,405	40					
		Storage	8					63.8	242,020	40	
		Spare Storage	2					63.8	242,020	40	
Totals		Liner ft^2 (KP)-Dewey			264,718	80			433,190	80	
		Liner ft^2 (KP)-Dewey			264,718	60			433,190	60	
		Liner ft^2 (KP)-Dewey			140,473	40			1,228,687	40	
		Liner ft^2 (KP)-Burdock			351,689	80			579,875	80	
		Liner ft^2 (KP)-Burdock			351,689	60			579,875	60	
		Liner ft^2 (KP)-Burdock			140,473	40			1,228,687	40	
		Total 80 mil (KP)			616,407	80			1,013,065	80	
		Total 60 mil (KP)			616,407	60			1,013,065	60	
		Total 40 mil (KP)			280,946	40			2,457,374	40	

KP= Total liner areas, as reported by Knight Piesold (KP) in Pond Design Report
* Liner area of individual ponds estimated as proportional to pond capacity

Well Field Pipe Removal
Dewey-Burdock Project

Table 14: Well Field Pipe Removal
Dewey-Burdock Project

Assumptions

1 Backhoe trench to uncover pipe @ 1,500 ft/day
2 Extract pipeline and backfill @ 1,500 ft/day
3 Backhoe rental $2688/mo., plus fuel, maint., mob. @ $1,200/wk) = $1,840/wk
4 Backhoe operator @ $20/hr
5 Pipeline extraction with 2 workers @ $17/hr in addition to backhoe operator
6 Operating schedule: 8 hr/day, 5 days/week

Main pipeline removal

Equipment

$$\frac{\$\ 1840}{\text{week}} \times \frac{1\ \text{week}}{5\ \text{days}} \times \frac{1\ \text{day}}{1{,}500\ \text{ft}} = \$\ 0.245333\ /\text{ft}$$

Labor

Backhoe operator

$$\frac{\$\ 20}{\text{man-hr}} \times \frac{8\ \text{man-hr}}{1\ \text{day}} \times \frac{1\ \text{d}}{1{,}500\ \text{ft}} = \$\ 0.11\ /\text{ft}$$

Pipeline extraction

$$\frac{\$\ 17}{\text{man-hr}} \times \frac{16\ \text{man-hr}}{1\ \text{day}} \times \frac{1\ \text{day}}{1{,}500\ \text{ft}} = \$\ 0.18\ /\text{ft}$$

Pipelines extraction cost per foot =$ 0.533

Attachment RAP-3

Financial Assurance-Related Correspondence with Other Regulatory Agencies

APPENDIX 6.6-B

Numerical Modeling of Groundwater Conditions Related to In Situ Recovery

NUMERICAL MODELING OF GROUNDWATER CONDITIONS RELATED TO INSITU RECOVERY AT THE DEWEY-BURDOCK URANIUM PROJECT, SOUTH DAKOTA

Introduction

Powertech (USA) Inc., has submitted an application to the U.S. Nuclear Regulatory Commission (NRC) for a Source Materials License (SML) to conduct in-situ recovery (ISR) of uranium from the Dewey-Burdock Project in South Dakota (Powertech, 2009). Wellfield-scale modeling simulations were conducted in response to the Request for Additional Information (RAI) from NRC presented to Powertech in a correspondences dated May 19, 2010 and May 28, 2010. The target ore zone at the Dewey site is the lower Fall River Formation, and this is the aquifer represented in these hydrological modeling simulations. Ore is also present in the Lakota Formation to the south at the Burdock site area, but flow in this aquifer is not simulated.

The following lists the specific RAIs presented by NRC that are addressed in this report (references to pore volume are not addressed in this report):

Correspondence dated May 19, 2010, entitled "Summary of April 8, 2010, Teleconference Addressing Technical Issues, Powertech (USA), Inc., Proposed Dewey-Burdock In-Situ Recovery Facility (TAC No. J00606)".

- Section III (Miscellaneous Issues), #4(d): *The applicant includes a flare factor of 1.5 in its calculation of restoration costs. In addition ground water restoration costs are based on treatment of 10 pore volumes. Provide justification for the flare factor and for using 10 pore volumes total.*

Correspondence dated May 28, 2010, entitled "Request for Additional Information, Powertech (USA), Inc., Proposed Dewey-Burdock In Situ Recovery Facility (TAC No. J00606)".

- Section 5.7.8, #10: *On page 3-14 of the Technical Report, the applicant proposes for the perimeter monitoring ring to be 400 feet from the production well field, with a minimum spacing between wells of a spacing that ensures a 70 degree angle. The applicant references three NUREG guidance documents on the proposed spacing but does not justify the spacing based on site-specific hydrogeological and geochemical conditions. Please provide the appropriate justification.*
- Section 6.1, #7: *The application did not include estimates on the pore volume for a wellfield, porosity, or flare factors. The staff needs this information to evaluate the financial assurance calculations and the proposed schedule and water balance for the restoration process. Please provide this information for staff to review.*

A numerical groundwater flow model was developed to evaluate wellfield-scale issues related to ISR production at the site. This report describes the development of the numerical model and summarizes the results of numerical simulations used to address NRC concerns regarding ISR operations at the site.

Models and simulations presented in this report are not intended to fully characterize the regional groundwater flow system and are based on data currently available. It is noted that there are hydrologic complexities to the site and surrounding area, such as aquifer heterogeneities and recharge and fault boundaries that may require further characterization. This modeling exercise is provided for the analysis of wellfield flare and demonstrating hydraulic control at the monitor well ring. The modeling presented in this report is site specific and is not intended to represent the regional groundwater flow system.

Purpose and Objectives

The numerical groundwater flow model was developed to support Powertech in planning and operation of the ISR project. The numerical model was used to assess impacts of ISR mining on lower Fall River Formation in the Dewey area of the proposed Dewey-Burdock Uranium Project. Model simulations were developed to:

- Evaluate the wellfield balance and net bleed at the proposed F-13 wellfield.
- Estimate wellfield flare during mining operations.
- Demonstrate that proposed monitor well spacing is adequate to detect any potential excursions, specifically by simulating an excursion out of the wellfield.
- Demonstrate that hydraulic control of the simulated excursion can be established by changing injection/extraction rates and altering groundwater flow direction at the perimeter monitor well ring.

The model was developed to allow adequate discretization within the wellfields such that the impacts of individual wells can be discerned.

Conceptual Model

Description of the geology and hydrogeology of the Permit Area can be found in the SML application (Powertech, 2009). Based on that document and hydrologic testing conducted in 2008 (Knight Piesold, 2008), a conceptual hydrologic model for the Dewey area at the Dewey-Burdock Project is summarized below.

The aquifer being simulated is the lower Fall River Formation, which is the proposed uranium production zone at the Dewey area. The total thickness of the Fall River Formation is approximately 165 feet in the area. There are three distinct ore zones of about 10 to 15 feet thick within the lower Fall River sandstone interval. This sandstone at the base of the Fall River is approximately 75 feet thick, and dips to the south-southwest at approximately 0.01 ft/ft. This interval of the lower Fall River Formation is the aquifer that was modeled in the following simulations.

The Fall River Formation is a confined aquifer system at the Dewey area, with a hydraulic gradient generally following the dipping beds to the south-southwest. Measured gradients in the Dewey area are locally as high as 0.01 ft/ft, but generally are closer to an average of 0.006 ft/ft (Knight Piesold, 2008). A hydraulic gradient of 0.006 ft/ft is utilized for all baseline (non-pumping) conditions around the simulated wellfield. There is also a vertical-upward hydraulic gradient of approximately 0.2 ft/ft measured between well screens in the lower sandstone versus the upper sandstone in the Fall River Formation. For the purposes of these simulations that focus on hydraulic behavior within the monitoring well ring, this vertical gradient was not considered, nor was potential leakage from or into overlying and underlying layers.

Results of hydrologic testing conducted in 2008 (Knight Piesold, 2008) provided the basis for aquifer parameters values used in the modeling. Results of testing in the Dewey area in the lower Fall River indicate an average transmissivity of 255 ft^2/day and average storativity of 4.6×10^{-5}. Based on an assumed 75-foot thickness of the lower Fall River, the hydraulic conductivity is calculated as 3.4 ft/day. Total porosity of the lower Fall River was estimated at 29 percent, based on analysis of core samples. These values were the initial values used in the model calibration simulations. The initial values were modified during model calibration.

Average groundwater velocity under the stated aquifer conditions of hydraulic conductivity of 3.4 ft/d, hydraulic gradient of 0.006 ft/ft and porosity of 29 percent is 0.07 ft/d, or 26 ft/yr.

Anticipated production rates were assumed to be approximately 20 gallons per minute (gpm) per well pattern, with a net bleed (overproduction) of approximately 1%. Figure 1 shows the wellfield layout that was modeled in the Dewey area.

Model Code

Three-dimensional analysis of groundwater flow in the lower Fall River aquifer system was performed with the finite difference groundwater flow model (MODFLOW), developed by the U.S. Geological Survey (USGS) (McDonald 1988, 1996). MODFLOW was selected for simulating groundwater flow at the Dewey site because it is capable of a wide array of boundary conditions, in addition to being a public domain code that is well accepted in the scientific community. MODFLOW can be used to simulate transient or steady-state saturated groundwater flow in one, two, or three dimensions. The code simulates groundwater flow using a block-centered, finite-difference approach. Modeled aquifers can be simulated as unconfined, confined, or a combination of thereof.

Advective transport was evaluated using MODPATH, Version 3, developed by the USGS (Pollock, 1994). MODPATH's particle-tracking code was utilized because it is compatible with model outputs from the MODFLOW groundwater flow model and is suitable for flowpath analysis of steady-state or transient simulations, and is a widely accepted public domain code. MODPATH utilizes the output head files from MODFLOW to calculate particle velocity changes over time in three dimensions.

MODPATH was used to provide computations of groundwater seepage velocities and groundwater flow directions at the site.

The pre/post-processor Groundwater Vistas (Environmental Simulations, Version 5, 2007) was used to assist with input of model parameters and output of model results. Groundwater Vistas serves as a direct interface with MODFLOW and MODPATH. Groundwater Vistas provides an extensive set of tools for developing, modifying and calibrating numerical models and allows for ease of transition between the groundwater flow and particle tracking codes. Full description of the Groundwater Vistas program is provided in the Users Guide to Groundwater Vistas 5 (Environmental Simulations, Inc., 2007).

Model Domain and Grid

The model encompasses an area of approximately 1,530 square miles and is shown on Figure 2. The model domain is aligned to the prevailing potentiometric gradient to the southwest (model is oriented 26 degrees east of north) and the model grid is centered over the F-13 wellfield. Northeast-southwest dimensions are 206,840 feet (39.2 miles), and northwest-southeast dimensions are 206,562.5 feet (39.1 miles).

The model grid was designed to provide adequate spatial resolution within the wellfield area in order to simulate response of the aquifer to typical extraction and injection rates anticipated at the Dewey area in the lower Fall River Formation. The model grid was extended a considerable distance from the wellfield boundaries to minimize potential impacts of exterior boundary conditions on the model solution in the area of interest.

Cell dimensions within the area of the proposed wellfield are 17.5 feet by 17.5 feet. Cell dimensions are gradually increased to a size of 1,500 feet by 1,500 feet near the edges of the model. The model consists of 476 rows and 291 columns, and contains 138,516 active cells.

Model Boundary Conditions

Boundary conditions imposed on a numerical model define the external geometry of the groundwater flow system being studied. Boundary conditions assigned in the model were determined from available reported potentiometric conditions (Knight Piesold, 2008). Descriptions of the types of boundary conditions that can be implemented with the MODFLOW code are found in McDonald and Harbaugh (1988).

This numerical model was designed for a conceptual evaluation of wellfield flare and near-wellfield groundwater movement, and is not a rigorous conceptualization of the potential heterogeneities and hydrogeologic boundaries present in the larger regional groundwater flow system.

Boundary conditions used to represent hydrologic conditions at the Dewey site include general-head boundaries (GHB) and wells (extraction and injection). The locations of the GHB conditions within the model are illustrated in Figure 2. Discussion of the placement and values for these boundary conditions is provided below. The placement and values for the well boundary conditions are described under the simulation discussion.

The GHB was used in the Dewey Area model to account for inflow and outflow from the model domain on all sides. GHBs were assigned along the edges of the model domain by extrapolating available potentiometric data (Knight Piesold, 2008), including observed water level elevations and observed hydraulic gradients. GHBs were used because the groundwater elevation at those boundaries can change in response to simulated stresses. In the Dewey wellfield model, GHBs were assigned to all four sides of the model. The values of head assigned to the GHBs ranged from 4,269 feet above mean sea level (ft amsl) along the north edge of the model and 3,036 ft amsl, along the south edge. The values of head assigned to the GHBs on the west and east sides of the model vary linearly between assigned heads at the north and south boundaries of the model. This configuration represents a hydraulic gradient of 0.006 ft/ft to the southwest, consistent with water levels and hydraulic gradients observed in the lower Fall River monitor wells.

The wellfield configuration includes a series of 5-spot well patterns with an extraction well located in the center, surrounded by four injection wells. Each well pattern is approximately 70 feet on a side. Figure 1 presents the wellfield layout of injection and extraction wells, and the perimeter monitor well ring. Extraction and injection rates applied to the wells are described under the simulation discussions of this report.

The model domain was extended a suitable distance from the location of the proposed production wellfield to minimize perimeter boundary effects on the interior of the model where the hydraulic stresses were applied.

Aquifer Properties

Input parameters used in the model to simulate aquifer properties are consistent with site-derived data, including the following:

- Top and bottom elevations of the lower Fall River sandstone, of approximately 3,066 feet above mean sea level (ft amsl) and 2,991 ft amsl at the southwest corner of the modeled wellfield
- Saturated thickness of 75 feet
- Hydraulic gradient of 0.006 ft/ft
- Hydraulic conductivity of 3.4 ft/day and storativity of 4.6 x 10^{-5}, based on hydrologic testing (to be modified by model calibration)
- Porosity of 29%, based on core analysis

For the purposes of a wellfield-scale model simulating ISR production, the additional geologic and hydrogeologic complexities that are present in the Dewey area were not included, owing to the lack of data. The wellfield is located on a homoclinal limb of the Fall River Formation, but the aquifer is represented as an extension of the stratigraphic dip observed near the wellfield. Thus, the observed top of the lower Fall River sandstone is extended to the model boundaries at a dip of 0.01 ft/ft, though limited local data and regional mapping indicates that the degree of dip in both the up-dip and down-dip directions decreases.

Static water level conditions within the model domain are similarly presented. Utilizing a potentiometric elevation of 3,654 ft amsl at the southwest corner of the wellfield, an average measured gradient of 0.006 ft/ft is extended to the edges of the model boundaries.

A hydrologic test conducted in 2008 (Knight Piesold, 2008) in the Dewey area included a pump test at well DB-07-32-03C for 3.08 days, at a constant rate of 30.2 gpm. The median reported aquifer transmissivity (T) for the lower Fall River (estimated thickness of 75 feet) was approximately 255 ft^2/day, which corresponds to a hydraulic conductivity of 3.4 ft/day. Median storativity (S) was determined to be 4.6×10^{-5}. These two values (T = 3.4 ft/day; S = 4.6×10^{-5}) represent starting aquifer input values for the wellfield model calibration to the results of testing.

No attempt was made to calibrate the model to natural background potentiometric conditions because of limited data.

Modeled Aquifer Response versus 2008 Hydrologic Testing

The groundwater model was calibrated to the 2008 pump test conducted in the Dewey area (Knight Piesold, 2008). The pumping well (DB-07-32-03C) is completed in a portion of the lower Fall River (ore zone), and three observation wells completed to the ore zone were monitored. The pumping well and two closest observation wells are located within or near the wellfield. Overlying and underlying wells were also monitored, but because the model is a single layer, the overlying and underlying data was not utilized in the calibration.

The pumping well was simulated at a constant rate of 30.2 gpm for 3.08 days. The initial condition was the previously described potentiometric surface with a hydraulic gradient of 0.006 ft/ft. Simulated drawdown at the three observation wells was compared to the pump test results and hydraulic conductivity and storativity values were varied in the model input to attempt a best fit to the limited hydrologic data. No attempt was made to compare the results of the pumping well drawdown at the end of the test, due to the lack of data regarding well efficiency at this well.

The following table briefly summarizes the results of the 2008 testing:

Well	Type	Radial Distance to Pumping Well (ft)	Observed Drawdown at End of Pumping (ft)
DB 07-32-3C	Pumping	0	44.8
DB 07-32-05	Observation	265	13.0
DB 07-32-4C	Observation	467	9.8
DB 07-29-7	Observation	2,400	1.5

During calibration, model input parameters for K and S were varied from the average reported aquifer parameters (K = 3.4 ft/day, S = 4.6 x 10^{-5}, Knight Piesold [2008]). Table 1 summarizes the calculated residual values (difference between observed versus model results of drawdown), and shows that a K value of 3.1 ft/day and S value of 4 x 10^{-5} provides the best match to observed drawdowns. The model output at the distal observation well (DB 07-29-7, 2,400 ft distant) overpredicts drawdown in all simulated cases. The purpose of the modeling simulations are to simulate flow at a wellfield scale and within the monitoring well ring (spaced 400 feet from the ore body wellfield patterns, therefore the drawdown fit at the two closest wells was weighed more heavily in the choice of aquifer parameters for the wellfield model (see Table 1). Based on this approach, a conductivity of 3.1 ft/day and storativity of 4 x 10^{-5} were determined to best fit the limited hydrologic data available. Figure 3 presents the simulated drawdown versus observed drawdown.

Dewey Wellfield Balance and Determination of Flare

The wellfield balance and flare determination simulation was conducted to (1) attempt to balance injection and production volumes within the wellfield while minimizing excursion potential and (2) track groundwater particle pathways that illustrate the horizontal flare around the wellfield. The following wellfield simulation was run for a period of two years, and flare was evaluated at the end of this time frame.

Input parameters for the modeled aquifer are a K value equal to 3.1 ft/day and S equal to 4 x 10^{-5}. Total wellfield overproduction (bleed) in this simulation is 1.0%. Balancing was conducted by starting with an idealized wellfield balance, with each extraction well producing at 20 gpm. Each injection well rate is defined by the number of neighboring extraction wells. An interior injection well surrounded by four extraction wells and injects at a rate of 19.8 gpm (1.0% bleed). For an exterior injection well adjacent to three extraction wells, the injection rate is 75% of an interior well, and 50% and 25% for an injection well adjacent to two and one extraction wells, respectively.

Total production at the 104 extraction wells is 2080 gpm, equivalent to 20 gpm per well. Total injection at the 160 injection wells is 2059.2 gpm, ranging in rate from 3.2 gpm to 20.8 gpm. Figure 4 presents the modeled wellfield, with posted extraction and injection volumes at each of the 264 wells.

Particle tracking by MODPATH was implemented utilizing multiple particles originating in the model cell of each of the exterior injection wells. Figure 5 presents the particle flowpaths of the balanced wellfield at 1.0% bleed, and the perimeter of the particle traces were traced. Horizontal flare is calculated by taking the ratio of the flare perimeter and boundary of the injection wells. Horizontal flare was minimized by adjusting injection rates at specific wells while maintaining the overall balance at a 1% bleed. Horizontal flare is calculated at 1.19 by dividing the area of particle traces by the exterior boundary of the wellfield. Vertical flare cannot be evaluated in the single-layer model that was utilized in this simulation, but it is expected that the magnitude of vertical flare is similar, or less, in scale to horizontal flare. Due to the vertical anisotropy likely present in the sand layers (i.e., horizontal conductivity is greater than vertical conductivity) and the presence of overlying and underlying confining layers, it is likely that flare in the vertical dimension is less than in the horizontal. Therefore, a total flare value of 1.4 is reasonable and appropriate for the Dewey wellfield.

Simulated Regional Drawdown and Wellfield Potentiometric Levels

Regional drawdown was evaluated based on the results of the two-year operational simulation conducted in the wellfield flare evaluation. Based on the model results, regional drawdown impacts of 5 feet and 1 foot are approximately 14,000 ft (2.7 mi) and 68,000 ft (12.9 mi), respectively (see Figure 6). Figures 7 and 8 present the modeled potentiometric surface of the ore zone near the wellfield and modeled drawdown near the wellfield, respectively.

For model verification, an analytical Theis equation is used to compare the radius of drawdown from the wellfield. Using the Theis solution in a spreadsheet produced by the USGS (Halford and Kuniansky, 2002), a pumping rate of 20.8 gpm (i.e., 2080 gpm – 2059.2 gpm) over a two-year period is used. Results of this calculation indicate that the radius of 5-foot and 1-foot of drawdown is approximately 16,000 feet and 80,000 feet, respectively, which compares well to the results of the modeling simulations.

The wellfield model simulates a homogeneous and isotropic aquifer, without any potential hydrogeologic boundaries (e.g., recharge and/or fault boundaries). The presence of potential boundaries at some distance from the wellfield, or heterogeneity within the wellfield could increase or decrease the overall drawdown within the wellfield area, and may require changes in the overall wellfield balance, but is not expected to significantly alter flow within the wellfield.

Dewey Wellfield Simulated Excursion

In order to assess the proposed 400 foot monitoring well spacing (i.e., wells spaced approximately 400 feet distant from the wellfield, and laterally spaced 400 feet apart in the monitor well ring), an excursion was simulated to illustrate that the spacing is adequate to detect a potential excursion that might occur.

To simulate the excursion, the extraction well at the extreme southwest corner of the wellfield was turned off, with all remaining injection and extraction wells operating at the same rates evaluated in the 1% bleed wellfield flare simulation. This location in the wellfield was utilized because the downgradient and southern portion of the wellfield would be most susceptible to particles exiting the hydraulic sink of the wellfield and traveling southwest with the regional groundwater gradient. Particles to track the flow of injectate from the wellfield during the simulated excursion were placed at the three downgradient injection wells.

Figure 9 presents the particle paths originating from the “out of balance” corner of the wellfield. Figure 10 presents the simulated potentiometric surface at this time near the wellfield. Groundwater flow vectors at the end of the excursion simulation are presented in Figure 11 and illustrate that groundwater flow in the southern area near the monitoring wells is dominantly to the south, in the direction of regional hydraulic gradient. As can be observed from Figure 9, the modeled excursion would eventually intersect the perimeter monitor wells. Therefore, the proposed 400 foot monitoring well spacing is adequate to detect any potential excursion.

Dewey Wellfield Simulated Excursion Recovery

To demonstrate that any potential excursion to the monitoring well ring can be hydraulically controlled, the previously simulated excursion was recovered by adjusting wellfield production/injection. Injection rates at the three downgradient injection wells were set to zero, and the two downgradient extraction wells were adjusted to pump at a rate of 24 gpm each.

Figure 12 presents the potentiometric surface near the simulated excursion at approximately one hour after the recovery was initiated. As can be seen in this figure and contrasted with the potentiometric levels during the excursion (see Figure 10), a local gradient from the southernmost monitor well back to the wellfield is induced. Figure 13 illustrates the velocity vectors of groundwater flow at the same time, which has been reversed and modeled groundwater flow at the area of the simulated excursion is moving back towards the wellfield.

The previously simulated excursion, where a single extraction well was turned off, was run for an additional 30 days, and particles just inside the perimeter monitor well boundary at the downgradient side of the wellfield were tracked. At the end of the 30 days, the excursion recovery was initiated and particles representing the downgradient extent of the simulated excursion were tracked for a period of 60 days. Figure 14 illustrates the simulated groundwater flowpaths immediately adjacent to the monitor well for this scenario, as well as illustrating that the excursion recovery scenario is adequate to reverse the hydraulic gradient and reverse the direction of groundwater flow at a distance of 400 ft, and pull the simulated excursion back inside the perimeter boundary. This figure also provides an indication of the scale of simulated groundwater travel times, as groundwater migrates only approximately 3 ft in the 30 day simulated excursion scenario, and a similar distance for the 60 day recovery. Differences in velocity at this location during the excursion and subsequent recovery are because the induced hydraulic gradient during recovery is lower than the regional gradient that was simulated during the out-of-balance wellfield excursion.

In order to assess the validity of this simulation, an analytical Theis solution for a confined aquifer was utilized. The excursion recovery represents an additional 28 gpm of production (24 gpm at one well previously not operating, and the other well increased from 20 gpm to 24 gpm) and a deduction of approximately 16 gpm (see Figure 4 for posted injection rates), a net pumping rate of 44 gpm. At a distance of 400 ft from the pumping well, the drawdown at one hour is estimated to be approximately 4 feet. Therefore, the Theis solution verifies the results of the modeling simulation that indicate the local gradient can be influenced at a distance of 400 ft. This relatively rapid response at this distance is due to that fact that the lower Fall River is a relatively low-storage system (based on hydrologic testing).

Summary

Numerical modeling was conducted to evaluate wellfield-scale issues related to ISR production at the Dewey-Burdock Project. Wellfield flare was determined and the proposed 400 foot well spacing was demonstrated through modeling to be adequate to detect a potential excursion at this distance. Model simulations also demonstrated that hydraulic control of the simulated excursion can be established by changing wellfield operational rates at this distance away from the wellfield.

Horizontal flare from a balanced wellfield operating at a 1% net bleed was determined to be 1.19. Vertical flare was not evaluated, but considering a similar scale of flare in this direction, total wellfield flare is estimated at approximately 1.4.

An excursion was simulated by varying the wellfield balance, and particle pathways representing the flow of injectate indicate that the 400 foot monitoring well spacing is adequate to detect the excursion away from the wellfield. The recovery of a potential excursion was also demonstrated by varying the wellfield balance to reverse the hydraulic gradient at this distance and change the direction of travel of groundwater back towards the wellfield.

List of Tables

List of Figures

References

Environmental Simulations, Inc. 2005. Guide to Using Groundwater Vistas, Version 5. pp 372. Prepared by Environmental Simulations, Inc., Reinholds, VA.

Knight Piesold, 2008. Powertech (USA) Inc., Dewey-Burdock Project, 2008 Pumping Tests: Results and Analysis. Prepared for Powertech (USA), November 2008.

McDonald, M.G., and A.W. Harbaugh. 1988. *MODFLOW, A Modular Three-Dimensional Finite Difference Flow Model*. Techniques of Water-Resources Investigations, Book 6, Chapter A1. U.S. Geological Survey.

McDonald, M.G., and A.W. Harbaugh. 1996. *User's documents for MODFLOW-96, an update to the U.S. Geological Survey modular finite difference ground-water flow model*. Open File Report 96-485. U.S. Geological Survey.

Powertech (USA) Inc., 2009. Dewey-Burdock Project Application for NRC Uranium Recovery License, Fall River and Custer Counties, South Dakota, Technical Report (separate cover) & Environmental Report (separate cover). February 2009.

Table 1. Dewey Wellfield Model, Calibration of Model to 2008 Hydrologic Testing

	Drawdown Residual* (DB 07-32-05) (265 ft from PW)	Drawdown Residual* (DB 07-32-04C) (467 ft from PW)	Drawdown Residual* (DB 07-29-7) (2,400 ft from PW)	Residual Sum of Squares, 2 Closest Wells[1]
K = 3.1 ft/day				
S=3e-5	-0.34	-1.11	-3.03	1.35
S=4e-5	**0.23**	**-0.53**	**-2.5**	**0.33**
S=5e-5	0.68	-0.09	-2.09	0.47
S=6e-5	1.04	0.28	-1.77	1.16
K = 3.2 ft/day				
S=3e-5	0.01	-0.83	-2.94	0.69
S=4e-5	0.57	-0.37	-2.43	0.46
S=5e-5	1	0.16	-2.03	1.03
S=6e-5	1.35	0.51	-1.72	2.08
K = 3.4 ft/day				
S=3e-5	0.67	-0.31	-2.79	0.55
S=4e-5	1.19	0.21	-2.3	1.46
S=5e-5	1.6	0.62	-1.93	2.94
S=6e-5	1.93	0.95	-1.63	4.63
K = 3.6 ft/day				
S=4e-5	1.75	0.65	-2.18	3.49
S=5e-5	2.13	1.03	-1.83	5.60
S=6e-5	2.45	1.34	-1.54	7.80

Notes:
* - A positive sign indicates underprediction of drawdown; negative sign indicates model output drawdown more than observed drawdown.
1 - Calibration based on evaluation at two closest monitoring wells, as indicated in text.
Bold indicates best fit utilized for wellfield model simulations.

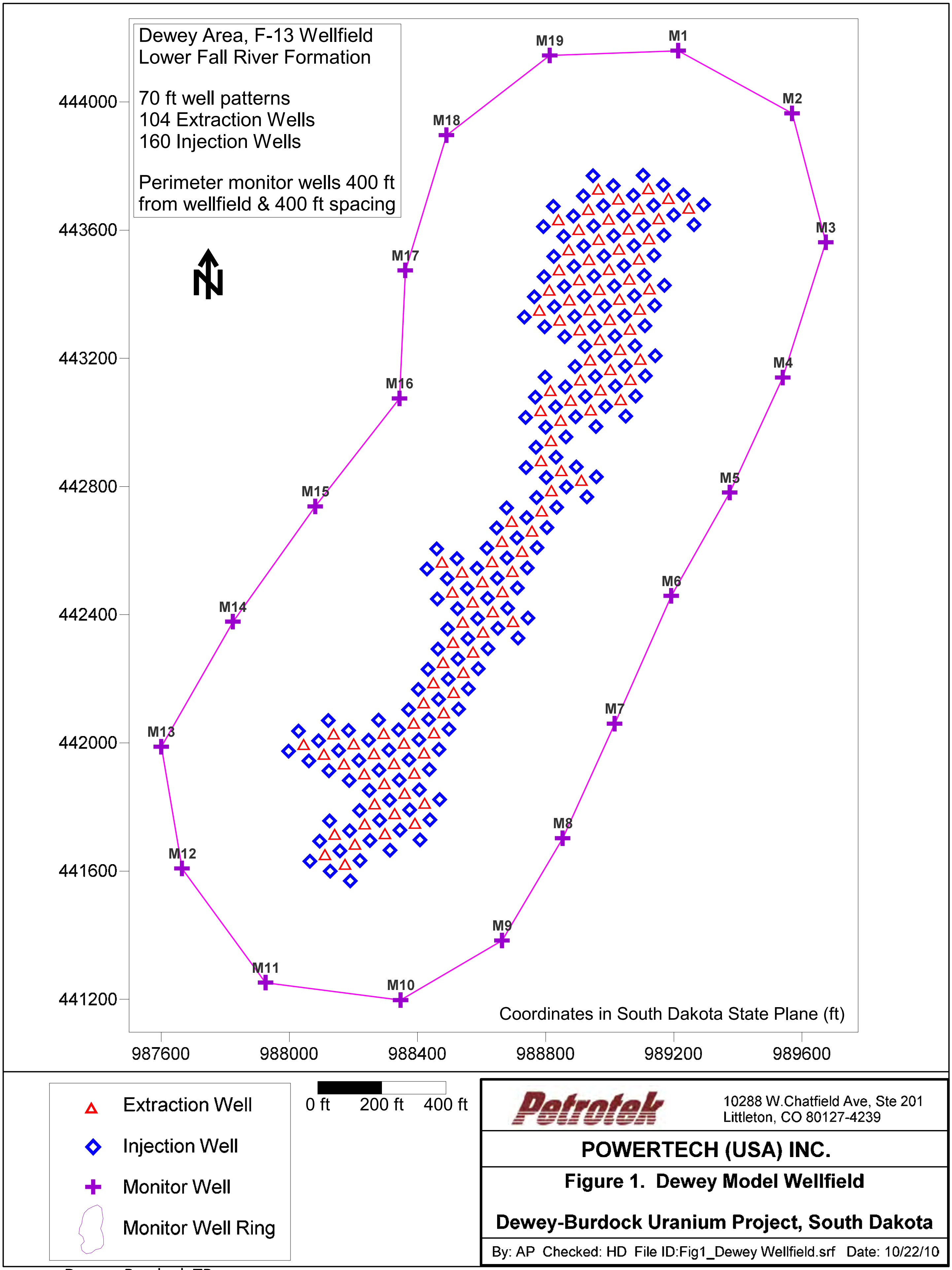

Figure 1. Dewey Model Wellfield

Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig1_Dewey Wellfield.srf Date: 10/22/10

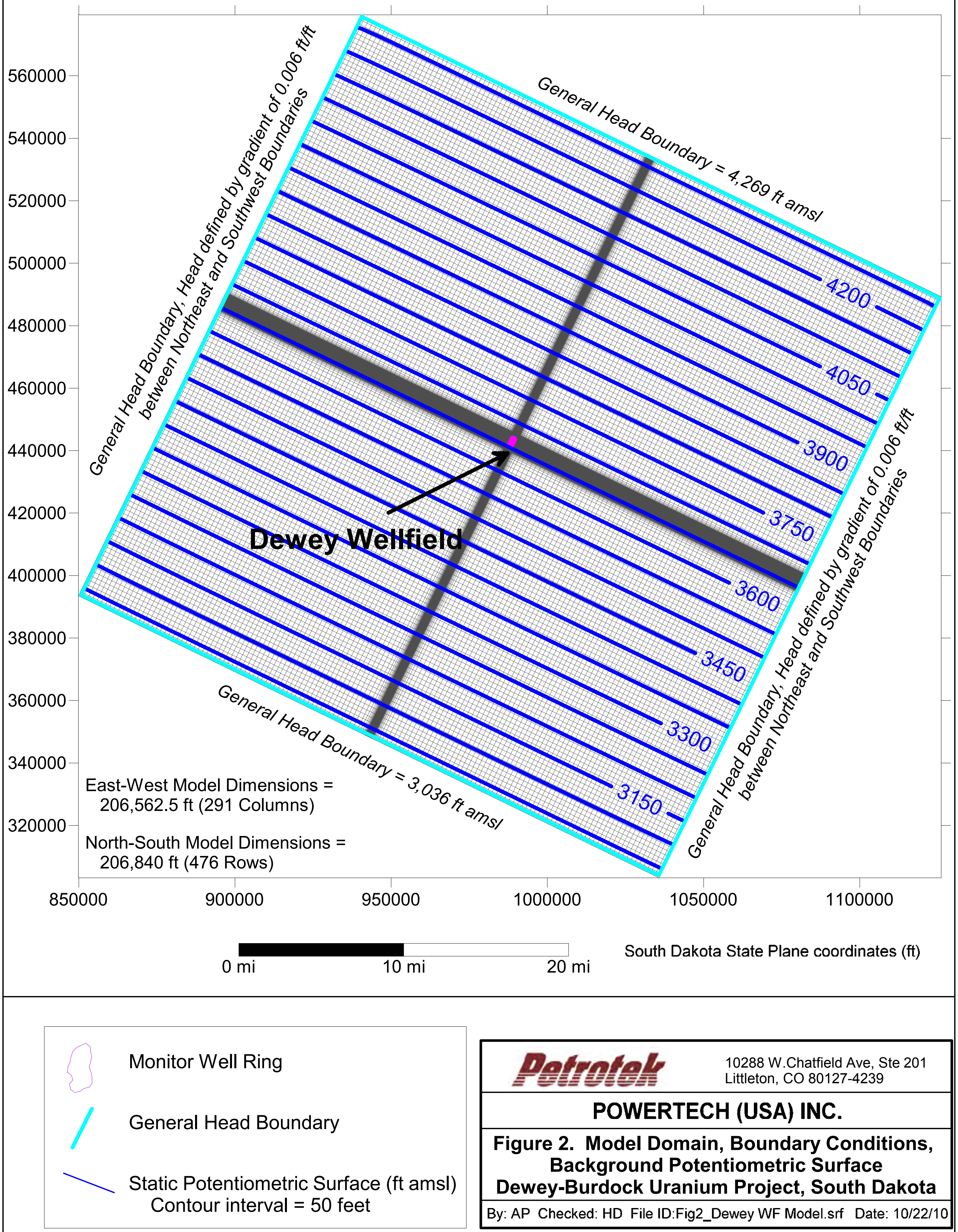

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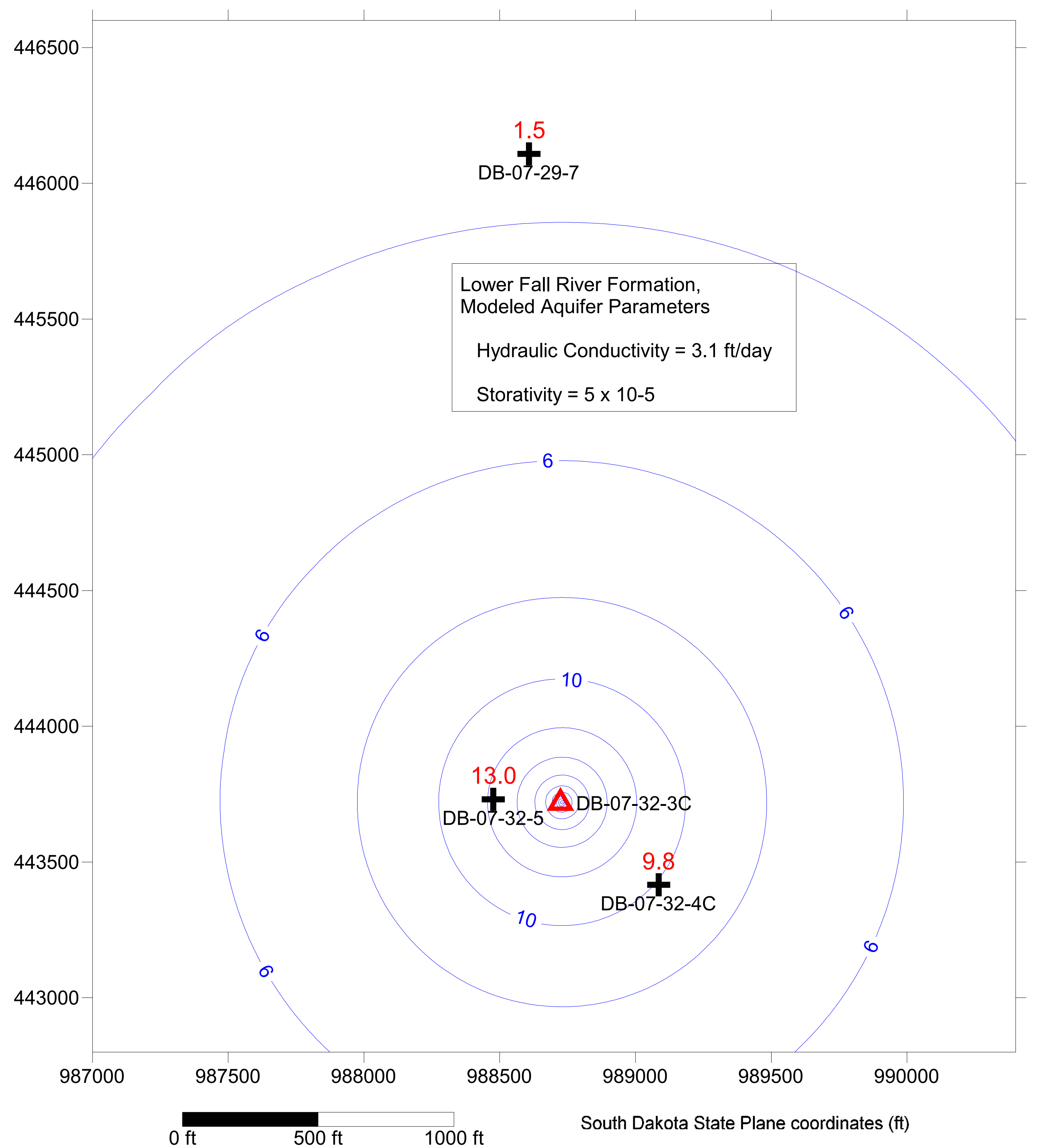
Figure 2. Model Domain, Boundary Conditions, Background Potentiometric Surface Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig2_Dewey WF Model.srf Date: 10/22/10



△	Pumping Well
✚	Observation Well
13.0	Observed Drawdown (ft)
	Simulated Drawdown Contour Interval = 2 foot

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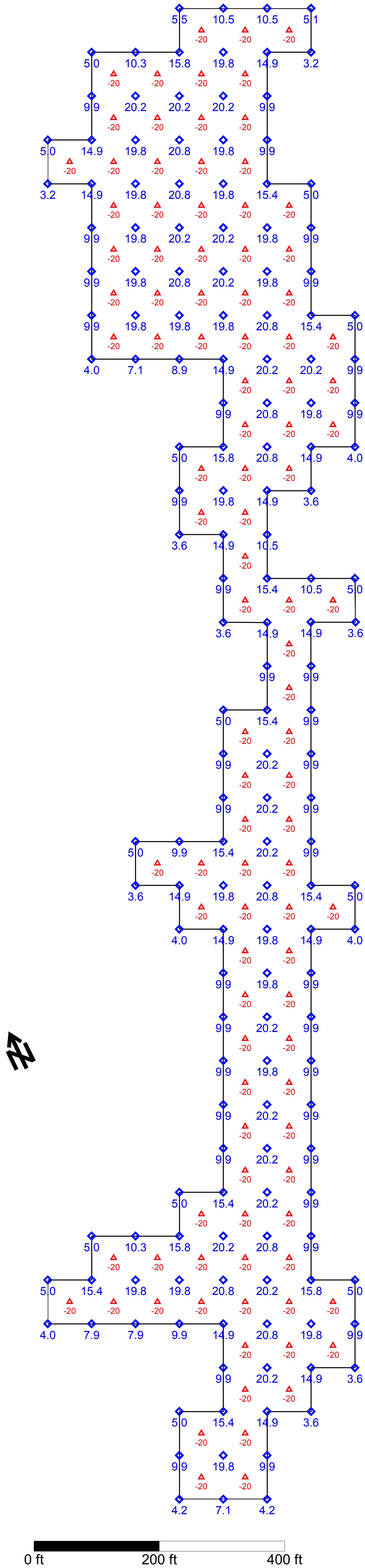
Figure 3. Dewey Area 2008 Pump Test Calibration Results
Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig3_PT Calibration.srf Date: 10/22/10



Note:
Dewey F-13 Wellfield balanced and simulated for a period of 2 years, at 1% bleed.

△	Extraction Well
◇	Injection Well
-20	Extraction Well Pump Rate (gpm)
5.0	Injection Well Pump Rate (gpm)

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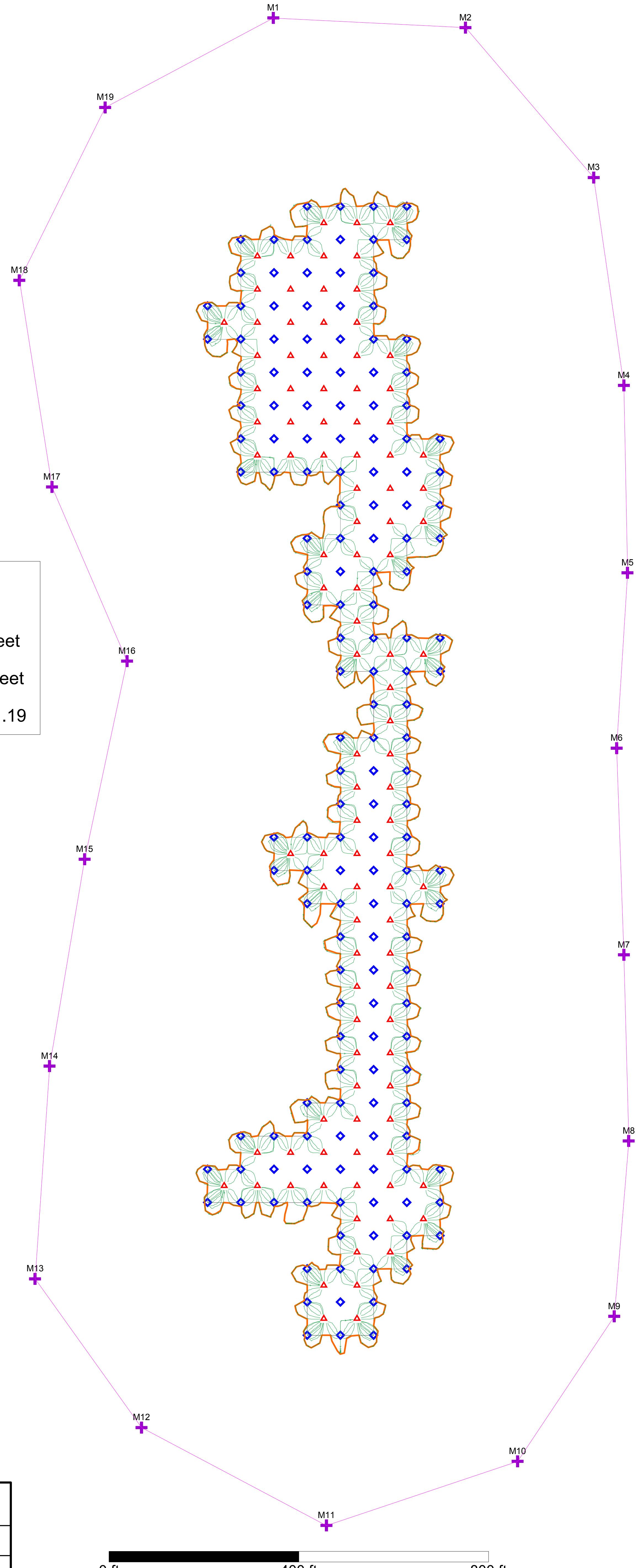
Figure 4. Balanced Wellfield Rates, 1% Bleed
2-Year Simulation
Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig4_1% Bleed Rates.srf Date: 10/22/10



**Horizontal Wellfield
Flare Calculation:**

Injection Well Boundary, Area = 509,593 sq. feet

Particle Trace Boundary, Area = 607,185 sq. feet

Horizontal Well Flare = 607,185 / 509,593 = 1.19

Note:
Dewey F-13 Wellfield balanced and simulated for a period of 2 years. Groundwater flow particles were tracked along injection well boundary over simulated interval.

Extraction Well
Injection Well
Monitor Well
Monitor Well Ring
Particle Flow Path
Horizontal Flare Boundary

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**Figure 5. Wellfield Flare, 1% Bleed
2-Year Simulation
Dewey-Burdock Uranium Project, South Dakota**

By: AP Checked: HD File ID:Fig5_WF Flare_1%.srf Date: 10/22/10

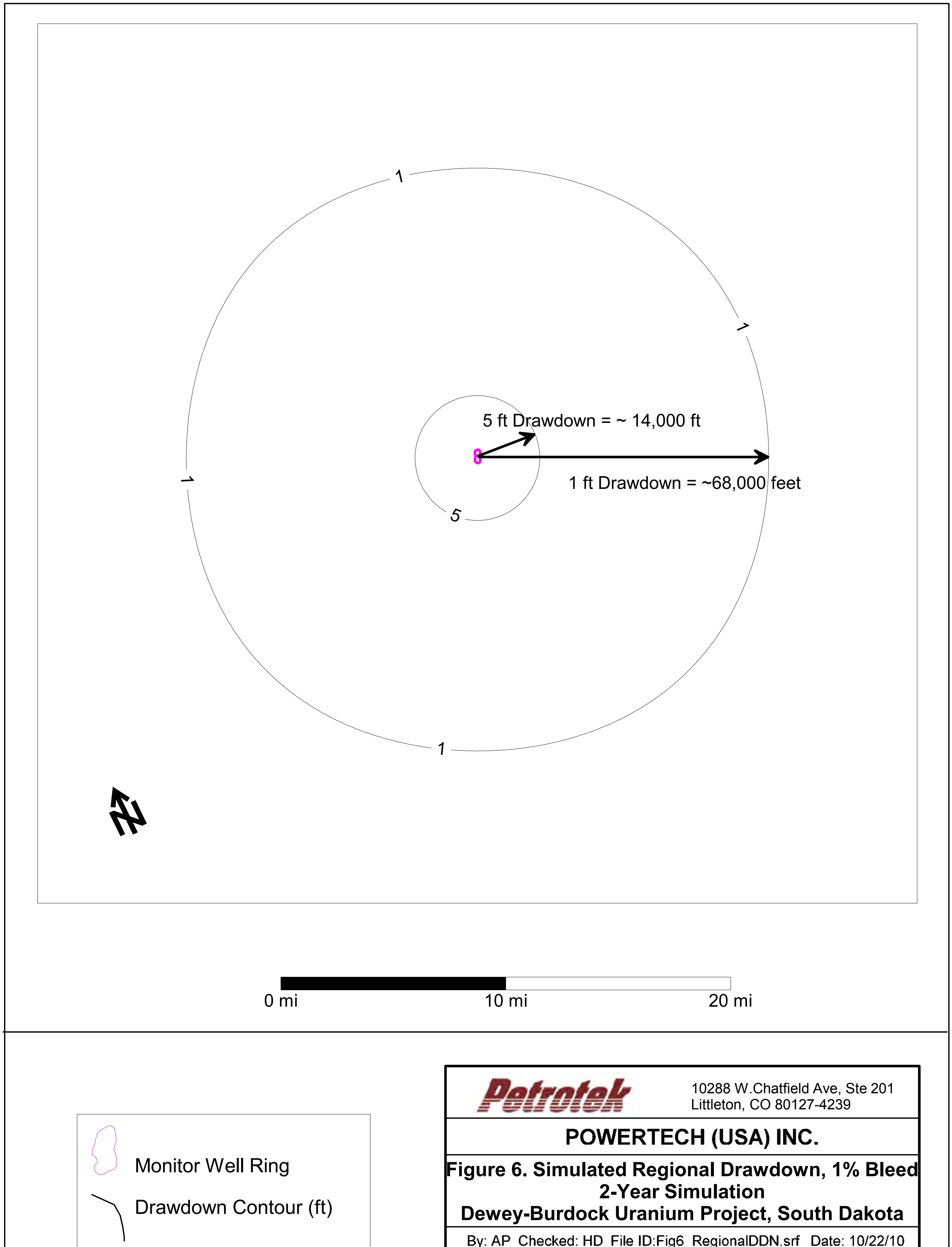

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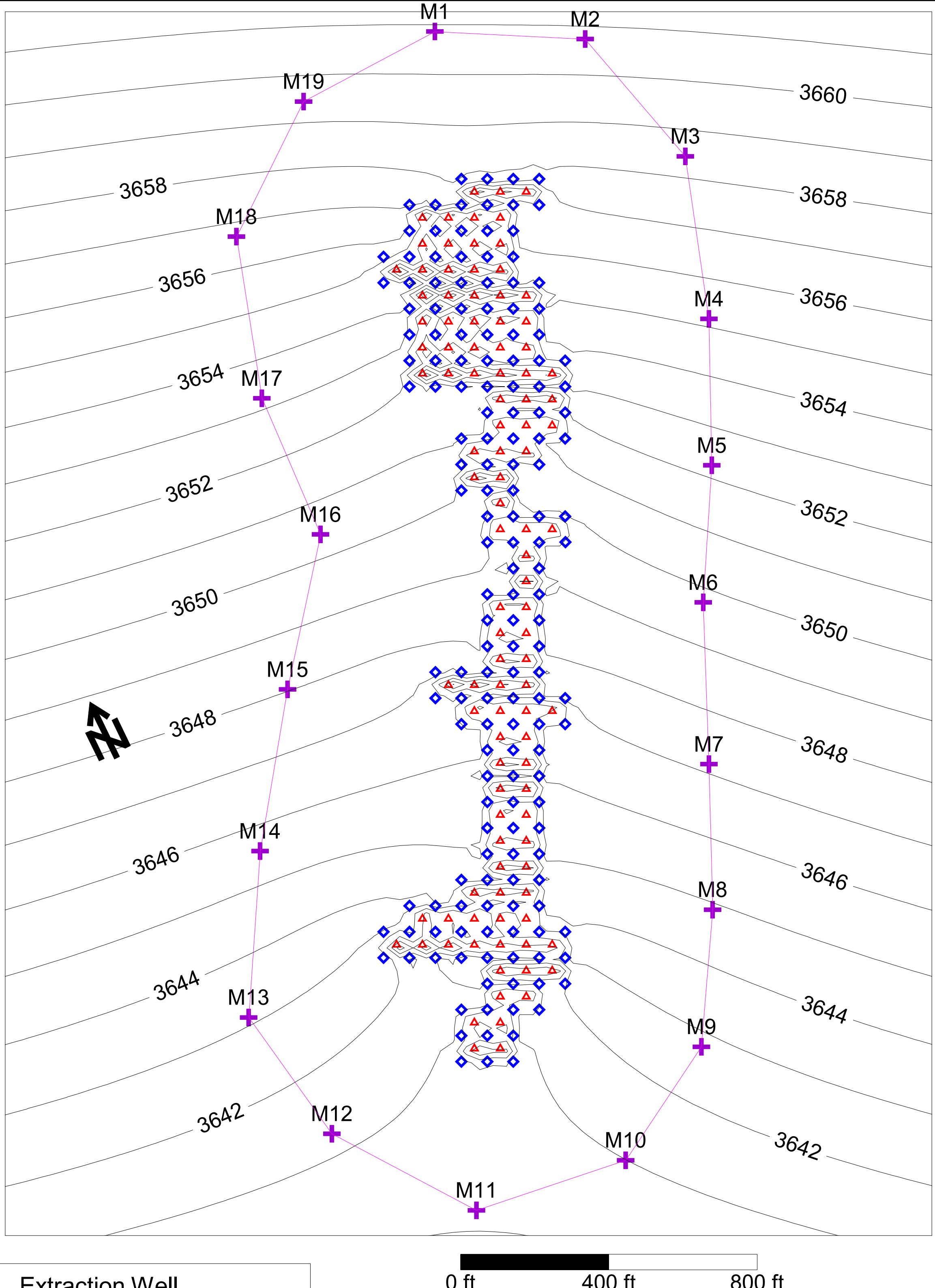
Figure 6. Simulated Regional Drawdown, 1% Bleed 2-Year Simulation Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig6_RegionalDDN.srf Date: 10/22/10



Extraction Well
Injection Well
Monitor Well
Monitor Well Ring
Simulated Head (ft amsl)
Contour Interval = 1 foot

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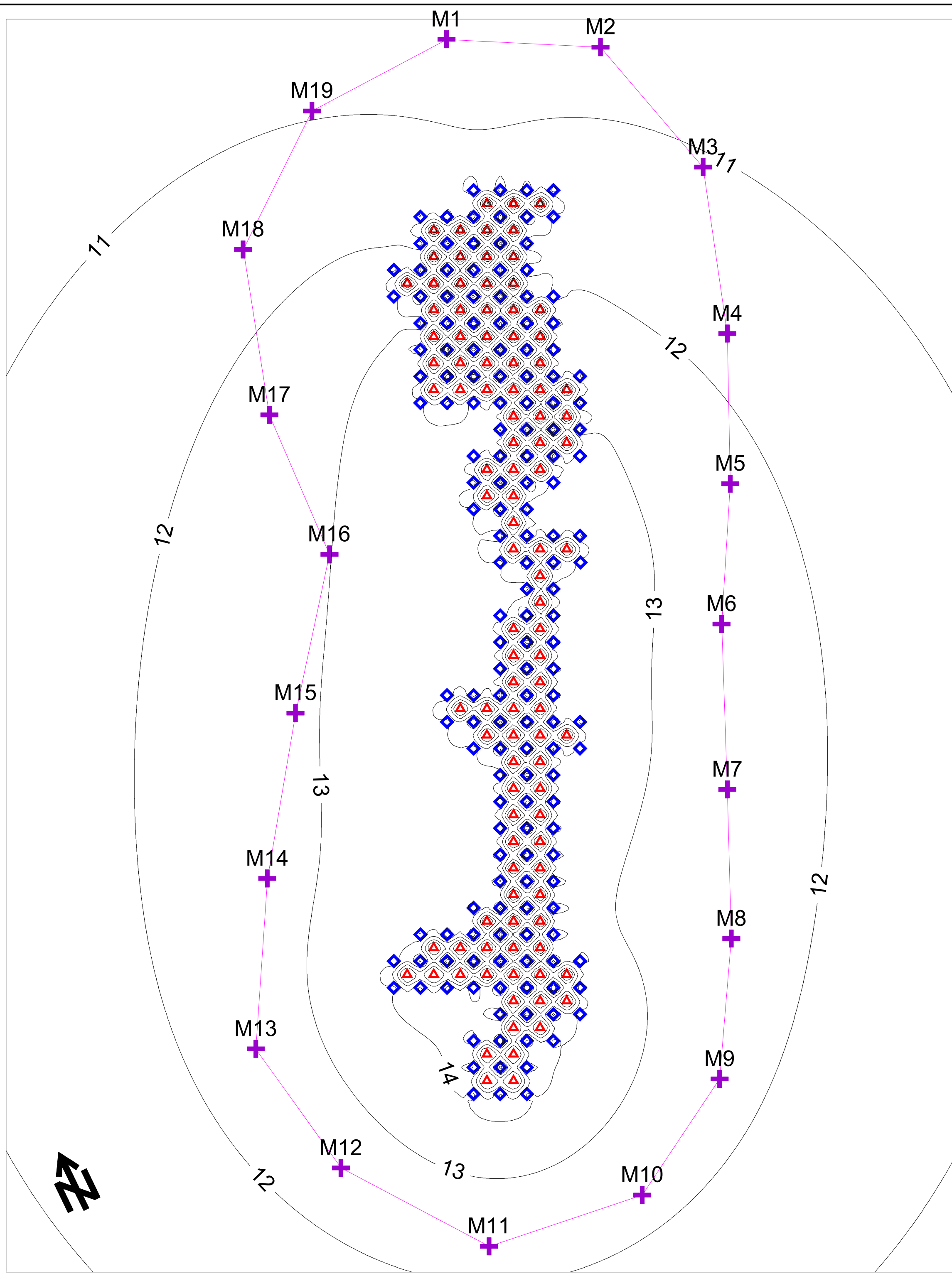
Figure 7. Local Potentiometric Surface
1% Bleed, 2-Year Simulation
Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig7_2yrHead_1%Bleed.srf Date: 10/22/10



Extraction Well
Injection Well
Monitor Well
Monitor Well Ring
Simulated Drawdown (ft)
Contour Interval = 1 foot

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Figure 8. Local Simulated Drawdown
1% Bleed, 2-Year Simulation
Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig8_2yrDDN_1%Bleed.srf Date: 10/22/10

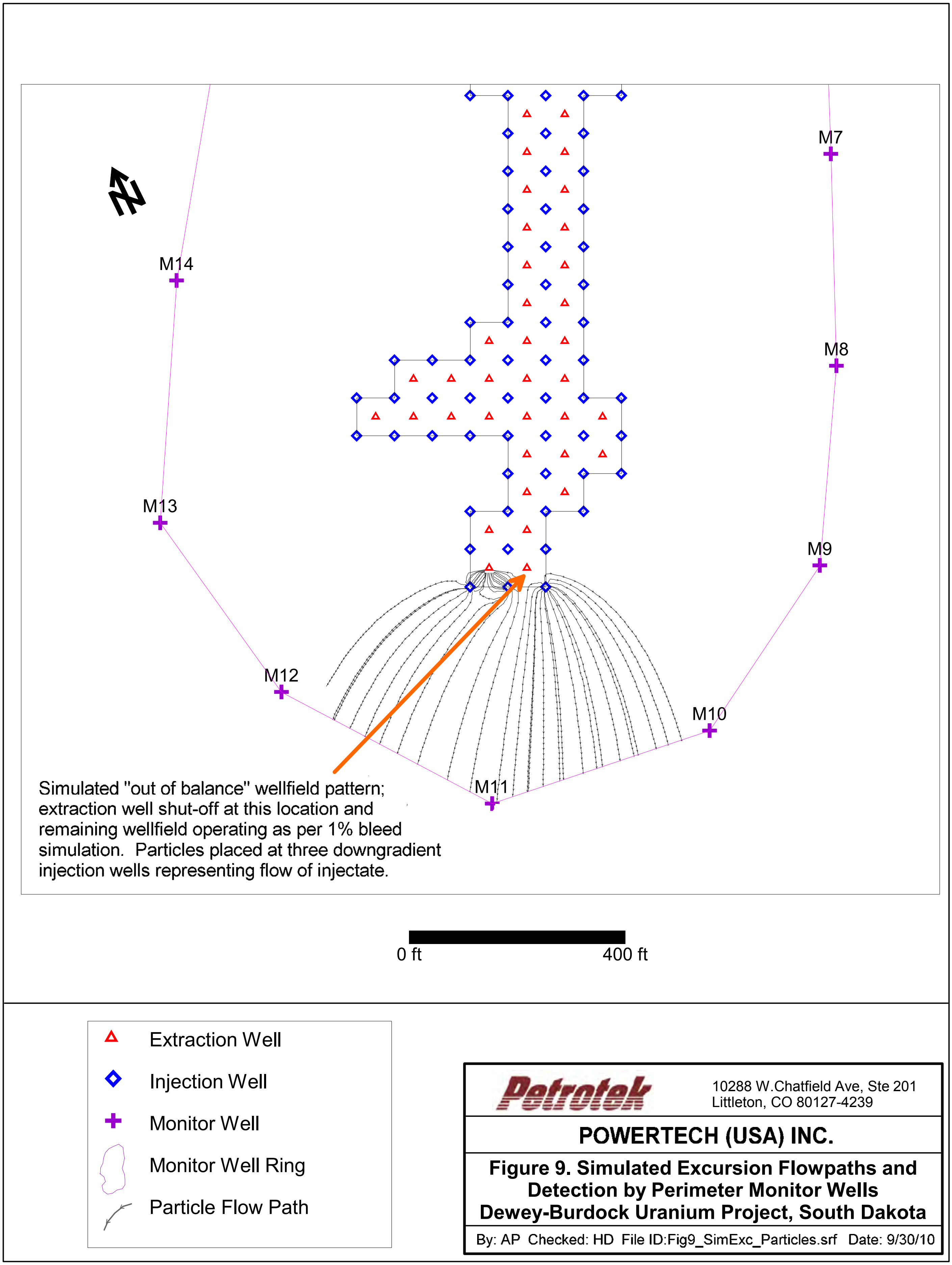

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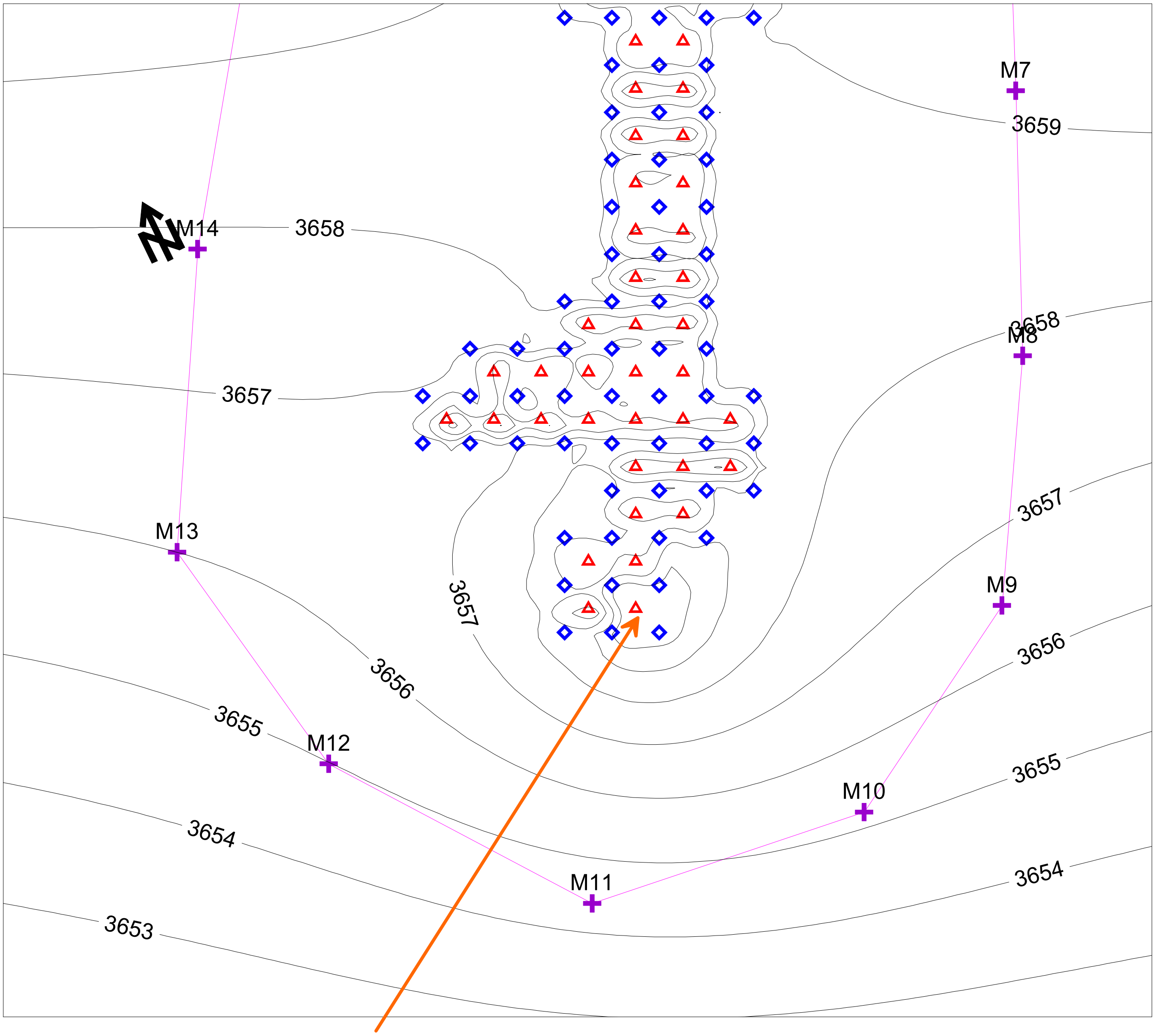
Figure 9. Simulated Excursion Flowpaths and Detection by Perimeter Monitor Wells Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig9_SimExc_Particles.srf Date: 9/30/10



Simulated "out of balance" wellfield pattern; extraction well shut-off.

0 ft 400 ft 800 ft

Extraction Well

Injection Well

Monitor Well

Monitor Well Ring

Potentiometric Surface (ft amsl)
Contour Interval = 1 foot

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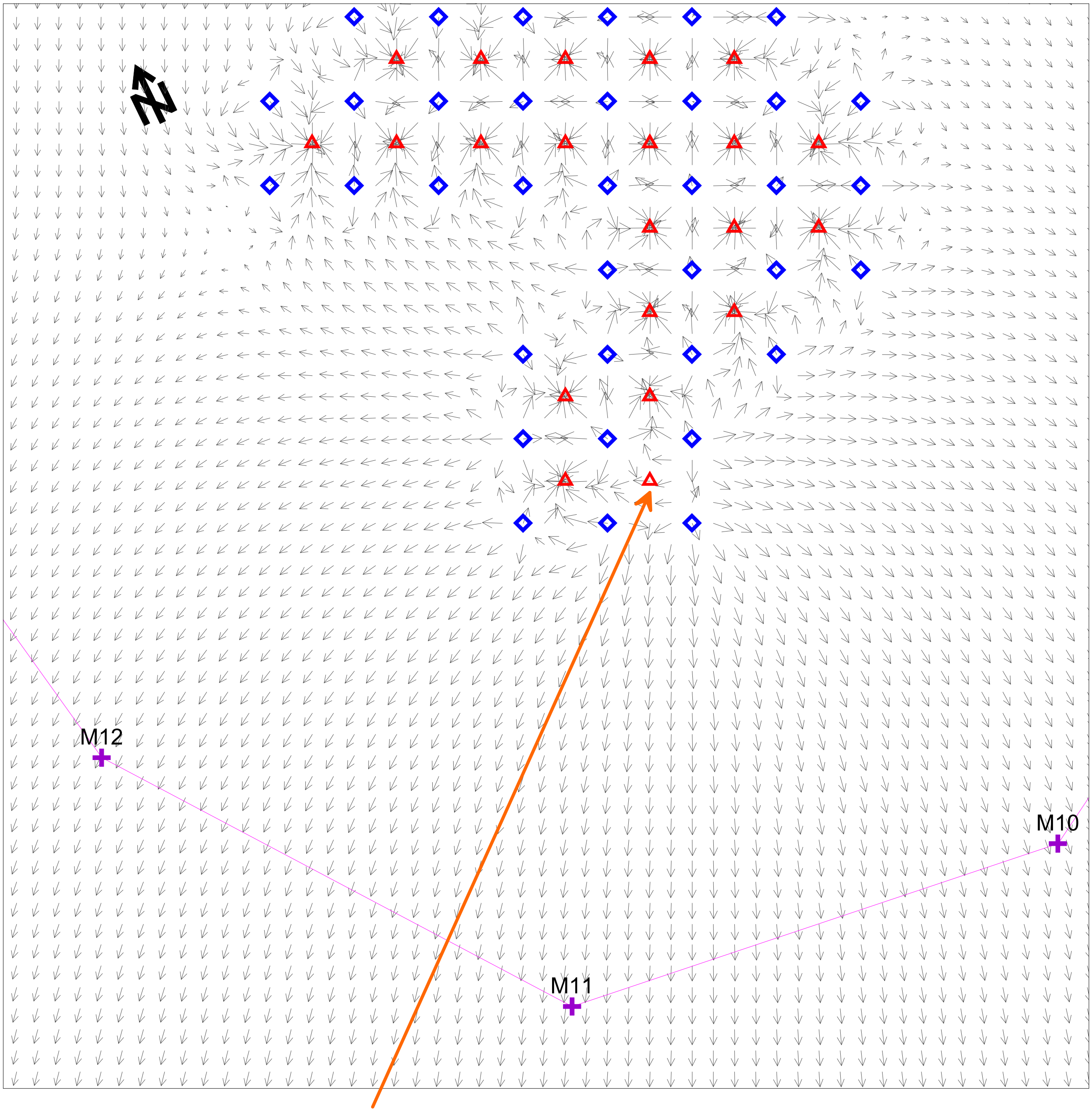
Figure 10. Potentiometric Surface, Simulated Excursion
Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig10_SimExc_Head.srf Date: 10/22/10



Simulated "out of balance" wellfield pattern; extraction well shut-off.

Extraction Well	
Injection Well	
Monitor Well	
Monitor Well Ring	
Groundwater Flow Velocity Vector	

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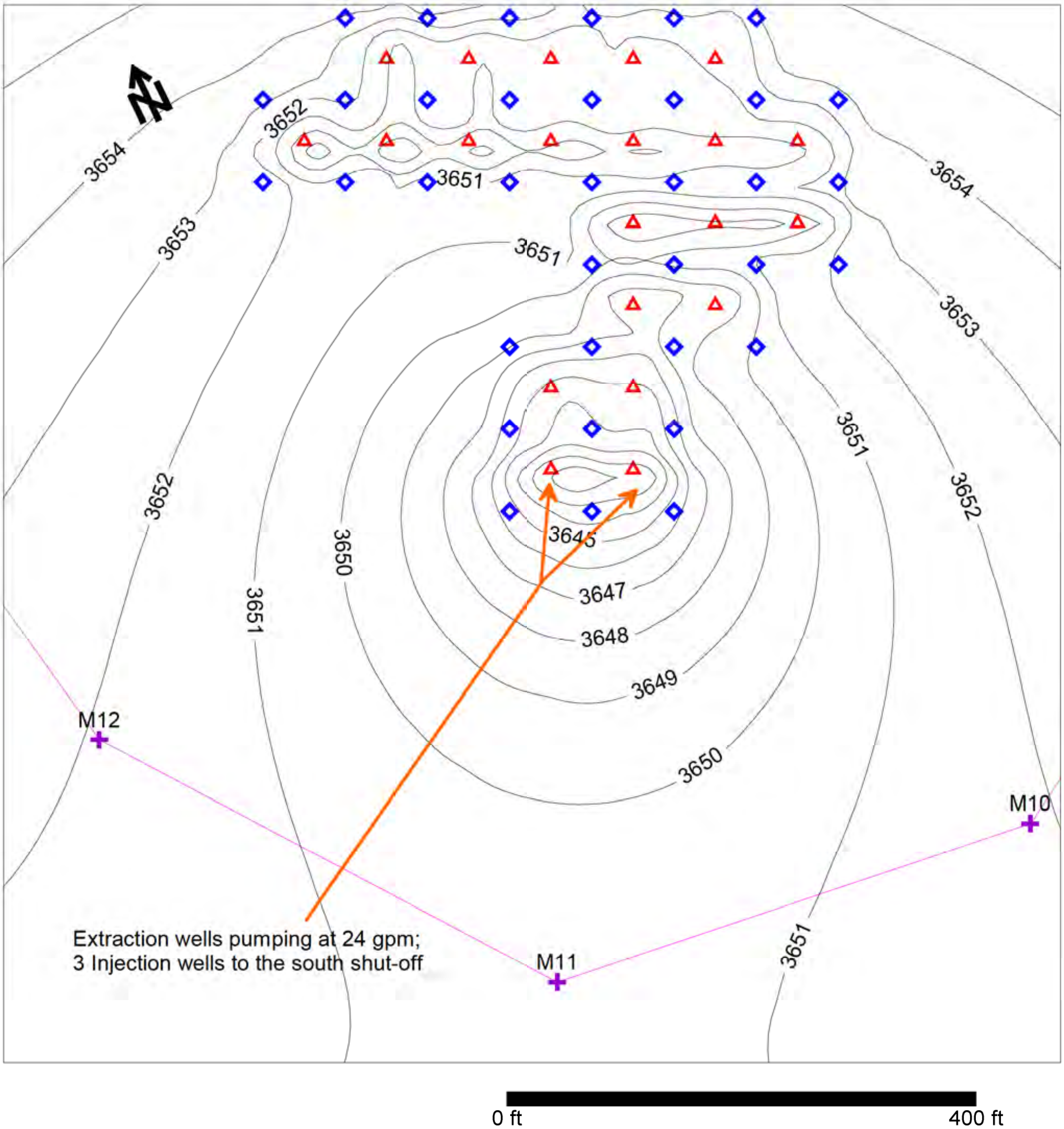
Figure 11. Velocity Vectors, Simulated Excursion Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig11_SimExc_Vectors.srf Date: 10/22/10



- Extraction Well
- Injection Well
- Monitor Well
- Monitor Well Ring
- Potentiometric Surface (ft amsl)
  Contour Interval = 1 foot

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Figure 12. Potentiometric Surface (1 Hour), Simulated Excursion Recovery Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig12_Recovery_Head.srf Date: 10/22/10

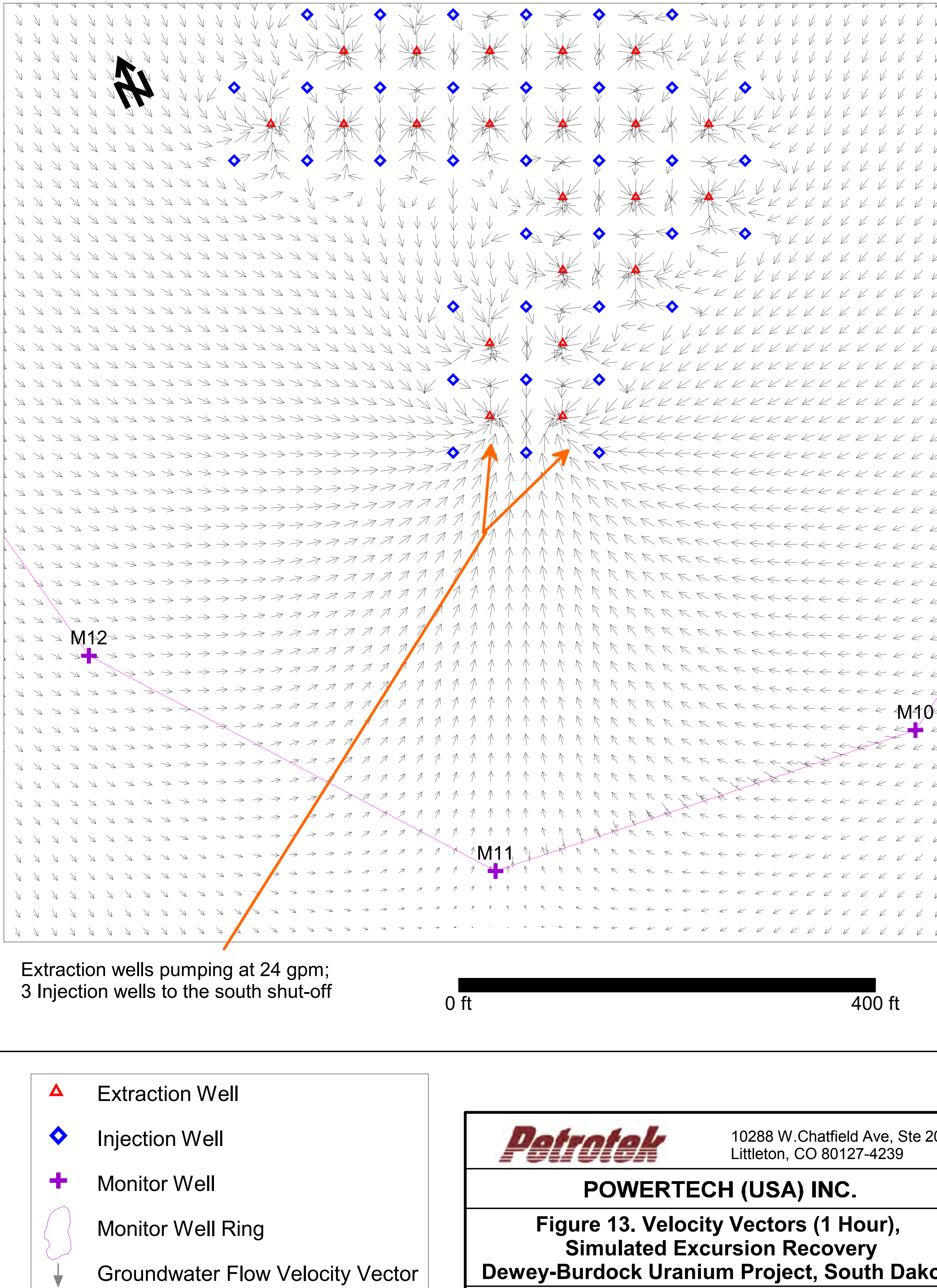

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Figure 13. Velocity Vectors (1 Hour), Simulated Excursion Recovery
Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig13_Recovery_Vector.srf Date: 10/22/10

Flowpath representing simulated excursion

Flowpath representing simulated recovery

Monitor Well

Monitor Well Ring

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Figure 14. Particle Flow Paths at Monitor Well Simulated Excursion & Recovery Dewey-Burdock Uranium Project, South Dakota

By: AP Checked: HD File ID:Fig14_Exc&RecovPath.srf Date: 10/22/10

APPENDIX 7.1-A

APPROVED JURISDICTIONAL DETERMINATIONS

REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
SOUTH DAKOTA REGULATORY OFFICE
28563 POWERHOUSE ROAD, ROOM 118
PIERRE SD 57501-6174

plm
1/19/09

January 14, 2009

South Dakota Regulatory Office
28563 Powerhouse Road, Room 118
Pierre, South Dakota 57501

Powertech (USA) Inc.
ATTN: Mr. Richard Blubaugh
5575 DTC Parkway, Suite 140
Greenwood Village, Colorado 80111

Dear Mr. Blubaugh:

Reference is made to Powertech's November 18, 2008, request for approved jurisdictional determinations (JDs) for sites 1 through 17, located within proposed disturbance areas of the Dewey-Burdock In Situ Uranium Project. The project is located in portions of southern Custer County and northern Fall River Counties, South Dakota.

We have completed Approved JDs, for the requested sites, as well as sites 18 through 20. The Approved JDs (Enclosed) are valid for 5 years from the date of this letter. If you are not in agreement with the JDs, you may request an administrative appeal under Corps of Engineers regulations found at 33 C.F.R. 331. Enclosed you will also find a Notification of Administrative Appeal Options and Process and Request for Appeal form (RFA). Should you decide to submit an RFA form, it must be received by the Corps of Engineers Northwestern Division Office within 60 days from the date of this correspondence (March 15, 2009). If you request to appeal this determination you must submit a completed RFA form to the Northwest Division Office at the following address:

US Army Corps of Engineers
Northwestern Division
Attn: David Gesl
Regulatory Program Manager
PO Box 2870
Portland, OR 97208-2870
(503) 808-3888

It is not necessary to submit a RFA if you do not object to the JD.

Should your proposed project require work in any of the jurisdictional waterbodies identified in the JDs, prior Department of the Army (DA) authorization may be required and you should contact this office for a permit determination. In addition, should your project plans change or should the project require work in any other waters of the United

States, including wetlands, not previously identified in your August 21, 2008, JD request, you should notify this office and seek additional jurisdictional and permit determinations prior to the commencement of work in these waterbodies.

You can obtain additional information about the Regulatory Program and download forms from our website: https://www.nwo.usace.army.mil/html/od-rsd/frame.html .

If you have any questions concerning this determination, please feel free to contact this office at the above Regulatory Office address, or telephone Mr. Matthew Mikulecky at (605) 224-8531 and reference action ID NWO-2008-2206.

Sincerely,

Steven E. Naylor

Steven E. Naylor
Regulatory Program Manager,
South Dakota

Enclosures

USACOE Approved Jurisdictional Determination of Wetlands at Dewey-Burdock, Action IS: NOW-2008-2206[1]

Site #	Latitude: Northing (GPS)	Longitude: Westing (GPS)	Description	COE Determination
1	43.50106	104.02757	Upland Swale	Nonjurisdictional
2	43.49590	104.02211	Upland Swale	Nonjurisdictional
3	43.48897	104.02025	Ephemeral Tributary to Beaver Creek	Jurisdictional WOUS
4	43.48654	104.01299	Upland Swale	Nonjurisdictional
5	43.48819	104.01023	Upland Swale	Nonjurisdictional
6	43.46919	103.98704	Upland Swale	Nonjurisdictional
7	43.46591	103.98474	Ephemeral Tributary to Pass Creek	Jurisdictional WOUS
8	43.45801	103.97643	Upland Swale	Nonjurisdictional
9	43.45117	103.98366	Upland Swale	Nonjurisdictional
10	43.47719	103.99297	Pass Creek (NonRPW)	Jurisdictional WOUS
11	43.48869	103.96516	Upland Swale	Nonjurisdictional
12	43.48794	103.96532	Upland Swale	Nonjurisdictional
13	43.45098	103.96838	Upland Swale	Nonjurisdictional
14	43.45080	103.96185	Upland Vegetated Drainage lacking a downstream connection to WOUS	Nonjurisdictional
15	43.47863	103.95662	Upland Swale	Nonjurisdictional
16	43.46359	103.94818	Upland Hillside Gully	Nonjurisdictional
17	NA	NA	Artificial Pond created by diking uplands	Nonjurisdictional
18	NA	NA	Beaver Creek (Perennial RPW)	Jurisdictional WOUS
19	NA	NA	Isolated Wetland	Nonjurisdictional
20	NA	NA	Isolated Wetland	Nonjurisdictional

[1]Completion date for Approved Jurisdictional Determination (JD): January 13, 2009
District Office, File Name, and Number: Omaha – Powertech (USA) Inc.- NOW-2008-2206-3-PIE

APPENDIX 7.3-A

MILDOS AREA SIMULATION FOR LAND APPLICATION

11REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 1
METSET: DATA: DB.MIL 05/24/11
0

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1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 2
METSET: DATA: DB.MIL 05/24/11
JOINT FREQUENCY IN PERCENT, DIRECTION INDICATES WHERE WIND IS FROM FREQWS=0.27672,0.32202,0.22235,0.13487,0.03587,0.00810

MPH	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTALS
STABILITY CLASS 1																	
1.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270	0.0000	0.0270	0.0270	0.0410	0.0410	0.0140	0.0270	0.0410	0.0000	0.0000	0.2450
5.5	0.0000	0.0130	0.0000	0.0000	0.0000	0.0000	0.0260	0.0390	0.0520	0.0790	0.0390	0.0790	0.0390	0.0520	0.0000	0.0000	0.4180
10.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.0000	0.0130	0.0000	0.0000	0.0000	0.0270	0.0260	0.0660	0.0790	0.1200	0.0800	0.0930	0.0660	0.0930	0.0000	0.0000	0.6630
STABILITY CLASS 2																	
1.5	0.2740	0.1100	0.1100	0.0820	0.0820	0.0410	0.1780	0.2600	0.5210	0.5070	0.3560	0.3700	0.3840	0.4380	0.4380	0.3970	4.5480
5.5	0.0520	0.0000	0.0000	0.0260	0.0130	0.0390	0.1960	0.4190	0.3140	0.1700	0.2230	0.2880	0.5370	0.4190	0.1830	0.1050	2.9840
10.0	0.0000	0.0000	0.0000	0.0000	0.0130	0.0650	0.2100	0.1440	0.0520	0.0130	0.0390	0.0260	0.1440	0.3400	0.0920	0.0130	1.1510
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.3260	0.1100	0.1100	0.1080	0.1080	0.1450	0.5840	0.8230	0.8870	0.6900	0.6180	0.6840	1.0650	1.1970	0.7130	0.5150	8.6830
STABILITY CLASS 3																	
1.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5.5	0.1310	0.0390	0.0130	0.0260	0.1310	0.1960	0.3800	0.4850	0.5500	0.1570	0.1700	0.3930	0.6550	1.1520	0.7070	0.5110	5.6960
10.0	0.0000	0.0000	0.0000	0.0130	0.1700	0.3270	0.4190	0.3400	0.0790	0.0920	0.0650	0.1310	0.1310	0.8910	0.4850	0.1830	3.3260
15.5	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390	0.0130	0.1440	0.0000	0.2350
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390	0.0390	0.0000	0.0780
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.1310	0.0390	0.0130	0.0390	0.3140	0.5360	0.8120	0.8250	0.6290	0.2490	0.2350	0.5240	0.8250	2.0950	1.3750	0.6940	9.3350
STABILITY CLASS 4																	
1.5	0.8490	0.7670	0.2740	0.1780	0.3290	0.1640	0.1100	0.2740	0.2740	0.3420	0.1370	0.2330	0.1640	0.3700	0.5620	0.6580	5.6850
5.5	1.0200	0.4980	0.2750	0.5630	0.7600	0.7860	0.6020	0.4580	0.3010	0.1960	0.0920	0.2230	0.3540	1.1660	1.6370	1.5190	10.4500
10.0	0.2230	0.1700	0.4060	1.2830	2.4230	1.1660	0.7730	0.4060	0.1050	0.1440	0.2100	0.2620	0.3270	1.8990	3.8370	0.8640	14.4980
15.5	0.1310	0.0520	0.2360	1.3750	1.6370	0.9690	0.2230	0.1440	0.0130	0.0390	0.2490	0.3270	0.3400	2.1870	4.7670	0.5630	13.2520
21.5	0.0390	0.0000	0.0130	0.2360	0.1570	0.0920	0.0260	0.0390	0.0000	0.0000	0.0920	0.1050	0.1700	0.4450	1.9120	0.1830	3.5090
28.0	0.0000	0.0130	0.0390	0.2100	0.0650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.0650	0.0130	0.0390	0.3140	0.0390	0.8100
ALL	2.2620	1.5000	1.2430	3.8450	5.3710	3.1770	1.7340	1.3210	0.6930	0.7210	0.7930	1.2150	1.3680	6.1060	13.0290	3.8260	48.2040
STABILITY CLASS 5																	
1.5	0.6440	0.4250	0.2470	0.1370	0.0550	0.0270	0.0550	0.0410	0.0410	0.0270	0.0140	0.0820	0.0960	0.1510	0.1640	0.4930	2.6990
5.5	1.0100	0.4190	0.2230	0.3930	0.6810	0.4450	0.4190	0.3670	0.1310	0.1050	0.1180	0.0790	0.2880	0.4580	0.9430	0.9690	7.0480
10.0	0.0790	0.0130	0.0650	0.2880	0.7200	0.3400	0.2100	0.0650	0.0000	0.0520	0.0260	0.0000	0.1050	0.4190	0.5110	0.3670	3.2600
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	1.7330	0.8570	0.5350	0.8180	1.4560	0.8120	0.6840	0.4730	0.1720	0.1840	0.1580	0.1610	0.4890	1.0280	1.6180	1.8290	13.0070
STABILITY CLASS 6																	
1.5	1.8100	1.9180	1.2880	0.7260	0.6030	0.6160	0.4520	0.7810	0.5480	0.5210	0.4380	0.3970	0.4790	0.8220	1.3150	1.7810	14.4950
5.5	0.6680	0.4710	0.3140	0.3800	0.3270	0.2100	0.2230	0.3540	0.2490	0.1180	0.1440	0.1180	0.2750	0.4190	0.6420	0.6940	5.6060
10.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	2.4780	2.3890	1.6020	1.1060	0.9300	0.8260	0.6750	1.1350	0.7970	0.6390	0.5820	0.5150	0.7540	1.2410	1.9570	2.4750	20.1010
ALL	6.9300	4.9080	3.5030	5.9160	8.1790	5.5230	4.5150	4.6430	3.2570	2.6030	2.4660	3.1920	4.5670	11.7600	18.6920	9.3390	99.9930

1REGION: Dewey Burdock   CODE: MILDOS-AREA (02/97)   PAGE 3
METSET: DATA: DB.MIL   05/24/11

INDIVIDUAL RECEPTOR LOCATION DATA, 41 LOCATIONS INPUT THIS RUN

I	LOCATION NAMES	X(KM)	Y(KM)	Z(M)	DIST(KM)	TYPE	I	LOCATION NAMES	X(KM)	Y(KM)	Z(M)	DIST(KM)	TYPE
1	CPP N	0.00	2.82	0.00	2.82	10	22	SF SSE	-3.55	0.15	0.00	3.55	10
2	CPP NNE	1.07	2.78	0.00	2.98	10	23	SF SE	-2.81	1.30	0.00	3.10	10
3	CPP NE	1.16	1.17	0.00	1.65	10	24	SF S	-4.91	-0.25	0.00	4.92	10
4	CPP ENE	2.64	1.01	0.00	2.83	10	25	SF SSW	-5.70	1.38	0.00	5.86	10
5	CPP E	2.60	0.00	0.00	2.60	10	26	SF SW	-6.28	2.06	0.00	6.61	10
6	CPP ESE	2.53	-0.97	0.00	2.71	10	27	SF WSW	-6.24	2.92	0.00	6.89	10
7	CPP SSE	0.85	-2.25	0.00	2.41	10	28	SF W	-7.02	3.43	0.00	7.81	10
8	CPP SE	2.13	-2.14	0.00	3.02	10	29	SF WNW	-6.98	4.21	0.00	8.15	10
9	CPP S	0.00	-2.87	0.00	2.87	10	30	SF NW	-6.24	4.69	0.00	7.81	10
10	CPP SSW	-1.09	-2.84	0.00	3.04	10	31	SF NNW	-5.40	4.67	0.00	7.14	10
11	CPP SW	-2.44	-2.43	0.00	3.44	10	32	SF ESE	-3.00	2.69	0.00	4.03	10
12	CPP WSW	-2.37	-0.90	0.00	2.54	10	33	Daniels Ranch	2.13	0.02	0.00	2.13	10
13	CPP W	-2.32	0.00	0.00	2.32	10	34	Spencer Ranch	-2.00	1.21	0.00	2.34	10
14	CPP WNW	-2.29	0.87	0.00	2.45	10	35	BC Ranch	-6.64	3.81	0.00	7.66	10
15	CPP NW	-2.55	2.52	0.00	3.59	10	36	Puttman Ranch	-5.16	7.23	0.00	8.88	10
16	CPP NNW	-1.42	3.70	0.00	3.96	10	37	Englebert Ranch	0.30	-4.83	0.00	4.84	10
17	SF N	-4.92	5.28	0.00	7.22	10	38	Burdock School	-2.25	-1.96	0.00	2.98	10
18	SF NNE	-4.23	5.25	0.00	6.74	10	39	Heck Ranch	1.73	-6.38	0.00	6.61	10
19	SF NE	-2.70	5.64	0.00	6.25	10	40	Edgemont	11.03	-18.59	0.00	21.62	10
20	SF ENE	-3.35	4.01	0.00	5.23	10	41	Background	-5.25	-3.00	0.00	6.05	10
21	SF E	-2.97	3.43	0.00	4.54	10							

MISCELLANEOUS INPUTABLE PARAMETER VALUES

DMM	DMA	TSTART	FFORI	FHAYI	FFORP	FHAYP	FPR(1)	FPR(2)	FPR(3)	ACTRAT
100.0	100.0	2011.00	0.50	0.50	0.50	0.50	0.00	0.00	0.00	2.50

IPACT EQUALS 0, 0, 0, 0, 0, 1,

JC EQUALS 1, 0, 1, 1, 0, 0, 1, 0, 1, 0

TIME STEP DATA....	STEP NAMES	LENGTH, YRS	IFTODO
1		1.00	1

XRHO EQUALS 1.5, 2.5, 3.5, 4.5, 7.5, 15.0, 25.0, 35.0, 45.0, 55.0, 65.0, 75.0,

HDP EQUALS 50.0

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METSET: DATA: DB.MIL   05/24/11

POPULATION DISTRIBUTION

KILOMETERS	N 0.0	NNE 22.5	NE 45.0	ENE 67.5	E 90.0	ESE 112.5	SE 135.0	SSE 157.5	S 180.0	SSW 202.5	SW 225.0	WSW 247.5	W 270.0	WNW 292.5	NW 315.0	NNW 337.5
1.0- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0- 3.0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
3.0- 4.0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4.0- 5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.0-10.0	0	0	0	0	0	0	0	2	11	3	0	0	0	8	6	2
10.0-20.0	26	12	10	0	24	21	12	18	0	7	0	19	0	6	2	0
20.0-30.0	165	8	15	154	47	26	342	649	7	0	0	14	0	2	0	35
30.0-40.0	54	59	494	282	501	76	18	52	6	2	29	15	2	2	10	234
40.0-50.0	25	64	3852	21	4651	329	32	7	18	2	18	4	10	18	22	4129
50.0-60.0	25	229	391	73	278	183	12	30	2	25	21	28	0	57	30	121
60.0-70.0	39	780	1825	268	70	143	13	20	17	21	23	8	22	58	50	316
70.0-80.0	58	386	3427	539	95	136	34	30	44	48	61	9	18	33	72	77
1.0-80.0	392	1538	10014	1337	5666	914	463	808	106	108	152	103	52	184	192	4914

TOTAL 1-80 KM POPULATION IS 26943 PERSONS

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 5
METSET: DATA: DB.MIL 05/24/11

NUMBER OF SOURCES= 6

NO.	KM X	KM Y	M Z	KM2 AREA	U-238	Th-230	CI/YEAR Ra-226	Pb-210	Rn-222	ID	PSIZE SET	M/SEC EXIT VEL	SOURCE NAME
1	-5.00	3.54	16.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+02	1001	1	3.30E+00	SF
2	1.61	-0.55	0.00	0.9130	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E+02	1002	1	0.00E+00	CPP Wellfield
3	-4.08	3.49	0.00	0.8380	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E+02	1003	1	0.00E+00	SF Wellfield
4	-5.75	4.09	0.00	1.8200	9.74E-02	3.25E-02	1.95E-02	3.25E-03	6.08E+00	1004	3	0.00E+00	Dewey LA Cluster
5	-0.89	1.21	0.00	0.5060	9.74E-02	3.25E-02	1.95E-02	3.25E-03	7.49E+00	1005	3	0.00E+00	Burdock LA Cluster
6	0.00	0.00	16.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+02	1006	1	3.30E+00	CPP

INPUT TAILS ACTIVITIES, PCI/G

SET	URANIUM	THORIUM	RADIUM	LEAD
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AMAD AND FRACTIONAL DISTRIBUTION

SET	1.5	3.0	7.7	54.0
1	0.000	1.000	0.000	0.000
2	1.000	0.000	0.000	0.000
3	0.000	0.000	0.300	0.700

PARTICULATE SOURCE STRENGTH MULTIPLIERS BY TIME STEP, 1 TIME STEP(S) USED FOR THIS RUN

SOURCE NUMBER	TSTEP 1 1.00YRS	TSTEP 2 100.00YRS	TSTEP 3 5.00YRS	TSTEP 4 5.00YRS	TSTEP 5 5.00YRS	TSTEP 6 5.00YRS	TSTEP 7 5.00YRS	TSTEP 8 5.00YRS	TSTEP 9 5.00YRS	TSTEP10 5.00YRS
1	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
2	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
3	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
4	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

RADON SOURCE STRENGTH MULTIPLIERS BY TIME STEP, 1 TIME STEP(S) USED FOR THIS RUN

SOURCE NUMBER	TSTEP 1 1.00YRS	TSTEP 2 100.00YRS	TSTEP 3 5.00YRS	TSTEP 4 5.00YRS	TSTEP 5 5.00YRS	TSTEP 6 5.00YRS	TSTEP 7 5.00YRS	TSTEP 8 5.00YRS	TSTEP 9 5.00YRS	TSTEP10 5.00YRS
1	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
2	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
3	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
4	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

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METSET: DATA: DB.MIL 05/24/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE N DIRECTION, THETA EQUALS 0.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	9.666E-04	3.225E-04	1.935E-04	3.218E-05	1.476E+01	1.448E+01	8.760E+00	5.547E+00	1.354E-05	8.002E-05
2.5	3.835E-04	1.280E-04	7.678E-05	1.277E-05	1.016E+01	1.010E+01	7.111E+00	5.040E+00	1.243E-05	6.525E-05
3.5	2.535E-04	8.458E-05	5.075E-05	8.439E-06	7.907E+00	7.882E+00	6.045E+00	4.632E+00	1.305E-05	5.604E-05
4.5	1.677E-04	5.595E-05	3.357E-05	5.582E-06	5.730E+00	5.722E+00	4.680E+00	3.809E+00	1.298E-05	4.383E-05
7.5	6.877E-05	2.295E-05	1.377E-05	2.289E-06	3.444E+00	3.444E+00	3.111E+00	2.792E+00	1.598E-05	2.973E-05
15.0	2.051E-05	6.843E-06	4.106E-06	6.827E-07	1.588E+00	1.589E+00	1.554E+00	1.502E+00	2.092E-05	1.512E-05
25.0	7.719E-06	2.576E-06	1.545E-06	2.570E-07	8.681E-01	8.686E-01	8.665E-01	8.583E-01	2.180E-05	8.489E-06
35.0	3.768E-06	1.257E-06	7.544E-07	1.255E-07	5.723E-01	5.727E-01	5.743E-01	5.739E-01	2.154E-05	5.642E-06
45.0	2.103E-06	7.019E-07	4.211E-07	7.003E-08	4.172E-01	4.174E-01	4.191E-01	4.200E-01	2.107E-05	4.122E-06
55.0	1.267E-06	4.229E-07	2.537E-07	4.219E-08	3.231E-01	3.233E-01	3.248E-01	3.258E-01	2.057E-05	3.195E-06
65.0	8.007E-07	2.672E-07	1.603E-07	2.665E-08	2.605E-01	2.607E-01	2.619E-01	2.628E-01	2.009E-05	2.577E-06
75.0	5.224E-07	1.743E-07	1.046E-07	1.739E-08	2.162E-01	2.163E-01	2.173E-01	2.181E-01	1.963E-05	2.138E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	1.869E+02	6.235E+01	3.740E+01	3.740E+01	0.000E+00	4.887E+01	4.887E+01	4.887E+01	1.253E+00
2.5	7.414E+01	2.474E+01	1.484E+01	1.484E+01	0.000E+00	2.284E+01	2.284E+01	2.284E+01	1.151E+00
3.5	4.900E+01	1.635E+01	9.809E+00	9.809E+00	0.000E+00	1.605E+01	1.605E+01	1.605E+01	1.208E+00
4.5	3.241E+01	1.082E+01	6.488E+00	6.488E+00	0.000E+00	1.102E+01	1.102E+01	1.102E+01	1.202E+00
7.5	1.329E+01	4.436E+00	2.661E+00	2.661E+00	0.000E+00	5.389E+00	5.389E+00	5.389E+00	1.479E+00
15.0	3.965E+00	1.323E+00	7.936E-01	7.936E-01	0.000E+00	2.052E+00	2.052E+00	2.052E+00	1.937E+00
25.0	1.492E+00	4.979E-01	2.987E-01	2.987E-01	0.000E+00	9.867E-01	9.867E-01	9.867E-01	2.018E+00
35.0	7.285E-01	2.431E-01	1.458E-01	1.458E-01	0.000E+00	5.994E-01	5.994E-01	5.994E-01	1.994E+00
45.0	4.066E-01	1.357E-01	8.139E-02	8.139E-02	0.000E+00	4.120E-01	4.120E-01	4.120E-01	1.950E+00
55.0	2.450E-01	8.176E-02	4.904E-02	4.904E-02	0.000E+00	3.051E-01	3.051E-01	3.051E-01	1.904E+00
65.0	1.548E-01	5.165E-02	3.098E-02	3.098E-02	0.000E+00	2.374E-01	2.374E-01	2.374E-01	1.860E+00
75.0	1.010E-01	3.370E-02	2.021E-02	2.021E-02	0.000E+00	1.915E-01	1.915E-01	1.915E-01	1.817E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	9.666E-06	3.225E-06	1.935E-06	3.624E-07
2.5	3.835E-06	1.280E-06	7.678E-07	1.650E-07
3.5	2.535E-06	8.458E-07	5.075E-07	1.235E-07
4.5	1.677E-06	5.595E-07	3.357E-07	9.476E-08
7.5	6.877E-07	2.295E-07	1.377E-07	7.082E-08
15.0	2.051E-07	6.843E-08	4.106E-08	6.958E-08
25.0	7.719E-08	2.576E-08	1.545E-08	6.796E-08
35.0	3.768E-08	1.257E-08	7.544E-09	6.586E-08
45.0	2.103E-08	7.019E-09	4.211E-09	6.390E-08
55.0	1.267E-08	4.229E-09	2.537E-09	6.213E-08
65.0	8.007E-09	2.672E-09	1.603E-09	6.053E-08
75.0	5.224E-09	1.743E-09	1.046E-09	5.906E-08

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE E DIRECTION, THETA EQUALS 90.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	6.234E-04	2.080E-04	1.248E-04	2.075E-05	3.764E+01	2.319E+01	8.237E+00	4.072E+00	1.452E-05	8.083E-05
2.5	3.815E-04	1.273E-04	7.637E-05	1.270E-05	1.527E+01	1.449E+01	7.248E+00	4.118E+00	1.547E-05	6.703E-05
3.5	2.302E-04	7.681E-05	4.608E-05	7.663E-06	9.315E+00	9.149E+00	6.089E+00	4.178E+00	1.746E-05	5.588E-05
4.5	1.780E-04	5.938E-05	3.563E-05	5.925E-06	6.865E+00	6.817E+00	5.118E+00	3.900E+00	1.878E-05	4.752E-05
7.5	9.108E-05	3.039E-05	1.823E-05	3.032E-06	3.470E+00	3.469E+00	3.016E+00	2.619E+00	1.983E-05	2.863E-05
15.0	3.370E-05	1.124E-05	6.746E-06	1.122E-06	1.550E+00	1.551E+00	1.477E+00	1.383E+00	2.060E-05	1.424E-05
25.0	1.396E-05	4.658E-06	2.795E-06	4.647E-07	8.413E-01	8.418E-01	8.298E-01	8.088E-01	1.982E-05	8.091E-06
35.0	7.212E-06	2.406E-06	1.444E-06	2.401E-07	5.586E-01	5.589E-01	5.570E-01	5.512E-01	1.903E-05	5.456E-06
45.0	4.182E-06	1.395E-06	8.373E-07	1.392E-07	4.091E-01	4.093E-01	4.096E-01	4.081E-01	1.832E-05	4.021E-06
55.0	2.605E-06	8.692E-07	5.215E-07	8.671E-08	3.179E-01	3.181E-01	3.190E-01	3.188E-01	1.770E-05	3.134E-06
65.0	1.704E-06	5.686E-07	3.412E-07	5.673E-08	2.571E-01	2.572E-01	2.582E-01	2.585E-01	1.715E-05	2.538E-06
75.0	1.157E-06	3.860E-07	2.316E-07	3.851E-08	2.139E-01	2.140E-01	2.149E-01	2.153E-01	1.666E-05	2.113E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	1.205E+02	4.021E+01	2.412E+01	2.412E+01	0.000E+00	4.249E+01	4.249E+01	4.249E+01	1.344E+00
2.5	7.374E+01	2.461E+01	1.476E+01	1.476E+01	0.000E+00	2.624E+01	2.624E+01	2.624E+01	1.432E+00
3.5	4.450E+01	1.485E+01	8.907E+00	8.907E+00	0.000E+00	1.615E+01	1.615E+01	1.615E+01	1.616E+00
4.5	3.440E+01	1.148E+01	6.887E+00	6.887E+00	0.000E+00	1.229E+01	1.229E+01	1.229E+01	1.738E+00
7.5	1.761E+01	5.875E+00	3.524E+00	3.524E+00	0.000E+00	6.272E+00	6.272E+00	6.272E+00	1.836E+00
15.0	6.514E+00	2.174E+00	1.304E+00	1.304E+00	0.000E+00	2.532E+00	2.532E+00	2.532E+00	1.907E+00
25.0	2.699E+00	9.005E-01	5.402E-01	5.402E-01	0.000E+00	1.207E+00	1.207E+00	1.207E+00	1.835E+00
35.0	1.394E+00	4.652E-01	2.791E-01	2.791E-01	0.000E+00	7.218E-01	7.218E-01	7.218E-01	1.762E+00
45.0	8.085E-01	2.698E-01	1.618E-01	1.618E-01	0.000E+00	4.861E-01	4.861E-01	4.861E-01	1.696E+00
55.0	5.036E-01	1.680E-01	1.008E-01	1.008E-01	0.000E+00	3.528E-01	3.528E-01	3.528E-01	1.639E+00
65.0	3.295E-01	1.099E-01	6.594E-02	6.594E-02	0.000E+00	2.697E-01	2.697E-01	2.697E-01	1.588E+00
75.0	2.236E-01	7.462E-02	4.476E-02	4.476E-02	0.000E+00	2.143E-01	2.143E-01	2.143E-01	1.543E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	6.234E-06	2.080E-06	1.248E-06	2.511E-07
2.5	3.815E-06	1.273E-06	7.637E-07	1.734E-07
3.5	2.302E-06	7.681E-07	4.608E-07	1.290E-07
4.5	1.780E-06	5.938E-07	3.563E-07	1.156E-07
7.5	9.108E-07	3.039E-07	1.823E-07	8.980E-08
15.0	3.370E-07	1.124E-07	6.746E-08	7.301E-08
25.0	1.396E-07	4.658E-08	2.795E-08	6.412E-08
35.0	7.212E-08	2.406E-08	1.444E-08	5.949E-08
45.0	4.182E-08	1.395E-08	8.373E-09	5.635E-08
55.0	2.605E-08	8.692E-09	5.215E-09	5.396E-08
65.0	1.704E-08	5.686E-09	3.412E-09	5.202E-08
75.0	1.157E-08	3.860E-09	2.316E-09	5.038E-08

1REGION: Dewey Burdock   CODE: MILDOS-AREA (02/97)   PAGE 8
METSET: DATA: DB.MIL   05/24/11

TIME STEP NUMBER 1,   DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE S DIRECTION, THETA EQUALS 180.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	4.863E-04	1.623E-04	9.736E-05	1.619E-05	2.767E+01	2.706E+01	1.534E+01	8.628E+00	2.252E-05	1.378E-04
2.5	2.511E-04	8.378E-05	5.027E-05	8.359E-06	1.977E+01	1.967E+01	1.425E+01	9.873E+00	2.945E-05	1.293E-04
3.5	1.807E-04	6.030E-05	3.618E-05	6.016E-06	1.496E+01	1.494E+01	1.221E+01	9.614E+00	3.597E-05	1.131E-04
4.5	1.417E-04	4.727E-05	2.836E-05	4.716E-06	1.214E+01	1.214E+01	1.058E+01	9.004E+00	4.194E-05	9.974E-05
7.5	7.674E-05	2.561E-05	1.536E-05	2.555E-06	6.824E+00	6.827E+00	6.463E+00	6.048E+00	5.001E-05	6.236E-05
15.0	2.313E-05	7.719E-06	4.631E-06	7.701E-07	3.198E+00	3.199E+00	3.159E+00	3.088E+00	5.402E-05	3.083E-05
25.0	9.160E-06	3.057E-06	1.834E-06	3.049E-07	1.756E+00	1.757E+00	1.757E+00	1.749E+00	5.273E-05	1.724E-05
35.0	4.546E-06	1.517E-06	9.101E-07	1.513E-07	1.160E+00	1.161E+00	1.165E+00	1.165E+00	5.054E-05	1.145E-05
45.0	2.550E-06	8.508E-07	5.105E-07	8.488E-08	8.433E-01	8.437E-01	8.472E-01	8.491E-01	4.846E-05	8.332E-06
55.0	1.543E-06	5.147E-07	3.088E-07	5.135E-08	6.497E-01	6.501E-01	6.530E-01	6.549E-01	4.660E-05	6.423E-06
65.0	9.828E-07	3.279E-07	1.968E-07	3.272E-08	5.206E-01	5.209E-01	5.233E-01	5.250E-01	4.494E-05	5.148E-06
75.0	6.507E-07	2.171E-07	1.303E-07	2.166E-08	4.291E-01	4.293E-01	4.314E-01	4.328E-01	4.346E-05	4.244E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	9.401E+01	3.137E+01	1.882E+01	1.882E+01	0.000E+00	4.025E+01	4.025E+01	4.025E+01	2.085E+00
2.5	4.854E+01	1.620E+01	9.716E+00	9.716E+00	0.000E+00	2.530E+01	2.530E+01	2.530E+01	2.726E+00
3.5	3.494E+01	1.166E+01	6.993E+00	6.993E+00	0.000E+00	1.883E+01	1.883E+01	1.883E+01	3.331E+00
4.5	2.739E+01	9.138E+00	5.482E+00	5.482E+00	0.000E+00	1.510E+01	1.510E+01	1.510E+01	3.883E+00
7.5	1.483E+01	4.950E+00	2.969E+00	2.969E+00	0.000E+00	8.377E+00	8.377E+00	8.377E+00	4.630E+00
15.0	4.472E+00	1.492E+00	8.951E-01	8.951E-01	0.000E+00	3.429E+00	3.429E+00	3.429E+00	5.002E+00
25.0	1.771E+00	5.909E-01	3.545E-01	3.545E-01	0.000E+00	1.746E+00	1.746E+00	1.746E+00	4.882E+00
35.0	8.788E-01	2.932E-01	1.759E-01	1.759E-01	0.000E+00	1.095E+00	1.095E+00	1.095E+00	4.679E+00
45.0	4.929E-01	1.645E-01	9.866E-02	9.866E-02	0.000E+00	7.669E-01	7.669E-01	7.669E-01	4.487E+00
55.0	2.982E-01	9.951E-02	5.969E-02	5.969E-02	0.000E+00	5.746E-01	5.746E-01	5.746E-01	4.314E+00
65.0	1.900E-01	6.340E-02	3.803E-02	3.803E-02	0.000E+00	4.506E-01	4.506E-01	4.506E-01	4.161E+00
75.0	1.258E-01	4.197E-02	2.518E-02	2.518E-02	0.000E+00	3.652E-01	3.652E-01	3.652E-01	4.023E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	4.863E-06	1.623E-06	9.736E-07	2.295E-07
2.5	2.511E-06	8.378E-07	5.027E-07	1.719E-07
3.5	1.807E-06	6.030E-07	3.618E-07	1.681E-07
4.5	1.417E-06	4.727E-07	2.836E-07	1.730E-07
7.5	7.674E-07	2.561E-07	1.536E-07	1.756E-07
15.0	2.313E-07	7.719E-08	4.631E-08	1.698E-07
25.0	9.160E-08	3.057E-08	1.834E-08	1.612E-07
35.0	4.546E-08	1.517E-08	9.101E-09	1.531E-07
45.0	2.550E-08	8.508E-09	5.105E-09	1.462E-07
55.0	1.543E-08	5.147E-09	3.088E-09	1.403E-07
65.0	9.828E-09	3.279E-09	1.968E-09	1.352E-07
75.0	6.507E-09	2.171E-09	1.303E-09	1.306E-07

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE W DIRECTION, THETA EQUALS 270.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	7.382E-04	2.463E-04	1.478E-04	2.458E-05	1.889E+01	1.788E+01	1.024E+01	6.780E+00	1.763E-05	9.561E-05
2.5	4.765E-04	1.590E-04	9.539E-05	1.586E-05	1.671E+01	1.644E+01	1.134E+01	8.233E+00	2.064E-05	1.051E-04
3.5	3.751E-04	1.252E-04	7.510E-05	1.249E-05	1.517E+01	1.509E+01	1.131E+01	8.469E+00	2.140E-05	1.044E-04
4.5	2.991E-04	9.979E-05	5.987E-05	9.956E-06	1.482E+01	1.478E+01	1.146E+01	8.673E+00	2.244E-05	1.057E-04
7.5	1.273E-04	4.247E-05	2.548E-05	4.237E-06	7.472E+00	7.467E+00	6.426E+00	5.431E+00	2.209E-05	6.053E-05
15.0	5.037E-05	1.681E-05	1.008E-05	1.677E-06	1.984E+00	1.985E+00	1.773E+00	1.576E+00	1.774E-05	1.691E-05
25.0	2.248E-05	7.501E-06	4.500E-06	7.483E-07	1.036E+00	1.036E+00	9.877E-01	9.219E-01	1.793E-05	9.514E-06
35.0	1.261E-05	4.206E-06	2.524E-06	4.196E-07	6.754E-01	6.757E-01	6.624E-01	6.387E-01	1.750E-05	6.437E-06
45.0	7.942E-06	2.650E-06	1.590E-06	2.644E-07	4.919E-01	4.921E-01	4.885E-01	4.795E-01	1.702E-05	4.772E-06
55.0	5.358E-06	1.788E-06	1.073E-06	1.784E-07	3.821E-01	3.823E-01	3.817E-01	3.784E-01	1.655E-05	3.740E-06
65.0	3.780E-06	1.261E-06	7.568E-07	1.258E-07	3.095E-01	3.097E-01	3.101E-01	3.091E-01	1.612E-05	3.044E-06
75.0	2.753E-06	9.186E-07	5.511E-07	9.164E-08	2.583E-01	2.584E-01	2.592E-01	2.591E-01	1.572E-05	2.547E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	1.427E+02	4.762E+01	2.857E+01	2.857E+01	0.000E+00	4.273E+01	4.273E+01	4.273E+01	1.632E+00
2.5	9.211E+01	3.074E+01	1.844E+01	1.844E+01	0.000E+00	3.145E+01	3.145E+01	3.145E+01	1.911E+00
3.5	7.252E+01	2.420E+01	1.452E+01	1.452E+01	0.000E+00	2.647E+01	2.647E+01	2.647E+01	1.981E+00
4.5	5.781E+01	1.929E+01	1.157E+01	1.157E+01	0.000E+00	2.328E+01	2.328E+01	2.328E+01	2.077E+00
7.5	2.461E+01	8.210E+00	4.925E+00	4.925E+00	0.000E+00	1.084E+01	1.084E+01	1.084E+01	2.045E+00
15.0	9.737E+00	3.249E+00	1.949E+00	1.949E+00	0.000E+00	3.521E+00	3.521E+00	3.521E+00	1.642E+00
25.0	4.346E+00	1.450E+00	8.698E-01	8.698E-01	0.000E+00	1.691E+00	1.691E+00	1.691E+00	1.660E+00
35.0	2.437E+00	8.131E-01	4.878E-01	4.878E-01	0.000E+00	1.023E+00	1.023E+00	1.023E+00	1.621E+00
45.0	1.535E+00	5.123E-01	3.073E-01	3.073E-01	0.000E+00	6.971E-01	6.971E-01	6.971E-01	1.576E+00
55.0	1.036E+00	3.456E-01	2.073E-01	2.073E-01	0.000E+00	5.101E-01	5.101E-01	5.101E-01	1.532E+00
65.0	7.308E-01	2.438E-01	1.463E-01	1.463E-01	0.000E+00	3.916E-01	3.916E-01	3.916E-01	1.492E+00
75.0	5.322E-01	1.776E-01	1.065E-01	1.065E-01	0.000E+00	3.112E-01	3.112E-01	3.112E-01	1.455E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	7.382E-06	2.463E-06	1.478E-06	2.987E-07
2.5	4.765E-06	1.590E-06	9.539E-07	2.206E-07
3.5	3.751E-06	1.252E-06	7.510E-07	1.891E-07
4.5	2.991E-06	9.979E-07	5.987E-07	1.669E-07
7.5	1.273E-06	4.247E-07	2.548E-07	1.086E-07
15.0	5.037E-07	1.681E-07	1.008E-07	6.998E-08
25.0	2.248E-07	7.501E-08	4.500E-08	6.127E-08
35.0	1.261E-07	4.206E-08	2.524E-08	5.671E-08
45.0	7.942E-08	2.650E-08	1.590E-08	5.370E-08
55.0	5.358E-08	1.788E-08	1.073E-08	5.144E-08
65.0	3.780E-08	1.261E-08	7.568E-09	4.961E-08
75.0	2.753E-08	9.186E-09	5.511E-09	4.806E-08

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 10
METSET: DATA: DB.MIL 05/24/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE WNW DIRECTION, THETA EQUALS 292.5 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	1.576E-03	5.259E-04	3.155E-04	5.246E-05	1.851E+01	1.775E+01	1.034E+01	6.819E+00	1.645E-05	9.612E-05
2.5	8.757E-04	2.922E-04	1.753E-04	2.915E-05	1.759E+01	1.723E+01	1.108E+01	7.512E+00	1.574E-05	1.020E-04
3.5	6.697E-04	2.235E-04	1.341E-04	2.230E-05	2.301E+01	2.251E+01	1.403E+01	8.789E+00	1.548E-05	1.271E-04
4.5	5.560E-04	1.855E-04	1.113E-04	1.851E-05	2.905E+01	2.849E+01	1.643E+01	8.913E+00	1.358E-05	1.459E-04
7.5	3.671E-04	1.225E-04	7.349E-05	1.222E-05	1.007E+01	9.732E+00	5.887E+00	3.779E+00	1.127E-05	5.397E-05
15.0	6.258E-05	2.088E-05	1.253E-05	2.083E-06	2.023E+00	2.024E+00	1.764E+00	1.539E+00	1.543E-05	1.677E-05
25.0	2.107E-05	7.029E-06	4.217E-06	7.013E-07	9.005E-01	9.010E-01	8.611E-01	8.068E-01	1.531E-05	8.303E-06
35.0	1.050E-05	3.502E-06	2.101E-06	3.494E-07	5.563E-01	5.566E-01	5.475E-01	5.308E-01	1.466E-05	5.329E-06
45.0	6.160E-06	2.055E-06	1.233E-06	2.051E-07	3.940E-01	3.942E-01	3.922E-01	3.865E-01	1.406E-05	3.836E-06
55.0	3.951E-06	1.318E-06	7.909E-07	1.315E-07	3.012E-01	3.014E-01	3.013E-01	2.995E-01	1.355E-05	2.955E-06
65.0	2.679E-06	8.940E-07	5.364E-07	8.919E-08	2.417E-01	2.418E-01	2.424E-01	2.420E-01	1.313E-05	2.381E-06
75.0	1.889E-06	6.303E-07	3.781E-07	6.288E-08	2.002E-01	2.003E-01	2.010E-01	2.012E-01	1.274E-05	1.976E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	3.047E+02	1.017E+02	6.098E+01	6.098E+01	0.000E+00	7.504E+01	7.504E+01	7.504E+01	1.523E+00
2.5	1.693E+02	5.649E+01	3.388E+01	3.388E+01	0.000E+00	4.753E+01	4.753E+01	4.753E+01	1.457E+00
3.5	1.295E+02	4.320E+01	2.592E+01	2.592E+01	0.000E+00	4.374E+01	4.374E+01	4.374E+01	1.434E+00
4.5	1.075E+02	3.587E+01	2.152E+01	2.152E+01	0.000E+00	4.408E+01	4.408E+01	4.408E+01	1.258E+00
7.5	7.096E+01	2.368E+01	1.420E+01	1.420E+01	0.000E+00	2.191E+01	2.191E+01	2.191E+01	1.044E+00
15.0	1.210E+01	4.036E+00	2.421E+00	2.421E+00	0.000E+00	4.024E+00	4.024E+00	4.024E+00	1.428E+00
25.0	4.072E+00	1.359E+00	8.151E-01	8.151E-01	0.000E+00	1.529E+00	1.529E+00	1.529E+00	1.418E+00
35.0	2.029E+00	6.771E-01	4.061E-01	4.061E-01	0.000E+00	8.470E-01	8.470E-01	8.470E-01	1.357E+00
45.0	1.191E+00	3.974E-01	2.384E-01	2.384E-01	0.000E+00	5.506E-01	5.506E-01	5.506E-01	1.301E+00
55.0	7.637E-01	2.548E-01	1.529E-01	1.529E-01	0.000E+00	3.916E-01	3.916E-01	3.916E-01	1.255E+00
65.0	5.179E-01	1.728E-01	1.037E-01	1.037E-01	0.000E+00	2.952E-01	2.952E-01	2.952E-01	1.215E+00
75.0	3.652E-01	1.218E-01	7.309E-02	7.309E-02	0.000E+00	2.318E-01	2.318E-01	2.318E-01	1.179E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	1.576E-05	5.259E-06	3.155E-06	5.740E-07
2.5	8.757E-06	2.922E-06	1.753E-06	3.387E-07
3.5	6.697E-06	2.235E-06	1.341E-06	2.694E-07
4.5	5.560E-06	1.855E-06	1.113E-06	2.259E-07
7.5	3.671E-06	1.225E-06	7.349E-07	1.560E-07
15.0	6.258E-07	2.088E-07	1.253E-07	6.711E-08
25.0	2.107E-07	7.029E-08	4.217E-08	5.295E-08
35.0	1.050E-07	3.502E-08	2.101E-08	4.746E-08
45.0	6.160E-08	2.055E-08	1.233E-08	4.422E-08
55.0	3.951E-08	1.318E-08	7.909E-09	4.197E-08
65.0	2.679E-08	8.940E-09	5.364E-09	4.027E-08
75.0	1.889E-08	6.303E-09	3.781E-09	3.884E-08

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.156E-04	1.177E-03	2.317E-04	7.646E-05	6.049E-05	7.988E-05	1.052E-04
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.450E-04	4.213E-05	1.959E-04	1.596E-04	4.734E-04	1.417E-03	6.395E-04
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.262E-04	8.148E-05	1.643E-03	9.166E-03	7.331E-04	2.872E-03	4.724E-03
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.067E-03	1.188E-03	6.223E-05	1.671E-04	5.056E-04	8.779E-04
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.994E-04	5.345E-04	3.286E-03	2.022E-02	8.817E-04	1.739E-04	1.952E-04
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.876E-04	5.602E-04	1.011E-03	3.012E-03	1.241E-03	7.590E-04	5.907E-04
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.178E-04	9.679E-03	3.333E-04	4.249E-04	1.216E-04	1.052E-04	2.275E-04
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.540E-04	5.972E-04	1.075E-02	5.415E-04	5.238E-05	1.763E-04	9.853E-05	1.291E-04
S	0.000E+00	1.712E-04	0.000E+00	0.000E+00	6.235E-04	0.000E+00	7.294E-05	4.179E-05	9.687E-05	9.044E-06	6.799E-05	1.607E-04
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.220E-04	1.089E-04	0.000E+00	1.042E-05	8.464E-06	9.242E-05	7.057E-05	1.501E-04
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.137E-04	5.598E-05	5.549E-05	5.377E-05	1.295E-04
WSW	0.000E+00	0.000E+00	8.840E-04	0.000E+00	0.000E+00	2.944E-04	1.255E-04	9.091E-05	1.778E-05	9.671E-05	2.241E-05	2.114E-05
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.048E-05	6.936E-05	0.000E+00	8.588E-05	5.645E-05
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.932E-03	2.579E-04	3.171E-05	1.710E-05	9.809E-05	2.187E-04	1.678E-04	7.575E-05
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.185E-03	7.163E-05	0.000E+00	6.918E-05	9.653E-05	9.266E-05	1.169E-04	1.345E-04
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.663E-04	0.000E+00	3.933E-04	1.502E-03	1.788E-02	3.918E-04	8.219E-04	1.693E-04

TOTAL DOSE COMMITMENT IS 1.163E-01 PERSON-REM/YR

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  12
 METSET:                            DATA: DB.MIL                       05/24/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS BONE

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.972E-03	6.109E-03	1.326E-03	4.767E-04	4.039E-04	5.620E-04	7.695E-04
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.985E-04	2.270E-04	1.175E-03	1.041E-03	3.283E-03	1.026E-02	4.772E-03
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.005E-04	4.218E-04	9.245E-03	5.560E-02	4.731E-03	1.947E-02	3.327E-02
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.379E-03	6.460E-03	3.638E-04	1.042E-03	3.327E-03	6.032E-03
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.780E-03	2.591E-03	1.692E-02	1.113E-01	5.181E-03	1.085E-03	1.282E-03
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.114E-03	2.669E-03	5.018E-03	1.567E-02	6.785E-03	4.363E-03	3.559E-03
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.887E-03	4.632E-02	1.649E-03	2.186E-03	6.516E-04	5.869E-04	1.320E-03
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.160E-04	2.885E-03	5.589E-02	3.046E-03	3.170E-04	1.135E-03	6.663E-04	9.072E-04
S	0.000E+00	7.764E-04	0.000E+00	0.000E+00	2.911E-03	0.000E+00	4.188E-04	2.650E-04	6.604E-04	6.488E-05	5.050E-04	1.223E-03
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.734E-04	5.718E-04	0.000E+00	7.096E-05	6.125E-05	6.941E-04	5.425E-04	1.171E-03
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.476E-04	3.887E-04	4.000E-04	3.980E-04	9.776E-04
WSW	0.000E+00	0.000E+00	4.028E-03	0.000E+00	0.000E+00	1.433E-03	6.353E-04	4.785E-04	9.758E-05	5.532E-04	1.334E-04	1.306E-04
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.909E-05	3.487E-04	0.000E+00	4.704E-04	3.228E-04
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.813E-03	1.186E-03	1.480E-04	8.268E-05	4.962E-04	1.162E-03	9.376E-04	4.443E-04
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.441E-03	3.282E-04	0.000E+00	3.378E-04	4.971E-04	5.048E-04	6.731E-04	8.164E-04
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.610E-04	0.000E+00	1.928E-03	7.925E-03	1.016E-01	2.383E-03	5.300E-03	1.146E-03

TOTAL DOSE COMMITMENT IS 6.486E-01 PERSON-REM/YR

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 13
METSET: DATA: DB.MIL 05/24/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS AVG.LUNG

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.039E-03	4.990E-03	8.062E-04	2.108E-04	1.290E-04	1.299E-04	1.301E-04
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.992E-04	1.673E-04	6.069E-04	3.750E-04	8.380E-04	1.897E-03	6.544E-04
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.201E-04	3.489E-04	5.958E-03	2.752E-02	1.797E-03	5.711E-03	7.624E-03
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.771E-03	4.631E-03	2.060E-04	4.609E-04	1.148E-03	1.630E-03
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.048E-03	2.535E-03	1.412E-02	7.667E-02	2.877E-03	4.784E-04	4.460E-04
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.542E-03	2.729E-03	4.617E-03	1.270E-02	4.761E-03	2.613E-03	1.801E-03
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.144E-03	4.705E-02	1.533E-03	1.831E-03	4.866E-04	3.873E-04	7.647E-04
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.941E-04	2.875E-03	4.572E-02	1.966E-03	1.582E-04	4.349E-04	1.982E-04	2.109E-04
S	0.000E+00	9.103E-04	0.000E+00	0.000E+00	3.154E-03	0.000E+00	2.525E-04	1.092E-04	1.876E-04	1.297E-05	7.293E-05	1.314E-04
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.056E-04	4.527E-04	0.000E+00	2.027E-05	1.139E-05	8.858E-05	4.989E-05	8.131E-05
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.595E-04	9.861E-05	7.687E-05	5.966E-05	1.171E-04
WSW	0.000E+00	0.000E+00	4.696E-03	0.000E+00	0.000E+00	1.408E-03	5.618E-04	3.782E-04	6.805E-05	3.375E-04	7.078E-05	6.003E-05
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.739E-05	3.102E-04	0.000E+00	3.285E-04	1.967E-04
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.034E-02	1.352E-03	1.597E-04	8.130E-05	4.339E-04	8.868E-04	6.152E-04	2.482E-04
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.330E-03	3.750E-04	0.000E+00	3.235E-04	4.141E-04	3.583E-04	4.004E-04	4.015E-04
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.820E-04	0.000E+00	1.832E-03	6.179E-03	6.322E-02	1.164E-03	2.017E-03	3.391E-04

TOTAL DOSE COMMITMENT IS 4.312E-01 PERSON-REM/YR

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  14
 METSET:                            DATA: DB.MIL                       05/24/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS BRONCHI

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.161E-02	1.790E-01	3.863E-02	1.304E-02	1.010E-02	1.270E-02	1.567E-02
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.851E-02	7.084E-03	3.545E-02	2.845E-02	7.953E-02	2.195E-01	9.041E-02
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.331E-02	1.099E-02	2.392E-01	1.359E+00	1.066E-01	4.005E-01	6.225E-01
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.249E-01	1.538E-01	8.458E-03	2.298E-02	6.847E-02	1.149E-01
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.649E-02	4.943E-02	3.498E-01	2.379E+00	1.105E-01	2.250E-02	2.540E-02
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.879E-02	4.716E-02	9.319E-02	3.004E-01	1.319E-01	8.478E-02	6.816E-02
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.058E-02	8.203E-01	2.965E-02	3.964E-02	1.181E-02	1.054E-02	2.334E-02
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.811E-02	7.494E-02	1.488E+00	7.944E-02	7.839E-03	2.609E-02	1.404E-02	1.747E-02
S	0.000E+00	2.472E-02	0.000E+00	0.000E+00	9.383E-02	0.000E+00	1.537E-02	8.702E-03	1.897E-02	1.624E-03	1.106E-02	2.360E-02
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.317E-02	2.526E-02	0.000E+00	2.566E-03	1.846E-03	1.762E-02	1.177E-02	2.203E-02
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.649E-02	1.147E-02	1.001E-02	8.584E-03	1.843E-02
WSW	0.000E+00	0.000E+00	8.331E-02	0.000E+00	0.000E+00	4.529E-02	1.645E-02	1.117E-02	2.121E-03	1.132E-02	2.583E-03	2.394E-03
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.688E-03	6.148E-03	0.000E+00	8.512E-03	5.811E-03
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.007E-01	1.517E-02	2.251E-03	1.391E-03	8.865E-03	2.146E-02	1.752E-02	8.259E-03
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.058E-02	4.589E-03	0.000E+00	6.212E-03	9.740E-03	1.019E-02	1.365E-02	1.634E-02
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.312E-02	0.000E+00	4.487E-02	1.930E-01	2.453E+00	5.532E-02	1.160E-01	2.341E-02

TOTAL DOSE COMMITMENT IS 1.432E+01 PERSON-REM/YR

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 15
METSET: DATA: DB.MIL 05/24/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS GROUND EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.001E-05	3.064E-05	6.133E-06	1.970E-06	1.475E-06	1.813E-06	2.204E-06
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.545E-06	1.158E-06	5.390E-06	4.154E-06	1.134E-05	3.088E-05	1.264E-05
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.792E-06	1.976E-06	4.004E-05	2.169E-04	1.647E-05	6.046E-05	9.256E-05
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.403E-05	2.728E-05	1.415E-06	3.683E-06	1.064E-05	1.744E-05
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.153E-05	1.077E-05	6.889E-05	4.329E-04	1.890E-05	3.668E-06	3.992E-06
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.723E-05	1.091E-05	2.001E-05	6.039E-05	2.505E-05	1.531E-05	1.180E-05
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.235E-05	1.899E-04	6.510E-06	8.284E-06	2.361E-06	2.025E-06	4.325E-06
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.741E-06	1.448E-05	2.646E-04	1.326E-05	1.249E-06	4.014E-06	2.111E-06	2.585E-06
S	0.000E+00	4.708E-06	0.000E+00	0.000E+00	1.717E-05	0.000E+00	2.295E-06	1.247E-06	2.652E-06	2.237E-07	1.513E-06	3.224E-06
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.857E-06	3.810E-06	0.000E+00	3.450E-07	2.452E-07	2.334E-06	1.563E-06	2.945E-06
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.655E-06	1.575E-06	1.374E-06	1.182E-06	2.549E-06
WSW	0.000E+00	0.000E+00	1.942E-05	0.000E+00	0.000E+00	8.105E-06	3.049E-06	2.065E-06	3.859E-07	2.021E-06	4.514E-07	4.104E-07
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.900E-07	1.333E-06	0.000E+00	1.661E-06	1.086E-06
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.347E-05	4.603E-06	5.823E-07	3.230E-07	1.895E-06	4.286E-06	3.305E-06	1.485E-06
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.288E-05	1.310E-06	0.000E+00	1.360E-06	1.957E-06	1.911E-06	2.421E-06	2.765E-06
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.386E-06	0.000E+00	8.826E-06	3.476E-05	4.150E-04	8.924E-06	1.806E-05	3.544E-06

TOTAL DOSE COMMITMENT IS 2.558E-03 PERSON-REM/YR

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  16
 METSET:                            DATA: DB.MIL                      05/24/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS CLOUD EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.296E-04	1.553E-03	3.394E-04	1.150E-04	8.915E-05	1.122E-04	1.385E-04
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.548E-04	6.147E-05	3.111E-04	2.507E-04	7.018E-04	1.939E-03	7.986E-04
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.099E-04	9.428E-05	2.083E-03	1.191E-02	9.378E-04	3.528E-03	5.491E-03
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.067E-03	1.337E-03	7.405E-05	2.019E-04	6.029E-04	1.013E-03
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.666E-04	4.176E-04	3.028E-03	2.079E-02	9.705E-04	1.981E-04	2.240E-04
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.098E-04	3.846E-04	7.910E-04	2.599E-03	1.152E-03	7.441E-04	5.999E-04
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.698E-04	6.548E-03	2.472E-04	3.384E-04	1.022E-04	9.199E-05	2.046E-04
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.320E-04	6.108E-04	1.273E-02	6.916E-04	6.874E-05	2.295E-04	1.237E-04	1.541E-04
S	0.000E+00	1.142E-04	0.000E+00	0.000E+00	7.348E-04	0.000E+00	1.341E-04	7.655E-05	1.673E-04	1.434E-05	9.770E-05	2.085E-04
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.862E-04	2.171E-04	0.000E+00	2.262E-05	1.629E-05	1.556E-04	1.040E-04	1.946E-04
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.323E-04	1.009E-04	8.822E-05	7.575E-05	1.627E-04
WSW	0.000E+00	0.000E+00	4.921E-04	0.000E+00	0.000E+00	3.630E-04	1.363E-04	9.487E-05	1.829E-05	9.856E-05	2.261E-05	2.103E-05
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.405E-05	5.263E-05	0.000E+00	7.450E-05	5.107E-05
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.544E-04	1.030E-04	1.782E-05	1.167E-05	7.633E-05	1.871E-04	1.537E-04	7.269E-05
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.513E-04	3.275E-05	0.000E+00	5.315E-05	8.485E-05	8.941E-05	1.202E-04	1.442E-04
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.067E-05	0.000E+00	3.813E-04	1.680E-03	2.154E-02	4.874E-04	1.024E-03	2.067E-04

TOTAL DOSE COMMITMENT IS 1.226E-01 PERSON-REM/YR

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS VEG. ING EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED BY THE POPULATION OF THIS REGION. SEE SUMMARY TABLE FOR THIS INFORMATION.

1REGION: Dewey Burdock   CODE: MILDOS-AREA (02/97)   PAGE 18
METSET: DATA: DB.MIL   05/24/11

TIME STEP NUMBER 1,   DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS VEG. ING   EXPOSED ORGAN IS BONE

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN
ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL
FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED
BY THE POPULATION OF THIS REGION. SEE SUMMARY
TABLE FOR THIS INFORMATION.

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  19
 METSET:                            DATA: DB.MIL                      05/24/11
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TIME STEP NUMBER 1,   DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS MEAT ING   EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN
ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL
FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED
BY THE POPULATION OF THIS REGION. SEE SUMMARY
TABLE FOR THIS INFORMATION.

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS MEAT ING EXPOSED ORGAN IS BONE

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED BY THE POPULATION OF THIS REGION. SEE SUMMARY TABLE FOR THIS INFORMATION.

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  21
 METSET:                            DATA: DB.MIL                      05/24/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS MILK ING EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN
ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL
FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED
BY THE POPULATION OF THIS REGION. SEE SUMMARY
TABLE FOR THIS INFORMATION.

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 22
METSET: DATA: DB.MIL 05/24/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS MILK ING EXPOSED ORGAN IS BONE

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN
ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL
FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED
BY THE POPULATION OF THIS REGION. SEE SUMMARY
TABLE FOR THIS INFORMATION.

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 1--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.163E-01	6.486E-01	4.312E-01	2.308E-01	1.124E-01	1.432E+01
GROUND	2.558E-03	2.558E-03	2.558E-03	2.558E-03	2.558E-03	2.558E-03
CLOUD	1.226E-01	1.226E-01	1.226E-01	1.226E-01	1.226E-01	1.226E-01
VEG. ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MEAT ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	2.414E-01	7.737E-01	5.563E-01	3.560E-01	2.375E-01	1.445E+01

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MEAT ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	8.104E+00	1.105E+02	1.842E+00	8.104E+00	8.104E+00	5.157E+01
TOTALS	8.104E+00	1.105E+02	1.842E+00	8.104E+00	8.104E+00	5.157E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	1.163E-01	6.486E-01	4.312E-01	2.308E-01	1.124E-01	1.432E+01
GROUND	2.558E-03	2.558E-03	2.558E-03	2.558E-03	2.558E-03	2.558E-03
CLOUD	1.226E-01	1.226E-01	1.226E-01	1.226E-01	1.226E-01	1.226E-01
VEG. ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MEAT ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	8.104E+00	1.105E+02	1.842E+00	8.104E+00	8.104E+00	5.157E+01
TOTALS	8.345E+00	1.113E+02	2.398E+00	8.460E+00	8.341E+00	6.602E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  24
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0
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INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
1	CPP N	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1	CPP N	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1	CPP N	3	2.911E-04	9.713E-05	5.828E-05	9.690E-06	5.627E+01	1.878E+01	1.126E+01	1.126E+01
1	CPP N	4	3.601E-05	1.202E-05	7.209E-06	1.199E-06	6.962E+00	2.323E+00	1.393E+00	1.393E+00
	CONCENTRATION TOTALS		3.271E-04	1.091E-04	6.548E-05	1.089E-05	6.323E+01	2.110E+01	1.266E+01	1.266E+01
2	CPP NNE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	CPP NNE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	CPP NNE	3	1.880E-04	6.273E-05	3.763E-05	6.258E-06	3.634E+01	1.213E+01	7.274E+00	7.274E+00
2	CPP NNE	4	2.539E-05	8.473E-06	5.084E-06	8.453E-07	4.909E+00	1.638E+00	9.826E-01	9.826E-01
	CONCENTRATION TOTALS		2.134E-04	7.120E-05	4.272E-05	7.103E-06	4.125E+01	1.376E+01	8.257E+00	8.257E+00
3	CPP NE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	CPP NE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	CPP NE	3	4.588E-04	1.531E-04	9.186E-05	1.527E-05	8.870E+01	2.960E+01	1.775E+01	1.775E+01
3	CPP NE	4	8.648E-05	2.886E-05	1.731E-05	2.879E-06	1.672E+01	5.579E+00	3.346E+00	3.346E+00
	CONCENTRATION TOTALS		5.453E-04	1.820E-04	1.092E-04	1.815E-05	1.054E+02	3.518E+01	2.110E+01	2.110E+01
4	CPP ENE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	CPP ENE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	CPP ENE	3	2.352E-04	7.848E-05	4.709E-05	7.830E-06	4.547E+01	1.517E+01	9.101E+00	9.101E+00
4	CPP ENE	4	3.604E-05	1.203E-05	7.215E-06	1.200E-06	6.967E+00	2.325E+00	1.394E+00	1.394E+00
	CONCENTRATION TOTALS		2.712E-04	9.051E-05	5.430E-05	9.030E-06	5.244E+01	1.750E+01	1.050E+01	1.050E+01
5	CPP E	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	CPP E	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	CPP E	3	3.086E-04	1.030E-04	6.179E-05	1.027E-05	5.967E+01	1.991E+01	1.194E+01	1.194E+01
5	CPP E	4	5.258E-05	1.754E-05	1.053E-05	1.750E-06	1.016E+01	3.392E+00	2.034E+00	2.034E+00
	CONCENTRATION TOTALS		3.612E-04	1.205E-04	7.232E-05	1.203E-05	6.983E+01	2.330E+01	1.398E+01	1.398E+01
6	CPP ESE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	CPP ESE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	CPP ESE	3	3.007E-04	1.003E-04	6.019E-05	1.001E-05	5.813E+01	1.940E+01	1.163E+01	1.163E+01
6	CPP ESE	4	5.210E-05	1.738E-05	1.043E-05	1.734E-06	1.007E+01	3.360E+00	2.016E+00	2.016E+00
	CONCENTRATION TOTALS		3.528E-04	1.177E-04	7.062E-05	1.174E-05	6.820E+01	2.276E+01	1.365E+01	1.365E+01
7	CPP SSE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
7	CPP SSE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
7	CPP SSE	3	3.123E-04	1.042E-04	6.253E-05	1.040E-05	6.038E+01	2.015E+01	1.209E+01	1.209E+01
7	CPP SSE	4	3.962E-05	1.322E-05	7.931E-06	1.319E-06	7.659E+00	2.555E+00	1.533E+00	1.533E+00
	CONCENTRATION TOTALS		3.519E-04	1.174E-04	7.046E-05	1.172E-05	6.804E+01	2.270E+01	1.362E+01	1.362E+01
8	CPP SE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	CPP SE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	CPP SE	3	2.955E-04	9.860E-05	5.916E-05	9.837E-06	5.713E+01	1.906E+01	1.143E+01	1.143E+01
8	CPP SE	4	4.599E-05	1.535E-05	9.207E-06	1.531E-06	8.890E+00	2.966E+00	1.780E+00	1.780E+00
	CONCENTRATION TOTALS		3.415E-04	1.139E-04	6.837E-05	1.137E-05	6.602E+01	2.203E+01	1.321E+01	1.321E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

POWERTECH (USA) INC.

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

			AIRBORNE CONCENTRATIONS, PCI/M3				GROUND CONCENTRATIONS, PCI/M2			
NO.	NAME	PTSZ	U-238	Th-230	Ra-226	Pb-210	U-238	Th-230	Ra-226	Pb-210
9	CPP S	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	CPP S	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	CPP S	3	2.028E-04	6.765E-05	4.059E-05	6.750E-06	3.920E+01	1.308E+01	7.845E+00	7.845E+00
9	CPP S	4	1.584E-05	5.285E-06	3.171E-06	5.273E-07	3.062E+00	1.022E+00	6.129E-01	6.129E-01
	CONCENTRATION TOTALS		2.186E-04	7.294E-05	4.376E-05	7.277E-06	4.226E+01	1.410E+01	8.458E+00	8.458E+00
10	CPP SSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	CPP SSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	CPP SSW	3	1.930E-04	6.440E-05	3.864E-05	6.425E-06	3.731E+01	1.245E+01	7.468E+00	7.468E+00
10	CPP SSW	4	1.282E-05	4.278E-06	2.567E-06	4.268E-07	2.478E+00	8.270E-01	4.961E-01	4.961E-01
	CONCENTRATION TOTALS		2.058E-04	6.868E-05	4.121E-05	6.852E-06	3.979E+01	1.328E+01	7.965E+00	7.965E+00
11	CPP SW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	CPP SW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	CPP SW	3	1.696E-04	5.660E-05	3.396E-05	5.647E-06	3.279E+01	1.094E+01	6.564E+00	6.564E+00
11	CPP SW	4	1.120E-05	3.736E-06	2.241E-06	3.727E-07	2.164E+00	7.222E-01	4.332E-01	4.332E-01
	CONCENTRATION TOTALS		1.808E-04	6.033E-05	3.620E-05	6.019E-06	3.496E+01	1.166E+01	6.997E+00	6.997E+00
12	CPP WSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
12	CPP WSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
12	CPP WSW	3	2.536E-04	8.461E-05	5.076E-05	8.441E-06	4.902E+01	1.636E+01	9.812E+00	9.812E+00
12	CPP WSW	4	2.370E-05	7.908E-06	4.745E-06	7.889E-07	4.581E+00	1.529E+00	9.170E-01	9.170E-01
	CONCENTRATION TOTALS		2.773E-04	9.252E-05	5.551E-05	9.230E-06	5.360E+01	1.789E+01	1.073E+01	1.073E+01
13	CPP W	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
13	CPP W	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
13	CPP W	3	4.402E-04	1.469E-04	8.813E-05	1.465E-05	8.510E+01	2.839E+01	1.703E+01	1.703E+01
13	CPP W	4	5.793E-05	1.933E-05	1.160E-05	1.929E-06	1.120E+01	3.737E+00	2.242E+00	2.242E+00
	CONCENTRATION TOTALS		4.981E-04	1.662E-04	9.972E-05	1.658E-05	9.630E+01	3.213E+01	1.927E+01	1.927E+01
14	CPP WNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	CPP WNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	CPP WNW	3	7.226E-04	2.411E-04	1.447E-04	2.406E-05	1.397E+02	4.661E+01	2.796E+01	2.796E+01
14	CPP WNW	4	1.363E-04	4.547E-05	2.728E-05	4.537E-06	2.634E+01	8.791E+00	5.273E+00	5.273E+00
	CONCENTRATION TOTALS		8.589E-04	2.866E-04	1.720E-04	2.859E-05	1.660E+02	5.541E+01	3.324E+01	3.324E+01
15	CPP NW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	CPP NW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	CPP NW	3	5.138E-04	1.715E-04	1.029E-04	1.711E-05	9.934E+01	3.315E+01	1.988E+01	1.988E+01
15	CPP NW	4	9.465E-05	3.158E-05	1.895E-05	3.151E-06	1.830E+01	6.105E+00	3.662E+00	3.662E+00
	CONCENTRATION TOTALS		6.085E-04	2.030E-04	1.218E-04	2.026E-05	1.176E+02	3.925E+01	2.355E+01	2.355E+01
16	CPP NNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	CPP NNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	CPP NNW	3	2.825E-04	9.426E-05	5.656E-05	9.404E-06	5.461E+01	1.822E+01	1.093E+01	1.093E+01
16	CPP NNW	4	3.977E-05	1.327E-05	7.962E-06	1.324E-06	7.688E+00	2.565E+00	1.539E+00	1.539E+00
	CONCENTRATION TOTALS		3.223E-04	1.075E-04	6.452E-05	1.073E-05	6.230E+01	2.079E+01	1.247E+01	1.247E+01

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
17	SF N	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	SF N	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	SF N	3	2.710E-04	9.042E-05	5.425E-05	9.021E-06	5.239E+01	1.748E+01	1.049E+01	1.049E+01
17	SF N	4	3.734E-05	1.246E-05	7.474E-06	1.243E-06	7.218E+00	2.408E+00	1.445E+00	1.445E+00
	CONCENTRATION TOTALS		3.083E-04	1.029E-04	6.172E-05	1.026E-05	5.960E+01	1.989E+01	1.193E+01	1.193E+01
18	SF NNE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
18	SF NNE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
18	SF NNE	3	2.089E-04	6.972E-05	4.183E-05	6.956E-06	4.039E+01	1.348E+01	8.085E+00	8.085E+00
18	SF NNE	4	2.968E-05	9.904E-06	5.942E-06	9.881E-07	5.738E+00	1.915E+00	1.149E+00	1.149E+00
	CONCENTRATION TOTALS		2.386E-04	7.962E-05	4.777E-05	7.944E-06	4.613E+01	1.539E+01	9.234E+00	9.234E+00
19	SF NE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
19	SF NE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
19	SF NE	3	1.633E-04	5.449E-05	3.270E-05	5.437E-06	3.157E+01	1.053E+01	6.320E+00	6.320E+00
19	SF NE	4	2.100E-05	7.006E-06	4.203E-06	6.990E-07	4.059E+00	1.354E+00	8.125E-01	8.125E-01
	CONCENTRATION TOTALS		1.843E-04	6.150E-05	3.690E-05	6.136E-06	3.563E+01	1.189E+01	7.132E+00	7.132E+00
20	SF ENE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	SF ENE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	SF ENE	3	3.595E-04	1.199E-04	7.196E-05	1.197E-05	6.949E+01	2.319E+01	1.391E+01	1.391E+01
20	SF ENE	4	6.802E-05	2.270E-05	1.362E-05	2.264E-06	1.315E+01	4.388E+00	2.632E+00	2.632E+00
	CONCENTRATION TOTALS		4.275E-04	1.426E-04	8.558E-05	1.423E-05	8.264E+01	2.757E+01	1.654E+01	1.654E+01
21	SF E	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	SF E	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	SF E	3	4.102E-04	1.369E-04	8.212E-05	1.365E-05	7.929E+01	2.646E+01	1.587E+01	1.587E+01
21	SF E	4	7.670E-05	2.559E-05	1.535E-05	2.553E-06	1.483E+01	4.947E+00	2.968E+00	2.968E+00
	CONCENTRATION TOTALS		4.869E-04	1.625E-04	9.747E-05	1.621E-05	9.412E+01	3.141E+01	1.884E+01	1.884E+01
22	SF SSE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	SF SSE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	SF SSE	3	3.488E-04	1.164E-04	6.984E-05	1.161E-05	6.744E+01	2.250E+01	1.350E+01	1.350E+01
22	SF SSE	4	4.986E-05	1.664E-05	9.981E-06	1.660E-06	9.638E+00	3.216E+00	1.929E+00	1.929E+00
	CONCENTRATION TOTALS		3.987E-04	1.330E-04	7.982E-05	1.327E-05	7.707E+01	2.572E+01	1.543E+01	1.543E+01
23	SF SE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
23	SF SE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
23	SF SE	3	6.503E-04	2.170E-04	1.302E-04	2.165E-05	1.257E+02	4.195E+01	2.516E+01	2.516E+01
23	SF SE	4	1.204E-04	4.016E-05	2.409E-05	4.007E-06	2.327E+01	7.764E+00	4.657E+00	4.657E+00
	CONCENTRATION TOTALS		7.707E-04	2.571E-04	1.543E-04	2.565E-05	1.490E+02	4.971E+01	2.982E+01	2.982E+01
24	SF S	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
24	SF S	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
24	SF S	3	2.140E-04	7.141E-05	4.285E-05	7.125E-06	4.137E+01	1.381E+01	8.282E+00	8.282E+00
24	SF S	4	2.150E-05	7.173E-06	4.303E-06	7.156E-07	4.156E+00	1.387E+00	8.318E-01	8.318E-01
	CONCENTRATION TOTALS		2.355E-04	7.859E-05	4.715E-05	7.840E-06	4.553E+01	1.519E+01	9.113E+00	9.113E+00

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
25	SF SSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
25	SF SSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
25	SF SSW	3	3.213E-04	1.072E-04	6.432E-05	1.070E-05	6.211E+01	2.072E+01	1.243E+01	1.243E+01
25	SF SSW	4	2.956E-05	9.864E-06	5.918E-06	9.841E-07	5.715E+00	1.907E+00	1.144E+00	1.144E+00
	CONCENTRATION TOTALS		3.508E-04	1.171E-04	7.024E-05	1.168E-05	6.782E+01	2.263E+01	1.358E+01	1.358E+01
26	SF SW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
26	SF SW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
26	SF SW	3	3.077E-04	1.027E-04	6.161E-05	1.024E-05	5.949E+01	1.985E+01	1.191E+01	1.191E+01
26	SF SW	4	2.253E-05	7.518E-06	4.511E-06	7.501E-07	4.356E+00	1.453E+00	8.718E-01	8.718E-01
	CONCENTRATION TOTALS		3.303E-04	1.102E-04	6.612E-05	1.099E-05	6.384E+01	2.130E+01	1.278E+01	1.278E+01
27	SF WSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
27	SF WSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
27	SF WSW	3	4.760E-04	1.588E-04	9.530E-05	1.585E-05	9.203E+01	3.071E+01	1.842E+01	1.842E+01
27	SF WSW	4	4.164E-05	1.389E-05	8.336E-06	1.386E-06	8.050E+00	2.686E+00	1.611E+00	1.611E+00
	CONCENTRATION TOTALS		5.177E-04	1.727E-04	1.036E-04	1.723E-05	1.001E+02	3.339E+01	2.003E+01	2.003E+01
28	SF W	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
28	SF W	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
28	SF W	3	3.768E-04	1.257E-04	7.544E-05	1.254E-05	7.285E+01	2.431E+01	1.458E+01	1.458E+01
28	SF W	4	5.894E-05	1.967E-05	1.180E-05	1.962E-06	1.139E+01	3.802E+00	2.281E+00	2.281E+00
	CONCENTRATION TOTALS		4.358E-04	1.454E-04	8.724E-05	1.451E-05	8.424E+01	2.811E+01	1.686E+01	1.686E+01
29	SF WNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
29	SF WNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
29	SF WNW	3	4.226E-04	1.410E-04	8.460E-05	1.407E-05	8.169E+01	2.726E+01	1.635E+01	1.635E+01
29	SF WNW	4	7.968E-05	2.659E-05	1.595E-05	2.652E-06	1.540E+01	5.140E+00	3.083E+00	3.083E+00
	CONCENTRATION TOTALS		5.023E-04	1.676E-04	1.006E-04	1.672E-05	9.710E+01	3.240E+01	1.944E+01	1.944E+01
30	SF NW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30	SF NW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30	SF NW	3	6.935E-04	2.314E-04	1.388E-04	2.309E-05	1.341E+02	4.473E+01	2.683E+01	2.683E+01
30	SF NW	4	1.253E-04	4.181E-05	2.509E-05	4.171E-06	2.422E+01	8.083E+00	4.849E+00	4.849E+00
	CONCENTRATION TOTALS		8.188E-04	2.732E-04	1.639E-04	2.726E-05	1.583E+02	5.282E+01	3.168E+01	3.168E+01
31	SF NNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
31	SF NNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
31	SF NNW	3	2.131E-03	7.112E-04	4.267E-04	7.095E-05	4.120E+02	1.375E+02	8.247E+01	8.247E+01
31	SF NNW	4	5.893E-04	1.966E-04	1.180E-04	1.962E-05	1.139E+02	3.801E+01	2.280E+01	2.280E+01
	CONCENTRATION TOTALS		2.721E-03	9.078E-04	5.447E-04	9.057E-05	5.259E+02	1.755E+02	1.053E+02	1.053E+02
32	SF ESE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
32	SF ESE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
32	SF ESE	3	4.749E-04	1.585E-04	9.507E-05	1.581E-05	9.181E+01	3.063E+01	1.838E+01	1.838E+01
32	SF ESE	4	8.912E-05	2.974E-05	1.784E-05	2.967E-06	1.723E+01	5.749E+00	3.449E+00	3.449E+00
	CONCENTRATION TOTALS		5.640E-04	1.882E-04	1.129E-04	1.878E-05	1.090E+02	3.638E+01	2.182E+01	2.182E+01

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
33	Daniels Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
33	Daniels Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
33	Daniels Ranch	3	3.942E-04	1.315E-04	7.891E-05	1.312E-05	7.620E+01	2.543E+01	1.525E+01	1.525E+01
33	Daniels Ranch	4	7.281E-05	2.430E-05	1.458E-05	2.424E-06	1.408E+01	4.697E+00	2.818E+00	2.818E+00
	CONCENTRATION TOTALS		4.670E-04	1.558E-04	9.349E-05	1.555E-05	9.028E+01	3.012E+01	1.807E+01	1.807E+01
34	Spencer Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
34	Spencer Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
34	Spencer Ranch	3	9.821E-04	3.277E-04	1.966E-04	3.269E-05	1.899E+02	6.335E+01	3.800E+01	3.800E+01
34	Spencer Ranch	4	2.020E-04	6.741E-05	4.044E-05	6.725E-06	3.905E+01	1.303E+01	7.817E+00	7.817E+00
	CONCENTRATION TOTALS		1.184E-03	3.951E-04	2.371E-04	3.942E-05	2.289E+02	7.638E+01	4.582E+01	4.582E+01
35	BC Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
35	BC Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
35	BC Ranch	3	4.303E-04	1.436E-04	8.614E-05	1.432E-05	8.318E+01	2.776E+01	1.665E+01	1.665E+01
35	BC Ranch	4	8.349E-05	2.786E-05	1.671E-05	2.779E-06	1.614E+01	5.386E+00	3.231E+00	3.231E+00
	CONCENTRATION TOTALS		5.138E-04	1.714E-04	1.029E-04	1.710E-05	9.932E+01	3.314E+01	1.988E+01	1.988E+01
36	Puttman Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
36	Puttman Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
36	Puttman Ranch	3	1.330E-04	4.438E-05	2.663E-05	4.428E-06	2.571E+01	8.580E+00	5.147E+00	5.147E+00
36	Puttman Ranch	4	1.320E-05	4.405E-06	2.643E-06	4.395E-07	2.552E+00	8.516E-01	5.109E-01	5.109E-01
	CONCENTRATION TOTALS		1.462E-04	4.879E-05	2.927E-05	4.868E-06	2.827E+01	9.432E+00	5.658E+00	5.658E+00
37	Englebert Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
37	Englebert Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
37	Englebert Ranch	3	1.250E-04	4.170E-05	2.502E-05	4.161E-06	2.416E+01	8.062E+00	4.836E+00	4.836E+00
37	Englebert Ranch	4	8.489E-06	2.832E-06	1.699E-06	2.826E-07	1.641E+00	5.476E-01	3.285E-01	3.285E-01
	CONCENTRATION TOTALS		1.335E-04	4.454E-05	2.672E-05	4.443E-06	2.580E+01	8.610E+00	5.165E+00	5.165E+00
38	Burdock School	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	Burdock School	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	Burdock School	3	2.013E-04	6.716E-05	4.030E-05	6.701E-06	3.891E+01	1.298E+01	7.788E+00	7.788E+00
38	Burdock School	4	1.395E-05	4.655E-06	2.793E-06	4.644E-07	2.697E+00	8.999E-01	5.398E-01	5.398E-01
	CONCENTRATION TOTALS		2.152E-04	7.182E-05	4.309E-05	7.165E-06	4.161E+01	1.388E+01	8.328E+00	8.328E+00
39	Heck Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	Heck Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	Heck Ranch	3	9.677E-05	3.229E-05	1.937E-05	3.222E-06	1.871E+01	6.242E+00	3.745E+00	3.745E+00
39	Heck Ranch	4	6.315E-06	2.107E-06	1.264E-06	2.102E-07	1.221E+00	4.073E-01	2.443E-01	2.443E-01
	CONCENTRATION TOTALS		1.031E-04	3.440E-05	2.064E-05	3.432E-06	1.993E+01	6.650E+00	3.989E+00	3.989E+00
40	Edgemont	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	Edgemont	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	Edgemont	3	3.138E-05	1.047E-05	6.282E-06	1.045E-06	6.066E+00	2.024E+00	1.214E+00	1.214E+00
40	Edgemont	4	1.111E-06	3.708E-07	2.225E-07	3.699E-08	2.148E-01	7.168E-02	4.300E-02	4.300E-02
	CONCENTRATION TOTALS		3.249E-05	1.084E-05	6.505E-06	1.082E-06	6.281E+00	2.096E+00	1.257E+00	1.257E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
41	Background	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	Background	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	Background	3	8.406E-05	2.805E-05	1.683E-05	2.798E-06	1.625E+01	5.422E+00	3.253E+00	3.253E+00
41	Background	4	4.243E-06	1.416E-06	8.495E-07	1.413E-07	8.203E-01	2.737E-01	1.642E-01	1.642E-01
	CONCENTRATION TOTALS		8.830E-05	2.946E-05	1.768E-05	2.940E-06	1.707E+01	5.696E+00	3.417E+00	3.417E+00

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METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

INDIVIDUAL RECEPTOR RADON AND RADON DAUGHTER CONCENTRATIONS

	AIRBORNE CONCENTRATIONS, PCI/M3								GROUND CONCENTRATIONS, PCI/M2			
NO.	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	Bi-210	Po-210	WL	Po-218	Pb-214	Bi-214	Pb-210
1	9.210E+00	9.165E+00	6.661E+00	4.855E+00	1.238E-05	3.574E-08	2.919E-12	6.132E-05	7.259E+00	7.259E+00	7.259E+00	1.146E+00
2	7.816E+00	7.792E+00	5.942E+00	4.463E+00	1.295E-05	4.482E-08	4.549E-12	5.480E-05	6.172E+00	6.172E+00	6.172E+00	1.199E+00
3	1.313E+01	1.287E+01	7.810E+00	4.835E+00	1.403E-05	5.941E-08	7.356E-12	7.089E-05	1.019E+01	1.019E+01	1.019E+01	1.299E+00
4	9.176E+00	9.079E+00	6.169E+00	4.163E+00	1.494E-05	7.940E-08	1.240E-11	5.616E-05	7.191E+00	7.191E+00	7.191E+00	1.383E+00
5	1.438E+01	1.371E+01	7.130E+00	4.135E+00	1.562E-05	9.117E-08	1.522E-11	6.570E-05	1.086E+01	1.086E+01	1.086E+01	1.446E+00
6	2.672E+01	2.455E+01	1.075E+01	5.507E+00	1.849E-05	1.097E-07	1.913E-11	1.003E-04	1.945E+01	1.945E+01	1.945E+01	1.712E+00
7	2.524E+01	2.497E+01	1.609E+01	9.933E+00	2.726E-05	1.350E-07	2.151E-11	1.443E-04	1.978E+01	1.978E+01	1.978E+01	2.524E+00
8	2.685E+01	2.604E+01	1.488E+01	8.698E+00	2.541E-05	1.418E-07	2.531E-11	1.347E-04	2.062E+01	2.062E+01	2.062E+01	2.352E+00
9	1.777E+01	1.772E+01	1.351E+01	9.874E+00	3.192E-05	1.523E-07	2.296E-11	1.236E-04	1.403E+01	1.403E+01	1.403E+01	2.955E+00
10	1.414E+01	1.411E+01	1.151E+01	9.100E+00	3.341E-05	1.549E-07	2.133E-11	1.068E-04	1.117E+01	1.117E+01	1.117E+01	3.093E+00
11	1.079E+01	1.077E+01	9.130E+00	7.654E+00	3.078E-05	1.348E-07	1.638E-11	8.594E-05	8.533E+00	8.533E+00	8.533E+00	2.849E+00
12	1.411E+01	1.394E+01	1.031E+01	7.916E+00	2.427E-05	8.174E-08	7.583E-12	9.617E-05	1.104E+01	1.104E+01	1.104E+01	2.247E+00
13	1.666E+01	1.633E+01	1.101E+01	7.914E+00	1.991E-05	5.572E-08	4.318E-12	1.022E-04	1.294E+01	1.294E+01	1.294E+01	1.843E+00
14	1.734E+01	1.698E+01	1.098E+01	7.492E+00	1.602E-05	3.869E-08	2.623E-12	1.011E-04	1.345E+01	1.345E+01	1.345E+01	1.483E+00
15	1.994E+01	1.908E+01	1.019E+01	5.716E+00	9.403E-06	2.184E-08	1.661E-12	9.264E-05	1.512E+01	1.512E+01	1.512E+01	8.706E-01
16	9.080E+00	8.979E+00	6.232E+00	4.383E+00	1.059E-05	3.025E-08	2.510E-12	5.720E-05	7.112E+00	7.112E+00	7.112E+00	9.804E-01
17	1.090E+01	1.069E+01	6.210E+00	3.531E+00	8.845E-06	4.474E-08	7.436E-12	5.567E-05	8.468E+00	8.468E+00	8.468E+00	8.189E-01
18	1.085E+01	1.068E+01	6.431E+00	3.712E+00	9.459E-06	4.558E-08	7.034E-12	5.745E-05	8.456E+00	8.456E+00	8.456E+00	8.757E-01
19	6.701E+00	6.664E+00	4.986E+00	3.620E+00	1.152E-05	5.071E-08	6.812E-12	4.565E-05	5.278E+00	5.278E+00	5.278E+00	1.067E+00
20	1.681E+01	1.564E+01	6.588E+00	3.087E+00	7.245E-06	2.958E-08	3.640E-12	6.103E-05	1.239E+01	1.239E+01	1.239E+01	6.708E-01
21	1.916E+01	1.766E+01	7.775E+00	3.769E+00	7.338E-06	2.438E-08	2.563E-12	7.167E-05	1.399E+01	1.399E+01	1.399E+01	6.794E-01
22	1.559E+01	1.551E+01	1.154E+01	8.531E+00	2.063E-05	5.505E-08	4.137E-12	1.063E-04	1.228E+01	1.228E+01	1.228E+01	1.910E+00
23	2.089E+01	2.040E+01	1.273E+01	8.169E+00	1.511E-05	3.365E-08	2.248E-12	1.160E-04	1.616E+01	1.616E+01	1.616E+01	1.399E+00
24	1.253E+01	1.251E+01	1.009E+01	7.943E+00	2.319E-05	7.518E-08	7.031E-12	9.366E-05	9.911E+00	9.911E+00	9.911E+00	2.147E+00
25	1.706E+01	1.697E+01	1.193E+01	7.763E+00	1.590E-05	5.079E-08	5.894E-12	1.069E-04	1.344E+01	1.344E+01	1.344E+01	1.472E+00
26	1.367E+01	1.350E+01	8.908E+00	5.549E+00	1.253E-05	5.071E-08	7.288E-12	7.977E-05	1.069E+01	1.069E+01	1.069E+01	1.160E+00
27	1.463E+01	1.378E+01	7.124E+00	3.911E+00	9.808E-06	4.852E-08	7.837E-12	6.491E-05	1.092E+01	1.092E+01	1.092E+01	9.080E-01
28	1.038E+01	9.944E+00	5.618E+00	3.535E+00	1.071E-05	5.793E-08	1.032E-11	5.191E-05	7.876E+00	7.876E+00	7.876E+00	9.916E-01
29	8.511E+00	8.215E+00	4.793E+00	3.068E+00	9.874E-06	5.650E-08	1.051E-11	4.420E-05	6.506E+00	6.506E+00	6.506E+00	9.142E-01
30	9.644E+00	9.190E+00	4.932E+00	2.914E+00	8.765E-06	4.978E-08	9.021E-12	4.534E-05	7.279E+00	7.279E+00	7.279E+00	8.115E-01
31	1.514E+01	1.402E+01	6.346E+00	3.081E+00	7.719E-06	4.171E-08	7.064E-12	5.811E-05	1.110E+01	1.110E+01	1.110E+01	7.147E-01
32	2.627E+01	2.459E+01	1.125E+01	5.434E+00	8.256E-06	2.144E-08	1.925E-12	1.027E-04	1.947E+01	1.947E+01	1.947E+01	7.644E-01
33	1.630E+01	1.550E+01	7.247E+00	3.991E+00	1.499E-05	8.404E-08	1.325E-11	6.759E-05	1.227E+01	1.227E+01	1.227E+01	1.388E+00
34	1.769E+01	1.727E+01	1.081E+01	7.211E+00	1.479E-05	3.454E-08	2.272E-12	9.951E-05	1.368E+01	1.368E+01	1.368E+01	1.369E+00
35	1.177E+01	1.105E+01	5.657E+00	3.290E+00	9.412E-06	5.129E-08	9.083E-12	5.233E-05	8.751E+00	8.751E+00	8.751E+00	8.714E-01
36	5.325E+00	5.318E+00	4.258E+00	3.362E+00	1.364E-05	7.822E-08	1.443E-11	3.961E-05	4.212E+00	4.212E+00	4.212E+00	1.263E+00
37	1.103E+01	1.103E+01	9.698E+00	8.354E+00	4.188E-05	2.551E-07	4.665E-11	9.169E-05	8.739E+00	8.739E+00	8.739E+00	3.878E+00
38	1.226E+01	1.221E+01	9.874E+00	7.969E+00	2.894E-05	1.174E-07	1.329E-11	9.237E-05	9.673E+00	9.673E+00	9.673E+00	2.679E+00
39	8.712E+00	8.713E+00	7.877E+00	7.064E+00	4.695E-05	3.568E-07	7.943E-11	7.526E-05	6.901E+00	6.901E+00	6.901E+00	4.347E+00
40	2.247E+00	2.248E+00	2.182E+00	2.092E+00	4.698E-05	1.099E-06	6.742E-10	2.118E-05	1.781E+00	1.781E+00	1.781E+00	4.350E+00
41	7.280E+00	7.278E+00	6.570E+00	5.930E+00	3.224E-05	1.705E-07	2.358E-11	6.293E-05	5.764E+00	5.764E+00	5.764E+00	2.985E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 1 NAME=CPP N X= 0.0KM, Y= 2.8KM, Z= 0.0M, DIST= 2.8KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.02E-01	1.31E+00	5.52E+00	5.61E-02	6.26E-02	0.00E+00
INFANT	GROUND	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04
INFANT	CLOUD	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.03E-01	1.31E+00	5.52E+00	5.64E-02	6.28E-02	2.37E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.36E-01	9.50E-01	2.63E+00	2.11E-02	1.98E-02	0.00E+00
CHILD	GROUND	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04
CHILD	CLOUD	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08
CHILD	VEG. ING	6.83E-03	8.94E-02	5.06E-03	5.06E-03	2.21E-02	0.00E+00
CHILD	MEAT ING	6.38E-04	8.83E-03	7.69E-04	7.69E-04	1.95E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.44E-01	1.05E+00	2.64E+00	2.72E-02	4.40E-02	2.37E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.44E-01	1.03E+00	1.37E+00	9.85E-03	1.07E-02	0.00E+00
TEENAGE	GROUND	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04
TEENAGE	CLOUD	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08
TEENAGE	VEG. ING	1.13E-02	1.48E-01	8.37E-03	8.37E-03	3.66E-02	0.00E+00
TEENAGE	MEAT ING	1.04E-03	1.43E-02	1.25E-03	1.25E-03	3.16E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.56E-01	1.19E+00	1.38E+00	1.97E-02	5.07E-02	2.37E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.13E-01	9.72E-01	1.14E+00	7.66E-03	7.75E-03	0.00E+00
ADULT	GROUND	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04	2.37E-04
ADULT	CLOUD	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08	3.63E-08
ADULT	VEG. ING	1.56E-02	2.04E-01	1.16E-02	1.16E-02	5.05E-02	0.00E+00
ADULT	MEAT ING	1.81E-03	2.51E-02	2.18E-03	2.18E-03	5.52E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.30E-01	1.20E+00	1.15E+00	2.16E-02	6.40E-02	2.37E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 1 NAME=CPP N X= 0.0KM, Y= 2.8KM, Z= 0.0M, DIST= 2.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.60E+00	1.32E+00	5.52E+00	9.08E-02	7.60E-02	1.15E+01
INFANT	GROUND	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03
INFANT	CLOUD	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.65E+00	1.38E+00	5.58E+00	1.50E-01	1.36E-01	1.16E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.13E+00	9.56E-01	2.63E+00	3.65E-02	2.61E-02	1.15E+01
CHILD	GROUND	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03
CHILD	CLOUD	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02
CHILD	VEG. ING	7.27E-03	9.45E-02	6.58E-03	6.58E-03	2.33E-02	0.00E+00
CHILD	MEAT ING	7.06E-04	9.62E-03	1.00E-03	1.00E-03	2.14E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.20E+00	1.12E+00	2.70E+00	1.04E-01	1.11E-01	1.16E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.36E-01	1.04E+00	1.37E+00	1.64E-02	1.39E-02	1.15E+01
TEENAGE	GROUND	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03
TEENAGE	CLOUD	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02
TEENAGE	VEG. ING	1.20E-02	1.56E-01	1.09E-02	1.09E-02	3.86E-02	0.00E+00
TEENAGE	MEAT ING	1.15E-03	1.56E-02	1.63E-03	1.63E-03	3.47E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.01E+00	1.27E+00	1.44E+00	8.84E-02	1.15E-01	1.16E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.04E-01	9.79E-01	1.14E+00	1.32E-02	1.04E-02	1.15E+01
ADULT	GROUND	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03	3.80E-03
ADULT	CLOUD	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02	5.57E-02
ADULT	VEG. ING	1.66E-02	2.16E-01	1.50E-02	1.50E-02	5.33E-02	0.00E+00
ADULT	MEAT ING	2.00E-03	2.73E-02	2.85E-03	2.85E-03	6.07E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.82E-01	1.28E+00	1.22E+00	9.05E-02	1.29E-01	1.16E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  33
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  2  NAME=CPP NNE              X=   1.1KM, Y=   2.8KM, Z=   0.0M, DIST=   3.0KM, IRTYPE=10

                               40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	5.83E-01	8.51E-01	3.56E+00	3.66E-02	4.07E-02	0.00E+00
INFANT	GROUND	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04
INFANT	CLOUD	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	5.83E-01	8.51E-01	3.56E+00	3.67E-02	4.09E-02	1.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.82E-01	6.17E-01	1.70E+00	1.38E-02	1.29E-02	0.00E+00
CHILD	GROUND	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04
CHILD	CLOUD	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08
CHILD	VEG. ING	4.46E-03	5.83E-02	3.30E-03	3.30E-03	1.44E-02	0.00E+00
CHILD	MEAT ING	4.16E-04	5.76E-03	5.02E-04	5.02E-04	1.27E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.87E-01	6.81E-01	1.70E+00	1.77E-02	2.87E-02	1.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.58E-01	6.69E-01	8.85E-01	6.42E-03	6.99E-03	0.00E+00
TEENAGE	GROUND	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04
TEENAGE	CLOUD	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08
TEENAGE	VEG. ING	7.38E-03	9.65E-02	5.46E-03	5.46E-03	2.38E-02	0.00E+00
TEENAGE	MEAT ING	6.75E-04	9.35E-03	8.14E-04	8.14E-04	2.06E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.66E-01	7.75E-01	8.91E-01	1.28E-02	3.31E-02	1.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.37E-01	6.31E-01	7.36E-01	4.99E-03	5.04E-03	0.00E+00
ADULT	GROUND	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04	1.55E-04
ADULT	CLOUD	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08	2.37E-08
ADULT	VEG. ING	1.02E-02	1.33E-01	7.54E-03	7.54E-03	3.29E-02	0.00E+00
ADULT	MEAT ING	1.18E-03	1.63E-02	1.42E-03	1.42E-03	3.60E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.49E-01	7.81E-01	7.46E-01	1.41E-02	4.17E-02	1.55E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 2 NAME=CPP NNE X= 1.1KM, Y= 2.8KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.17E+00	8.58E-01	3.56E+00	7.28E-02	5.48E-02	9.77E+00
INFANT	GROUND	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03
INFANT	CLOUD	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.23E+00	9.11E-01	3.62E+00	1.26E-01	1.08E-01	9.82E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	8.69E-01	6.23E-01	1.70E+00	2.99E-02	1.95E-02	9.77E+00
CHILD	GROUND	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03
CHILD	CLOUD	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02
CHILD	VEG. ING	4.92E-03	6.36E-02	4.89E-03	4.89E-03	1.57E-02	0.00E+00
CHILD	MEAT ING	4.88E-04	6.59E-03	7.48E-04	7.48E-04	1.47E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	9.28E-01	7.46E-01	1.76E+00	8.92E-02	9.03E-02	9.82E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	7.45E-01	6.82E-01	8.85E-01	1.33E-02	1.03E-02	9.77E+00
TEENAGE	GROUND	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03
TEENAGE	CLOUD	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02
TEENAGE	VEG. ING	8.14E-03	1.05E-01	8.09E-03	8.09E-03	2.60E-02	0.00E+00
TEENAGE	MEAT ING	7.92E-04	1.07E-02	1.21E-03	1.21E-03	2.39E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.08E-01	8.52E-01	9.48E-01	7.63E-02	9.23E-02	9.82E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.25E-01	6.39E-01	7.36E-01	1.07E-02	7.81E-03	9.77E+00
ADULT	GROUND	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03	2.74E-03
ADULT	CLOUD	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02	5.09E-02
ADULT	VEG. ING	1.12E-02	1.46E-01	1.12E-02	1.12E-02	3.59E-02	0.00E+00
ADULT	MEAT ING	1.38E-03	1.87E-02	2.12E-03	2.12E-03	4.17E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.91E-01	8.57E-01	8.03E-01	7.77E-02	1.02E-01	9.82E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 3 NAME=CPP NE X= 1.2KM, Y= 1.2KM, Z= 0.0M, DIST= 1.6KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.43E+00	2.13E+00	8.70E+00	9.30E-02	1.03E-01	0.00E+00
INFANT	GROUND	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04
INFANT	CLOUD	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.43E+00	2.13E+00	8.70E+00	9.34E-02	1.04E-01	3.96E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.90E-01	1.55E+00	4.14E+00	3.50E-02	3.26E-02	0.00E+00
CHILD	GROUND	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04
CHILD	CLOUD	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08
CHILD	VEG. ING	1.14E-02	1.49E-01	8.43E-03	8.43E-03	3.68E-02	0.00E+00
CHILD	MEAT ING	1.06E-03	1.47E-02	1.28E-03	1.28E-03	3.25E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.03E-01	1.71E+00	4.16E+00	4.51E-02	7.30E-02	3.96E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.86E-01	1.68E+00	2.16E+00	1.63E-02	1.77E-02	0.00E+00
TEENAGE	GROUND	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04
TEENAGE	CLOUD	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08
TEENAGE	VEG. ING	1.89E-02	2.47E-01	1.40E-02	1.40E-02	6.09E-02	0.00E+00
TEENAGE	MEAT ING	1.73E-03	2.39E-02	2.08E-03	2.08E-03	5.27E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	4.07E-01	1.95E+00	2.18E+00	3.27E-02	8.43E-02	3.96E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.37E-01	1.58E+00	1.80E+00	1.27E-02	1.28E-02	0.00E+00
ADULT	GROUND	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04	3.96E-04
ADULT	CLOUD	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08	6.05E-08
ADULT	VEG. ING	2.60E-02	3.41E-01	1.93E-02	1.93E-02	8.42E-02	0.00E+00
ADULT	MEAT ING	3.02E-03	4.18E-02	3.64E-03	3.64E-03	9.21E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.67E-01	1.96E+00	1.82E+00	3.60E-02	1.07E-01	3.96E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 3 NAME=CPP NE X= 1.2KM, Y= 1.2KM, Z= 0.0M, DIST= 1.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.42E+00	2.14E+00	8.70E+00	1.32E-01	1.18E-01	1.64E+01
INFANT	GROUND	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03
INFANT	CLOUD	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.48E+00	2.20E+00	8.76E+00	1.95E-01	1.81E-01	1.65E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.68E+00	1.55E+00	4.15E+00	5.24E-02	3.98E-02	1.64E+01
CHILD	GROUND	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03
CHILD	CLOUD	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02
CHILD	VEG. ING	1.19E-02	1.55E-01	1.02E-02	1.02E-02	3.82E-02	0.00E+00
CHILD	MEAT ING	1.14E-03	1.56E-02	1.55E-03	1.55E-03	3.46E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.75E+00	1.79E+00	4.22E+00	1.27E-01	1.45E-01	1.65E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.37E+00	1.69E+00	2.16E+00	2.38E-02	2.13E-02	1.64E+01
TEENAGE	GROUND	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03
TEENAGE	CLOUD	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02
TEENAGE	VEG. ING	1.97E-02	2.56E-01	1.68E-02	1.68E-02	6.33E-02	0.00E+00
TEENAGE	MEAT ING	1.85E-03	2.53E-02	2.51E-03	2.51E-03	5.62E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.46E+00	2.04E+00	2.24E+00	1.06E-01	1.53E-01	1.65E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.32E+00	1.59E+00	1.80E+00	1.89E-02	1.58E-02	1.64E+01
ADULT	GROUND	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03	5.99E-03
ADULT	CLOUD	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02	5.71E-02
ADULT	VEG. ING	2.72E-02	3.54E-01	2.32E-02	2.32E-02	8.74E-02	0.00E+00
ADULT	MEAT ING	3.24E-03	4.43E-02	4.39E-03	4.39E-03	9.82E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.42E+00	2.05E+00	1.89E+00	1.10E-01	1.76E-01	1.65E+01

POWERTECH (USA) INC.

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  37
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  4  NAME=CPP ENE              X=   2.6KM, Y=   1.0KM, Z=   0.0M, DIST=   2.8KM, IRTYPE=10

                  40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	7.31E-01	1.07E+00	4.46E+00	4.64E-02	5.16E-02	0.00E+00
INFANT	GROUND	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04
INFANT	CLOUD	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.31E-01	1.07E+00	4.46E+00	4.66E-02	5.18E-02	1.97E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.53E-01	7.79E-01	2.12E+00	1.75E-02	1.63E-02	0.00E+00
CHILD	GROUND	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04
CHILD	CLOUD	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08
CHILD	VEG. ING	5.67E-03	7.41E-02	4.20E-03	4.20E-03	1.83E-02	0.00E+00
CHILD	MEAT ING	5.29E-04	7.32E-03	6.38E-04	6.38E-04	1.61E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.59E-01	8.61E-01	2.13E+00	2.25E-02	3.64E-02	1.97E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.97E-01	8.45E-01	1.11E+00	8.14E-03	8.86E-03	0.00E+00
TEENAGE	GROUND	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04
TEENAGE	CLOUD	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08
TEENAGE	VEG. ING	9.38E-03	1.23E-01	6.94E-03	6.94E-03	3.03E-02	0.00E+00
TEENAGE	MEAT ING	8.59E-04	1.19E-02	1.04E-03	1.04E-03	2.62E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.08E-01	9.80E-01	1.12E+00	1.63E-02	4.20E-02	1.97E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.72E-01	7.97E-01	9.21E-01	6.33E-03	6.39E-03	0.00E+00
ADULT	GROUND	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04	1.97E-04
ADULT	CLOUD	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08	3.01E-08
ADULT	VEG. ING	1.30E-02	1.69E-01	9.59E-03	9.59E-03	4.19E-02	0.00E+00
ADULT	MEAT ING	1.50E-03	2.08E-02	1.81E-03	1.81E-03	4.58E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.87E-01	9.87E-01	9.33E-01	1.79E-02	5.30E-02	1.97E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 4 NAME=CPP ENE X= 2.6KM, Y= 1.0KM, Z= 0.0M, DIST= 2.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.42E+00	1.08E+00	4.46E+00	8.82E-02	6.79E-02	1.15E+01
INFANT	GROUND	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03
INFANT	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.47E+00	1.13E+00	4.51E+00	1.40E-01	1.20E-01	1.15E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.04E+00	7.85E-01	2.13E+00	3.60E-02	2.40E-02	1.15E+01
CHILD	GROUND	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03
CHILD	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
CHILD	VEG. ING	6.20E-03	8.03E-02	6.03E-03	6.03E-03	1.98E-02	0.00E+00
CHILD	MEAT ING	6.11E-04	8.28E-03	9.21E-04	9.21E-04	1.85E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.10E+00	9.26E-01	2.18E+00	9.47E-02	9.73E-02	1.15E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.87E-01	8.60E-01	1.11E+00	1.61E-02	1.27E-02	1.15E+01
TEENAGE	GROUND	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03
TEENAGE	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
TEENAGE	VEG. ING	1.03E-02	1.33E-01	9.98E-03	9.98E-03	3.28E-02	0.00E+00
TEENAGE	MEAT ING	9.93E-04	1.34E-02	1.50E-03	1.50E-03	3.00E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	9.50E-01	1.06E+00	1.17E+00	7.93E-02	1.00E-01	1.15E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	8.62E-01	8.05E-01	9.22E-01	1.30E-02	9.58E-03	1.15E+01
ADULT	GROUND	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03	3.36E-03
ADULT	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
ADULT	VEG. ING	1.42E-02	1.84E-01	1.38E-02	1.38E-02	4.53E-02	0.00E+00
ADULT	MEAT ING	1.73E-03	2.35E-02	2.61E-03	2.61E-03	5.24E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.29E-01	1.06E+00	9.90E-01	8.11E-02	1.12E-01	1.15E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  39
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  5  NAME=CPP E                X=   2.6KM, Y=   0.0KM, Z=   0.0M, DIST=   2.6KM, IRTYPE=10

                             40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.60E-01	1.42E+00	5.85E+00	6.17E-02	6.85E-02	0.00E+00
INFANT	GROUND	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04
INFANT	CLOUD	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.60E-01	1.42E+00	5.85E+00	6.20E-02	6.88E-02	2.62E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.64E-01	1.03E+00	2.79E+00	2.32E-02	2.17E-02	0.00E+00
CHILD	GROUND	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04
CHILD	CLOUD	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08
CHILD	VEG. ING	7.54E-03	9.87E-02	5.59E-03	5.59E-03	2.44E-02	0.00E+00
CHILD	MEAT ING	7.04E-04	9.75E-03	8.49E-04	8.49E-04	2.15E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.72E-01	1.14E+00	2.79E+00	2.99E-02	4.84E-02	2.62E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.60E-01	1.12E+00	1.45E+00	1.08E-02	1.18E-02	0.00E+00
TEENAGE	GROUND	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04
TEENAGE	CLOUD	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08
TEENAGE	VEG. ING	1.25E-02	1.63E-01	9.24E-03	9.24E-03	4.04E-02	0.00E+00
TEENAGE	MEAT ING	1.14E-03	1.58E-02	1.38E-03	1.38E-03	3.49E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.73E-01	1.30E+00	1.46E+00	2.17E-02	5.59E-02	2.62E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.27E-01	1.05E+00	1.21E+00	8.41E-03	8.48E-03	0.00E+00
ADULT	GROUND	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04	2.62E-04
ADULT	CLOUD	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08	4.01E-08
ADULT	VEG. ING	1.72E-02	2.26E-01	1.28E-02	1.28E-02	5.57E-02	0.00E+00
ADULT	MEAT ING	2.00E-03	2.77E-02	2.41E-03	2.41E-03	6.10E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.46E-01	1.31E+00	1.22E+00	2.38E-02	7.06E-02	2.62E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 5 NAME=CPP E X= 2.6KM, Y= 0.0KM, Z= 0.0M, DIST= 2.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.04E+00	1.43E+00	5.85E+00	1.05E-01	8.55E-02	1.80E+01
INFANT	GROUND	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03
INFANT	CLOUD	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.10E+00	1.48E+00	5.91E+00	1.60E-01	1.40E-01	1.80E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.54E+00	1.04E+00	2.79E+00	4.26E-02	2.97E-02	1.80E+01
CHILD	GROUND	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03
CHILD	CLOUD	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02
CHILD	VEG. ING	8.10E-03	1.05E-01	7.50E-03	7.50E-03	2.59E-02	0.00E+00
CHILD	MEAT ING	7.91E-04	1.07E-02	1.15E-03	1.15E-03	2.39E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.61E+00	1.21E+00	2.85E+00	1.05E-01	1.12E-01	1.80E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.34E+00	1.13E+00	1.45E+00	1.92E-02	1.58E-02	1.80E+01
TEENAGE	GROUND	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03
TEENAGE	CLOUD	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02
TEENAGE	VEG. ING	1.34E-02	1.74E-01	1.24E-02	1.24E-02	4.30E-02	0.00E+00
TEENAGE	MEAT ING	1.28E-03	1.74E-02	1.86E-03	1.86E-03	3.88E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.41E+00	1.38E+00	1.52E+00	8.76E-02	1.17E-01	1.80E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.31E+00	1.06E+00	1.21E+00	1.54E-02	1.18E-02	1.80E+01
ADULT	GROUND	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03	4.70E-03
ADULT	CLOUD	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02	4.94E-02
ADULT	VEG. ING	1.85E-02	2.40E-01	1.71E-02	1.71E-02	5.93E-02	0.00E+00
ADULT	MEAT ING	2.24E-03	3.05E-02	3.25E-03	3.25E-03	6.78E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.38E+00	1.39E+00	1.28E+00	8.99E-02	1.32E-01	1.80E+01

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 41
METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 6 NAME=CPP ESE X= 2.5KM, Y= -1.0KM, Z= 0.0M, DIST= 2.7KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.36E-01	1.39E+00	5.70E+00	6.03E-02	6.69E-02	0.00E+00
INFANT	GROUND	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04
INFANT	CLOUD	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.36E-01	1.39E+00	5.70E+00	6.05E-02	6.71E-02	2.56E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.52E-01	1.01E+00	2.72E+00	2.27E-02	2.11E-02	0.00E+00
CHILD	GROUND	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04
CHILD	CLOUD	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08
CHILD	VEG. ING	7.37E-03	9.64E-02	5.46E-03	5.46E-03	2.38E-02	0.00E+00
CHILD	MEAT ING	6.88E-04	9.52E-03	8.30E-04	8.30E-04	2.10E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.60E-01	1.11E+00	2.72E+00	2.92E-02	4.73E-02	2.56E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.53E-01	1.09E+00	1.42E+00	1.06E-02	1.15E-02	0.00E+00
TEENAGE	GROUND	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04
TEENAGE	CLOUD	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08
TEENAGE	VEG. ING	1.22E-02	1.60E-01	9.03E-03	9.03E-03	3.94E-02	0.00E+00
TEENAGE	MEAT ING	1.12E-03	1.55E-02	1.35E-03	1.35E-03	3.41E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.66E-01	1.27E+00	1.43E+00	2.12E-02	5.46E-02	2.56E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.21E-01	1.03E+00	1.18E+00	8.21E-03	8.28E-03	0.00E+00
ADULT	GROUND	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04	2.56E-04
ADULT	CLOUD	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08	3.91E-08
ADULT	VEG. ING	1.68E-02	2.20E-01	1.25E-02	1.25E-02	5.44E-02	0.00E+00
ADULT	MEAT ING	1.95E-03	2.70E-02	2.35E-03	2.35E-03	5.96E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.40E-01	1.28E+00	1.19E+00	2.33E-02	6.89E-02	2.56E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 6 NAME=CPP ESE X= 2.5KM, Y= -1.0KM, Z= 0.0M, DIST= 2.7KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.94E+00	1.40E+00	5.70E+00	1.12E-01	8.70E-02	3.34E+01
INFANT	GROUND	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03
INFANT	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.02E+00	1.47E+00	5.78E+00	1.86E-01	1.61E-01	3.35E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.46E+00	1.01E+00	2.72E+00	4.57E-02	3.06E-02	3.34E+01
CHILD	GROUND	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03
CHILD	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
CHILD	VEG. ING	8.03E-03	1.04E-01	7.73E-03	7.73E-03	2.57E-02	0.00E+00
CHILD	MEAT ING	7.90E-04	1.07E-02	1.18E-03	1.18E-03	2.39E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.54E+00	1.20E+00	2.80E+00	1.28E-01	1.32E-01	3.35E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.26E+00	1.11E+00	1.42E+00	2.04E-02	1.62E-02	3.34E+01
TEENAGE	GROUND	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03
TEENAGE	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
TEENAGE	VEG. ING	1.33E-02	1.72E-01	1.28E-02	1.28E-02	4.25E-02	0.00E+00
TEENAGE	MEAT ING	1.28E-03	1.74E-02	1.92E-03	1.92E-03	3.87E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.35E+00	1.37E+00	1.50E+00	1.09E-01	1.36E-01	3.35E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.23E+00	1.04E+00	1.18E+00	1.64E-02	1.22E-02	3.34E+01
ADULT	GROUND	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03	6.17E-03
ADULT	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
ADULT	VEG. ING	1.84E-02	2.38E-01	1.77E-02	1.77E-02	5.87E-02	0.00E+00
ADULT	MEAT ING	2.24E-03	3.04E-02	3.35E-03	3.35E-03	6.77E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.32E+00	1.38E+00	1.27E+00	1.11E-01	1.51E-01	3.35E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  43
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER  7  NAME=CPP SSE              X=   0.9KM, Y=  -2.3KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.68E-01	1.41E+00	5.92E+00	6.04E-02	6.73E-02	0.00E+00
INFANT	GROUND	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04
INFANT	CLOUD	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.69E-01	1.41E+00	5.92E+00	6.06E-02	6.75E-02	2.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.68E-01	1.02E+00	2.82E+00	2.27E-02	2.13E-02	0.00E+00
CHILD	GROUND	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04
CHILD	CLOUD	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08
CHILD	VEG. ING	7.35E-03	9.62E-02	5.44E-03	5.44E-03	2.38E-02	0.00E+00
CHILD	MEAT ING	6.86E-04	9.50E-03	8.28E-04	8.28E-04	2.09E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.76E-01	1.13E+00	2.83E+00	2.92E-02	4.74E-02	2.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.62E-01	1.11E+00	1.47E+00	1.06E-02	1.15E-02	0.00E+00
TEENAGE	GROUND	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04
TEENAGE	CLOUD	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08
TEENAGE	VEG. ING	1.22E-02	1.59E-01	9.01E-03	9.01E-03	3.93E-02	0.00E+00
TEENAGE	MEAT ING	1.11E-03	1.54E-02	1.34E-03	1.34E-03	3.40E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.75E-01	1.28E+00	1.48E+00	2.12E-02	5.45E-02	2.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.28E-01	1.04E+00	1.22E+00	8.23E-03	8.33E-03	0.00E+00
ADULT	GROUND	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04	2.55E-04
ADULT	CLOUD	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08	3.90E-08
ADULT	VEG. ING	1.68E-02	2.20E-01	1.24E-02	1.24E-02	5.43E-02	0.00E+00
ADULT	MEAT ING	1.95E-03	2.70E-02	2.35E-03	2.35E-03	5.94E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.47E-01	1.29E+00	1.24E+00	2.33E-02	6.88E-02	2.55E-04

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1REGION: Dewey Burdock               CODE: MILDOS-AREA (02/97)          PAGE  44
 METSET:                             DATA: DB.MIL                       05/24/11
                             TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  7  NAME=CPP SSE               X=   0.9KM, Y=  -2.3KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
```

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.87E+00	1.42E+00	5.92E+00	1.37E-01	9.70E-02	3.16E+01
INFANT	GROUND	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03
INFANT	CLOUD	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.99E+00	1.55E+00	6.05E+00	2.60E-01	2.20E-01	3.17E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.36E+00	1.03E+00	2.82E+00	5.66E-02	3.52E-02	3.16E+01
CHILD	GROUND	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03
CHILD	CLOUD	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01
CHILD	VEG. ING	8.32E-03	1.07E-01	8.79E-03	8.79E-03	2.65E-02	0.00E+00
CHILD	MEAT ING	8.37E-04	1.12E-02	1.35E-03	1.35E-03	2.52E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.50E+00	1.27E+00	2.96E+00	1.90E-01	1.88E-01	3.17E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.16E+00	1.13E+00	1.47E+00	2.51E-02	1.85E-02	3.16E+01
TEENAGE	GROUND	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03
TEENAGE	CLOUD	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01
TEENAGE	VEG. ING	1.38E-02	1.78E-01	1.45E-02	1.45E-02	4.38E-02	0.00E+00
TEENAGE	MEAT ING	1.36E-03	1.82E-02	2.18E-03	2.18E-03	4.08E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.30E+00	1.45E+00	1.61E+00	1.65E-01	1.90E-01	3.17E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.12E+00	1.06E+00	1.22E+00	2.03E-02	1.41E-02	3.16E+01
ADULT	GROUND	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03	6.23E-03
ADULT	CLOUD	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01	1.17E-01
ADULT	VEG. ING	1.90E-02	2.46E-01	2.01E-02	2.01E-02	6.05E-02	0.00E+00
ADULT	MEAT ING	2.37E-03	3.19E-02	3.82E-03	3.82E-03	7.14E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.27E+00	1.46E+00	1.37E+00	1.68E-01	2.05E-01	3.17E+01

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1REGION: Dewey Burdock             CODE: MILDOS-AREA (02/97)         PAGE  45
 METSET:                           DATA: DB.MIL                      05/24/11
                           TIME STEP NUMBER 1,                             DURATION IN YRS IS...  1.0

 NUMBER  8  NAME=CPP SE              X=   2.1KM, Y=  -2.1KM, Z=   0.0M, DIST=   3.0KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.18E-01	1.35E+00	5.60E+00	5.84E-02	6.49E-02	0.00E+00
INFANT	GROUND	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04
INFANT	CLOUD	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.19E-01	1.35E+00	5.60E+00	5.87E-02	6.52E-02	2.48E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.43E-01	9.80E-01	2.67E+00	2.20E-02	2.05E-02	0.00E+00
CHILD	GROUND	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04
CHILD	CLOUD	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08
CHILD	VEG. ING	7.13E-03	9.33E-02	5.28E-03	5.28E-03	2.30E-02	0.00E+00
CHILD	MEAT ING	6.66E-04	9.22E-03	8.03E-04	8.03E-04	2.03E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.51E-01	1.08E+00	2.68E+00	2.83E-02	4.59E-02	2.48E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.48E-01	1.06E+00	1.39E+00	1.02E-02	1.11E-02	0.00E+00
TEENAGE	GROUND	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04
TEENAGE	CLOUD	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08
TEENAGE	VEG. ING	1.18E-02	1.54E-01	8.74E-03	8.74E-03	3.82E-02	0.00E+00
TEENAGE	MEAT ING	1.08E-03	1.50E-02	1.30E-03	1.30E-03	3.30E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.61E-01	1.23E+00	1.40E+00	2.05E-02	5.29E-02	2.48E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.17E-01	1.00E+00	1.16E+00	7.96E-03	8.04E-03	0.00E+00
ADULT	GROUND	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04	2.48E-04
ADULT	CLOUD	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08	3.79E-08
ADULT	VEG. ING	1.63E-02	2.13E-01	1.21E-02	1.21E-02	5.27E-02	0.00E+00
ADULT	MEAT ING	1.89E-03	2.62E-02	2.28E-03	2.28E-03	5.77E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.35E-01	1.24E+00	1.17E+00	2.26E-02	6.68E-02	2.48E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 8 NAME=CPP SE X= 2.1KM, Y= -2.1KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.94E+00	1.36E+00	5.60E+00	1.30E-01	9.26E-02	3.36E+01
INFANT	GROUND	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03
INFANT	CLOUD	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.05E+00	1.47E+00	5.71E+00	2.40E-01	2.03E-01	3.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.46E+00	9.91E-01	2.67E+00	5.36E-02	3.35E-02	3.36E+01
CHILD	GROUND	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03
CHILD	CLOUD	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
CHILD	VEG. ING	8.04E-03	1.04E-01	8.40E-03	8.40E-03	2.56E-02	0.00E+00
CHILD	MEAT ING	8.06E-04	1.08E-02	1.29E-03	1.29E-03	2.43E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.58E+00	1.22E+00	2.79E+00	1.73E-01	1.72E-01	3.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.26E+00	1.09E+00	1.39E+00	2.38E-02	1.77E-02	3.36E+01
TEENAGE	GROUND	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03
TEENAGE	CLOUD	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
TEENAGE	VEG. ING	1.33E-02	1.72E-01	1.39E-02	1.39E-02	4.24E-02	0.00E+00
TEENAGE	MEAT ING	1.31E-03	1.76E-02	2.09E-03	2.09E-03	3.94E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.39E+00	1.39E+00	1.52E+00	1.50E-01	1.74E-01	3.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.23E+00	1.02E+00	1.16E+00	1.93E-02	1.35E-02	3.36E+01
ADULT	GROUND	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03	6.30E-03
ADULT	CLOUD	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01	1.04E-01
ADULT	VEG. ING	1.84E-02	2.37E-01	1.92E-02	1.92E-02	5.85E-02	0.00E+00
ADULT	MEAT ING	2.29E-03	3.08E-02	3.65E-03	3.65E-03	6.88E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.36E+00	1.40E+00	1.29E+00	1.52E-01	1.89E-01	3.37E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  47
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER  9  NAME=CPP S               X=   0.0KM, Y=  -2.9KM, Z=   0.0M, DIST=   2.9KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.26E-01	8.91E-01	3.84E+00	3.77E-02	4.22E-02	0.00E+00
INFANT	GROUND	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04
INFANT	CLOUD	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.27E-01	8.91E-01	3.84E+00	3.78E-02	4.23E-02	1.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.03E-01	6.47E-01	1.83E+00	1.42E-02	1.33E-02	0.00E+00
CHILD	GROUND	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04
CHILD	CLOUD	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08
CHILD	VEG. ING	4.57E-03	5.97E-02	3.38E-03	3.38E-03	1.48E-02	0.00E+00
CHILD	MEAT ING	4.26E-04	5.90E-03	5.14E-04	5.14E-04	1.30E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.08E-01	7.13E-01	1.84E+00	1.82E-02	2.95E-02	1.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.69E-01	7.01E-01	9.54E-01	6.61E-03	7.24E-03	0.00E+00
TEENAGE	GROUND	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04
TEENAGE	CLOUD	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08
TEENAGE	VEG. ING	7.56E-03	9.89E-02	5.59E-03	5.59E-03	2.44E-02	0.00E+00
TEENAGE	MEAT ING	6.92E-04	9.58E-03	8.34E-04	8.34E-04	2.11E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.78E-01	8.09E-01	9.61E-01	1.32E-02	3.39E-02	1.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.47E-01	6.61E-01	7.94E-01	5.14E-03	5.22E-03	0.00E+00
ADULT	GROUND	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04	1.59E-04
ADULT	CLOUD	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08	2.43E-08
ADULT	VEG. ING	1.04E-02	1.37E-01	7.72E-03	7.72E-03	3.37E-02	0.00E+00
ADULT	MEAT ING	1.21E-03	1.67E-02	1.46E-03	1.46E-03	3.69E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.59E-01	8.15E-01	8.04E-01	1.45E-02	4.28E-02	1.59E-04

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  48
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER  9  NAME=CPP S                X=   0.0KM, Y=  -2.9KM, Z=   0.0M, DIST=   2.9KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.97E+00	9.08E-01	3.85E+00	1.27E-01	7.69E-02	2.22E+01
INFANT	GROUND	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03
INFANT	CLOUD	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.08E+00	1.03E+00	3.96E+00	2.44E-01	1.94E-01	2.23E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.64E+00	6.60E-01	1.83E+00	5.39E-02	2.97E-02	2.22E+01
CHILD	GROUND	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03
CHILD	CLOUD	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01
CHILD	VEG. ING	5.71E-03	7.29E-02	7.30E-03	7.30E-03	1.79E-02	0.00E+00
CHILD	MEAT ING	6.03E-04	7.94E-03	1.12E-03	1.12E-03	1.79E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.76E+00	8.58E-01	1.96E+00	1.80E-01	1.67E-01	2.23E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.51E+00	7.33E-01	9.55E-01	2.36E-02	1.54E-02	2.22E+01
TEENAGE	GROUND	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03
TEENAGE	CLOUD	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01
TEENAGE	VEG. ING	9.45E-03	1.21E-01	1.21E-02	1.21E-02	2.97E-02	0.00E+00
TEENAGE	MEAT ING	9.78E-04	1.29E-02	1.82E-03	1.82E-03	2.91E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.63E+00	9.84E-01	1.09E+00	1.55E-01	1.65E-01	2.23E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.48E+00	6.80E-01	7.95E-01	1.93E-02	1.20E-02	2.22E+01
ADULT	GROUND	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03	4.18E-03
ADULT	CLOUD	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01	1.13E-01
ADULT	VEG. ING	1.30E-02	1.67E-01	1.67E-02	1.67E-02	4.10E-02	0.00E+00
ADULT	MEAT ING	1.71E-03	2.25E-02	3.18E-03	3.18E-03	5.09E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.62E+00	9.87E-01	9.32E-01	1.57E-01	1.75E-01	2.23E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 10 NAME=CPP SSW X= -1.1KM, Y= -2.8KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	5.96E-01	8.43E-01	3.66E+00	3.55E-02	3.98E-02	0.00E+00
INFANT	GROUND	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04
INFANT	CLOUD	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	5.96E-01	8.43E-01	3.66E+00	3.57E-02	4.00E-02	1.49E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.88E-01	6.12E-01	1.74E+00	1.34E-02	1.26E-02	0.00E+00
CHILD	GROUND	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04
CHILD	CLOUD	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08
CHILD	VEG. ING	4.30E-03	5.62E-02	3.18E-03	3.18E-03	1.39E-02	0.00E+00
CHILD	MEAT ING	4.01E-04	5.56E-03	4.84E-04	4.84E-04	1.23E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.93E-01	6.74E-01	1.75E+00	1.72E-02	2.78E-02	1.49E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.61E-01	6.63E-01	9.09E-01	6.24E-03	6.83E-03	0.00E+00
TEENAGE	GROUND	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04
TEENAGE	CLOUD	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08
TEENAGE	VEG. ING	7.12E-03	9.31E-02	5.27E-03	5.27E-03	2.30E-02	0.00E+00
TEENAGE	MEAT ING	6.51E-04	9.02E-03	7.86E-04	7.86E-04	1.99E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.69E-01	7.65E-01	9.15E-01	1.24E-02	3.20E-02	1.49E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.40E-01	6.26E-01	7.56E-01	4.85E-03	4.93E-03	0.00E+00
ADULT	GROUND	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04	1.49E-04
ADULT	CLOUD	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08	2.28E-08
ADULT	VEG. ING	9.83E-03	1.29E-01	7.27E-03	7.27E-03	3.18E-02	0.00E+00
ADULT	MEAT ING	1.14E-03	1.58E-02	1.37E-03	1.37E-03	3.48E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.51E-01	7.70E-01	7.65E-01	1.36E-02	4.03E-02	1.49E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 10 NAME=CPP SSW X= -1.1KM, Y= -2.8KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.66E+00	8.61E-01	3.66E+00	1.29E-01	7.62E-02	1.77E+01
INFANT	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
INFANT	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.77E+00	9.68E-01	3.77E+00	2.36E-01	1.83E-01	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.35E+00	6.26E-01	1.74E+00	5.49E-02	2.97E-02	1.77E+01
CHILD	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
CHILD	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
CHILD	VEG. ING	5.49E-03	7.00E-02	7.28E-03	7.28E-03	1.72E-02	0.00E+00
CHILD	MEAT ING	5.86E-04	7.69E-03	1.12E-03	1.12E-03	1.74E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.46E+00	8.10E-01	1.86E+00	1.70E-01	1.55E-01	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.22E+00	6.97E-01	9.09E-01	2.40E-02	1.54E-02	1.77E+01
TEENAGE	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
TEENAGE	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
TEENAGE	VEG. ING	9.09E-03	1.16E-01	1.21E-02	1.21E-02	2.85E-02	0.00E+00
TEENAGE	MEAT ING	9.51E-04	1.25E-02	1.82E-03	1.82E-03	2.83E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.34E+00	9.32E-01	1.03E+00	1.44E-01	1.53E-01	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.20E+00	6.46E-01	7.56E-01	1.97E-02	1.21E-02	1.77E+01
ADULT	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
ADULT	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
ADULT	VEG. ING	1.26E-02	1.60E-01	1.66E-02	1.66E-02	3.94E-02	0.00E+00
ADULT	MEAT ING	1.66E-03	2.18E-02	3.17E-03	3.17E-03	4.94E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.32E+00	9.34E-01	8.83E-01	1.46E-01	1.63E-01	1.78E+01

POWERTECH (USA) INC.

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  51
 METSET:                            DATA: DB.MIL                       05/24/11
                                TIME STEP NUMBER 1,                           DURATION IN YRS IS...  1.0

 NUMBER 11  NAME=CPP SW               X=  -2.4KM, Y=  -2.4KM, Z=   0.0M, DIST=   3.4KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	5.24E-01	7.41E-01	3.22E+00	3.12E-02	3.50E-02	0.00E+00
INFANT	GROUND	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04
INFANT	CLOUD	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	5.24E-01	7.41E-01	3.22E+00	3.13E-02	3.51E-02	1.31E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.53E-01	5.38E-01	1.53E+00	1.17E-02	1.10E-02	0.00E+00
CHILD	GROUND	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04
CHILD	CLOUD	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08
CHILD	VEG. ING	3.78E-03	4.94E-02	2.80E-03	2.80E-03	1.22E-02	0.00E+00
CHILD	MEAT ING	3.53E-04	4.88E-03	4.25E-04	4.25E-04	1.08E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.57E-01	5.92E-01	1.54E+00	1.51E-02	2.45E-02	1.31E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.41E-01	5.82E-01	7.98E-01	5.48E-03	6.00E-03	0.00E+00
TEENAGE	GROUND	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04
TEENAGE	CLOUD	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08
TEENAGE	VEG. ING	6.25E-03	8.18E-02	4.63E-03	4.63E-03	2.02E-02	0.00E+00
TEENAGE	MEAT ING	5.72E-04	7.92E-03	6.90E-04	6.90E-04	1.75E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.48E-01	6.72E-01	8.04E-01	1.09E-02	2.81E-02	1.31E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.23E-01	5.50E-01	6.64E-01	4.26E-03	4.33E-03	0.00E+00
ADULT	GROUND	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04	1.31E-04
ADULT	CLOUD	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08	2.01E-08
ADULT	VEG. ING	8.63E-03	1.13E-01	6.39E-03	6.39E-03	2.79E-02	0.00E+00
ADULT	MEAT ING	1.00E-03	1.38E-02	1.21E-03	1.21E-03	3.05E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.33E-01	6.77E-01	6.72E-01	1.20E-02	3.54E-02	1.31E-04

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 52
METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 11 NAME=CPP SW X= -2.4KM, Y= -2.4KM, Z= 0.0M, DIST= 3.4KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.34E+00	7.58E-01	3.22E+00	1.17E-01	6.85E-02	1.35E+01
INFANT	GROUND	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03
INFANT	CLOUD	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.43E+00	8.46E-01	3.31E+00	2.06E-01	1.57E-01	1.36E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.07E+00	5.51E-01	1.53E+00	5.00E-02	2.68E-02	1.35E+01
CHILD	GROUND	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03
CHILD	CLOUD	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02
CHILD	VEG. ING	4.88E-03	6.21E-02	6.57E-03	6.57E-03	1.53E-02	0.00E+00
CHILD	MEAT ING	5.23E-04	6.85E-03	1.01E-03	1.01E-03	1.55E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.16E+00	7.08E-01	1.63E+00	1.46E-01	1.32E-01	1.36E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.54E-01	6.13E-01	7.99E-01	2.19E-02	1.39E-02	1.35E+01
TEENAGE	GROUND	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03
TEENAGE	CLOUD	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02
TEENAGE	VEG. ING	8.07E-03	1.03E-01	1.09E-02	1.09E-02	2.53E-02	0.00E+00
TEENAGE	MEAT ING	8.48E-04	1.11E-02	1.64E-03	1.64E-03	2.52E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.05E+00	8.16E-01	9.00E-01	1.23E-01	1.30E-01	1.36E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.35E-01	5.68E-01	6.65E-01	1.79E-02	1.09E-02	1.35E+01
ADULT	GROUND	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03	2.91E-03
ADULT	CLOUD	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02	8.59E-02
ADULT	VEG. ING	1.11E-02	1.42E-01	1.50E-02	1.50E-02	3.49E-02	0.00E+00
ADULT	MEAT ING	1.48E-03	1.94E-02	2.86E-03	2.86E-03	4.40E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.04E+00	8.18E-01	7.71E-01	1.25E-01	1.39E-01	1.36E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 12 NAME=CPP WSW X= -2.4KM, Y= -0.9KM, Z= 0.0M, DIST= 2.5KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	7.84E-01	1.12E+00	4.81E+00	4.77E-02	5.34E-02	0.00E+00
INFANT	GROUND	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
INFANT	CLOUD	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.84E-01	1.12E+00	4.81E+00	4.79E-02	5.36E-02	2.01E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.79E-01	8.16E-01	2.29E+00	1.80E-02	1.69E-02	0.00E+00
CHILD	GROUND	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
CHILD	CLOUD	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08
CHILD	VEG. ING	5.79E-03	7.58E-02	4.29E-03	4.29E-03	1.87E-02	0.00E+00
CHILD	MEAT ING	5.41E-04	7.48E-03	6.52E-04	6.52E-04	1.65E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.85E-01	8.99E-01	2.30E+00	2.31E-02	3.74E-02	2.01E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.12E-01	8.83E-01	1.19E+00	8.37E-03	9.15E-03	0.00E+00
TEENAGE	GROUND	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
TEENAGE	CLOUD	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08
TEENAGE	VEG. ING	9.59E-03	1.25E-01	7.10E-03	7.10E-03	3.10E-02	0.00E+00
TEENAGE	MEAT ING	8.78E-04	1.21E-02	1.06E-03	1.06E-03	2.68E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.22E-01	1.02E+00	1.20E+00	1.67E-02	4.30E-02	2.01E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.85E-01	8.34E-01	9.93E-01	6.51E-03	6.60E-03	0.00E+00
ADULT	GROUND	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04	2.01E-04
ADULT	CLOUD	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08	3.08E-08
ADULT	VEG. ING	1.32E-02	1.73E-01	9.80E-03	9.80E-03	4.28E-02	0.00E+00
ADULT	MEAT ING	1.53E-03	2.12E-02	1.85E-03	1.85E-03	4.68E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.00E-01	1.03E+00	1.01E+00	1.84E-02	5.43E-02	2.01E-04

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  54
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                                  DURATION IN YRS IS...  1.0

 NUMBER 12  NAME=CPP WSW              X=  -2.4KM, Y=  -0.9KM, Z=   0.0M, DIST=   2.5KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.85E+00	1.14E+00	4.81E+00	1.16E-01	7.98E-02	1.76E+01
INFANT	GROUND	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03
INFANT	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.94E+00	1.23E+00	4.90E+00	2.10E-01	1.74E-01	1.77E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.44E+00	8.25E-01	2.29E+00	4.82E-02	2.93E-02	1.76E+01
CHILD	GROUND	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03
CHILD	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
CHILD	VEG. ING	6.66E-03	8.58E-02	7.27E-03	7.27E-03	2.11E-02	0.00E+00
CHILD	MEAT ING	6.75E-04	9.04E-03	1.11E-03	1.11E-03	2.03E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.54E+00	1.01E+00	2.39E+00	1.51E-01	1.47E-01	1.77E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.27E+00	9.08E-01	1.19E+00	2.13E-02	1.54E-02	1.76E+01
TEENAGE	GROUND	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03
TEENAGE	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
TEENAGE	VEG. ING	1.10E-02	1.42E-01	1.20E-02	1.20E-02	3.50E-02	0.00E+00
TEENAGE	MEAT ING	1.10E-03	1.47E-02	1.81E-03	1.81E-03	3.29E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.38E+00	1.16E+00	1.30E+00	1.29E-01	1.48E-01	1.77E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.24E+00	8.48E-01	9.93E-01	1.73E-02	1.18E-02	1.76E+01
ADULT	GROUND	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03	4.10E-03
ADULT	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
ADULT	VEG. ING	1.52E-02	1.96E-01	1.66E-02	1.66E-02	4.83E-02	0.00E+00
ADULT	MEAT ING	1.91E-03	2.56E-02	3.16E-03	3.16E-03	5.75E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.36E+00	1.16E+00	1.11E+00	1.31E-01	1.60E-01	1.77E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 13 NAME=CPP W X= -2.3KM, Y= 0.0KM, Z= 0.0M, DIST= 2.3KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.37E+00	1.99E+00	8.35E+00	8.54E-02	9.52E-02	0.00E+00
INFANT	GROUND	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04
INFANT	CLOUD	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.37E+00	1.99E+00	8.35E+00	8.58E-02	9.55E-02	3.61E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.59E-01	1.44E+00	3.98E+00	3.21E-02	3.01E-02	0.00E+00
CHILD	GROUND	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04
CHILD	CLOUD	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08
CHILD	VEG. ING	1.04E-02	1.36E-01	7.70E-03	7.70E-03	3.36E-02	0.00E+00
CHILD	MEAT ING	9.71E-04	1.34E-02	1.17E-03	1.17E-03	2.96E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.71E-01	1.59E+00	3.99E+00	4.14E-02	6.70E-02	3.61E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.69E-01	1.56E+00	2.07E+00	1.50E-02	1.63E-02	0.00E+00
TEENAGE	GROUND	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04
TEENAGE	CLOUD	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08
TEENAGE	VEG. ING	1.72E-02	2.25E-01	1.27E-02	1.27E-02	5.57E-02	0.00E+00
TEENAGE	MEAT ING	1.58E-03	2.18E-02	1.90E-03	1.90E-03	4.81E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.88E-01	1.81E+00	2.09E+00	3.00E-02	7.72E-02	3.61E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.22E-01	1.48E+00	1.72E+00	1.16E-02	1.18E-02	0.00E+00
ADULT	GROUND	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04	3.61E-04
ADULT	CLOUD	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08	5.53E-08
ADULT	VEG. ING	2.38E-02	3.11E-01	1.76E-02	1.76E-02	7.69E-02	0.00E+00
ADULT	MEAT ING	2.76E-03	3.81E-02	3.32E-03	3.32E-03	8.41E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.49E-01	1.82E+00	1.75E+00	3.29E-02	9.74E-02	3.61E-04

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  56
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER 13  NAME=CPP W               X=  -2.3KM, Y=   0.0KM, Z=   0.0M, DIST=   2.3KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.62E+00	2.00E+00	8.35E+00	1.41E-01	1.17E-01	2.08E+01
INFANT	GROUND	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03
INFANT	CLOUD	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.72E+00	2.10E+00	8.44E+00	2.38E-01	2.14E-01	2.09E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.91E+00	1.45E+00	3.98E+00	5.69E-02	4.03E-02	2.08E+01
CHILD	GROUND	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03
CHILD	CLOUD	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02
CHILD	VEG. ING	1.11E-02	1.44E-01	1.01E-02	1.01E-02	3.56E-02	0.00E+00
CHILD	MEAT ING	1.08E-03	1.47E-02	1.55E-03	1.55E-03	3.27E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.02E+00	1.71E+00	4.09E+00	1.66E-01	1.76E-01	2.09E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.62E+00	1.58E+00	2.07E+00	2.56E-02	2.14E-02	2.08E+01
TEENAGE	GROUND	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03
TEENAGE	CLOUD	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02
TEENAGE	VEG. ING	1.84E-02	2.39E-01	1.68E-02	1.68E-02	5.90E-02	0.00E+00
TEENAGE	MEAT ING	1.76E-03	2.39E-02	2.51E-03	2.51E-03	5.31E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.74E+00	1.94E+00	2.19E+00	1.42E-01	1.83E-01	2.09E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.57E+00	1.49E+00	1.72E+00	2.05E-02	1.60E-02	2.08E+01
ADULT	GROUND	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03	6.12E-03
ADULT	CLOUD	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02	9.10E-02
ADULT	VEG. ING	2.54E-02	3.30E-01	2.32E-02	2.32E-02	8.14E-02	0.00E+00
ADULT	MEAT ING	3.07E-03	4.18E-02	4.40E-03	4.40E-03	9.28E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.70E+00	1.96E+00	1.85E+00	1.45E-01	2.04E-01	2.09E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  57
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 14  NAME=CPP WNW              X=  -2.3KM, Y=   0.9KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.25E+00	3.36E+00	1.37E+01	1.47E-01	1.62E-01	0.00E+00
INFANT	GROUND	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04
INFANT	CLOUD	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.25E+00	3.36E+00	1.37E+01	1.47E-01	1.63E-01	6.23E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.09E+00	2.44E+00	6.53E+00	5.51E-02	5.13E-02	0.00E+00
CHILD	GROUND	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04
CHILD	CLOUD	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08
CHILD	VEG. ING	1.79E-02	2.35E-01	1.33E-02	1.33E-02	5.80E-02	0.00E+00
CHILD	MEAT ING	1.67E-03	2.32E-02	2.02E-03	2.02E-03	5.11E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.11E+00	2.69E+00	6.54E+00	7.10E-02	1.15E-01	6.23E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.09E-01	2.64E+00	3.40E+00	2.57E-02	2.79E-02	0.00E+00
TEENAGE	GROUND	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04
TEENAGE	CLOUD	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08
TEENAGE	VEG. ING	2.97E-02	3.89E-01	2.20E-02	2.20E-02	9.60E-02	0.00E+00
TEENAGE	MEAT ING	2.72E-03	3.76E-02	3.28E-03	3.28E-03	8.30E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.42E-01	3.07E+00	3.43E+00	5.16E-02	1.33E-01	6.23E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	5.31E-01	2.49E+00	2.83E+00	2.00E-02	2.01E-02	0.00E+00
ADULT	GROUND	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04	6.23E-04
ADULT	CLOUD	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08	9.53E-08
ADULT	VEG. ING	4.10E-02	5.37E-01	3.04E-02	3.04E-02	1.33E-01	0.00E+00
ADULT	MEAT ING	4.75E-03	6.58E-02	5.73E-03	5.73E-03	1.45E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	5.78E-01	3.09E+00	2.87E+00	5.67E-02	1.68E-01	6.23E-04

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 58
METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 14 NAME=CPP WNW X= -2.3KM, Y= 0.9KM, Z= 0.0M, DIST= 2.4KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.55E+00	3.37E+00	1.37E+01	1.91E-01	1.80E-01	2.17E+01
INFANT	GROUND	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03
INFANT	CLOUD	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.65E+00	3.46E+00	1.38E+01	2.87E-01	2.76E-01	2.18E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.39E+00	2.44E+00	6.53E+00	7.50E-02	5.95E-02	2.17E+01
CHILD	GROUND	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03
CHILD	CLOUD	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02
CHILD	VEG. ING	1.85E-02	2.41E-01	1.52E-02	1.52E-02	5.96E-02	0.00E+00
CHILD	MEAT ING	1.76E-03	2.42E-02	2.32E-03	2.32E-03	5.36E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.50E+00	2.80E+00	6.64E+00	1.88E-01	2.20E-01	2.18E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.91E+00	2.66E+00	3.40E+00	3.42E-02	3.20E-02	2.17E+01
TEENAGE	GROUND	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03
TEENAGE	CLOUD	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02
TEENAGE	VEG. ING	3.07E-02	3.99E-01	2.52E-02	2.52E-02	9.86E-02	0.00E+00
TEENAGE	MEAT ING	2.86E-03	3.93E-02	3.77E-03	3.77E-03	8.70E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.04E+00	3.19E+00	3.53E+00	1.59E-01	2.35E-01	2.18E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.83E+00	2.50E+00	2.83E+00	2.71E-02	2.35E-02	2.17E+01
ADULT	GROUND	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03	8.97E-03
ADULT	CLOUD	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02	8.69E-02
ADULT	VEG. ING	4.23E-02	5.52E-01	3.48E-02	3.48E-02	1.36E-01	0.00E+00
ADULT	MEAT ING	5.00E-03	6.87E-02	6.59E-03	6.59E-03	1.52E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.98E+00	3.22E+00	2.97E+00	1.64E-01	2.71E-01	2.18E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  59
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 15  NAME=CPP NW               X=  -2.5KM, Y=   2.5KM, Z=   0.0M, DIST=   3.6KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.60E+00	2.38E+00	9.74E+00	1.04E-01	1.15E-01	0.00E+00
INFANT	GROUND	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04
INFANT	CLOUD	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.60E+00	2.38E+00	9.74E+00	1.04E-01	1.16E-01	4.41E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.73E-01	1.73E+00	4.64E+00	3.91E-02	3.64E-02	0.00E+00
CHILD	GROUND	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04
CHILD	CLOUD	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08
CHILD	VEG. ING	1.27E-02	1.66E-01	9.41E-03	9.41E-03	4.11E-02	0.00E+00
CHILD	MEAT ING	1.19E-03	1.64E-02	1.43E-03	1.43E-03	3.62E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.87E-01	1.91E+00	4.65E+00	5.03E-02	8.15E-02	4.41E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	4.33E-01	1.87E+00	2.42E+00	1.82E-02	1.98E-02	0.00E+00
TEENAGE	GROUND	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04
TEENAGE	CLOUD	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08
TEENAGE	VEG. ING	2.10E-02	2.75E-01	1.56E-02	1.56E-02	6.80E-02	0.00E+00
TEENAGE	MEAT ING	1.93E-03	2.67E-02	2.32E-03	2.32E-03	5.88E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	4.56E-01	2.18E+00	2.44E+00	3.65E-02	9.41E-02	4.41E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.78E-01	1.77E+00	2.01E+00	1.41E-02	1.43E-02	0.00E+00
ADULT	GROUND	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04	4.41E-04
ADULT	CLOUD	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08	6.75E-08
ADULT	VEG. ING	2.91E-02	3.80E-01	2.15E-02	2.15E-02	9.39E-02	0.00E+00
ADULT	MEAT ING	3.37E-03	4.66E-02	4.06E-03	4.06E-03	1.03E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	4.10E-01	2.19E+00	2.04E+00	4.02E-02	1.19E-01	4.41E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 15 NAME=CPP NW X= -2.5KM, Y= 2.5KM, Z= 0.0M, DIST= 3.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.10E+00	2.39E+00	9.74E+00	1.30E-01	1.25E-01	2.49E+01
INFANT	GROUND	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03
INFANT	CLOUD	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.17E+00	2.46E+00	9.82E+00	2.06E-01	2.02E-01	2.50E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.27E+00	1.73E+00	4.64E+00	5.08E-02	4.12E-02	2.49E+01
CHILD	GROUND	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03
CHILD	CLOUD	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02
CHILD	VEG. ING	1.30E-02	1.70E-01	1.06E-02	1.06E-02	4.20E-02	0.00E+00
CHILD	MEAT ING	1.24E-03	1.70E-02	1.61E-03	1.61E-03	3.77E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.36E+00	2.00E+00	4.73E+00	1.39E-01	1.63E-01	2.50E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.93E+00	1.88E+00	2.42E+00	2.32E-02	2.22E-02	2.49E+01
TEENAGE	GROUND	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03
TEENAGE	CLOUD	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02
TEENAGE	VEG. ING	2.16E-02	2.82E-01	1.75E-02	1.75E-02	6.96E-02	0.00E+00
TEENAGE	MEAT ING	2.01E-03	2.76E-02	2.61E-03	2.61E-03	6.11E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.03E+00	2.27E+00	2.52E+00	1.19E-01	1.74E-01	2.50E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.87E+00	1.77E+00	2.01E+00	1.83E-02	1.63E-02	2.49E+01
ADULT	GROUND	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03	7.35E-03
ADULT	CLOUD	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02	6.88E-02
ADULT	VEG. ING	2.98E-02	3.89E-01	2.41E-02	2.41E-02	9.61E-02	0.00E+00
ADULT	MEAT ING	3.51E-03	4.83E-02	4.57E-03	4.57E-03	1.07E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.98E+00	2.29E+00	2.12E+00	1.23E-01	1.99E-01	2.50E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  61
 METSET:                            DATA: DB.MIL                       05/24/11
                           TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER 16  NAME=CPP NNW              X=  -1.4KM, Y=   3.7KM, Z=   0.0M, DIST=   4.0KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.77E-01	1.28E+00	5.36E+00	5.52E-02	6.15E-02	0.00E+00
INFANT	GROUND	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04
INFANT	CLOUD	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.77E-01	1.28E+00	5.36E+00	5.54E-02	6.17E-02	2.34E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.23E-01	9.30E-01	2.55E+00	2.08E-02	1.94E-02	0.00E+00
CHILD	GROUND	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04
CHILD	CLOUD	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08
CHILD	VEG. ING	6.73E-03	8.80E-02	4.98E-03	4.98E-03	2.18E-02	0.00E+00
CHILD	MEAT ING	6.28E-04	8.70E-03	7.58E-04	7.58E-04	1.92E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.31E-01	1.03E+00	2.56E+00	2.67E-02	4.33E-02	2.34E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.37E-01	1.01E+00	1.33E+00	9.68E-03	1.05E-02	0.00E+00
TEENAGE	GROUND	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04
TEENAGE	CLOUD	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08
TEENAGE	VEG. ING	1.11E-02	1.46E-01	8.25E-03	8.25E-03	3.60E-02	0.00E+00
TEENAGE	MEAT ING	1.02E-03	1.41E-02	1.23E-03	1.23E-03	3.11E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.49E-01	1.17E+00	1.34E+00	1.94E-02	4.99E-02	2.34E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.07E-01	9.51E-01	1.11E+00	7.53E-03	7.61E-03	0.00E+00
ADULT	GROUND	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04	2.34E-04
ADULT	CLOUD	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08	3.58E-08
ADULT	VEG. ING	1.54E-02	2.01E-01	1.14E-02	1.14E-02	4.97E-02	0.00E+00
ADULT	MEAT ING	1.78E-03	2.47E-02	2.15E-03	2.15E-03	5.44E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.24E-01	1.18E+00	1.12E+00	2.13E-02	6.30E-02	2.34E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 16 NAME=CPP NNW X= -1.4KM, Y= 3.7KM, Z= 0.0M, DIST= 4.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.56E+00	1.29E+00	5.36E+00	8.49E-02	7.30E-02	1.13E+01
INFANT	GROUND	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03
INFANT	CLOUD	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.61E+00	1.34E+00	5.41E+00	1.39E-01	1.27E-01	1.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.11E+00	9.35E-01	2.55E+00	3.39E-02	2.48E-02	1.13E+01
CHILD	GROUND	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03
CHILD	CLOUD	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02
CHILD	VEG. ING	7.11E-03	9.24E-02	6.28E-03	6.28E-03	2.28E-02	0.00E+00
CHILD	MEAT ING	6.87E-04	9.38E-03	9.59E-04	9.59E-04	2.08E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.17E+00	1.09E+00	2.61E+00	9.55E-02	1.04E-01	1.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.19E-01	1.02E+00	1.33E+00	1.53E-02	1.33E-02	1.13E+01
TEENAGE	GROUND	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03
TEENAGE	CLOUD	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02
TEENAGE	VEG. ING	1.18E-02	1.53E-01	1.04E-02	1.04E-02	3.78E-02	0.00E+00
TEENAGE	MEAT ING	1.12E-03	1.52E-02	1.56E-03	1.56E-03	3.38E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	9.86E-01	1.24E+00	1.40E+00	8.16E-02	1.09E-01	1.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	8.88E-01	9.57E-01	1.11E+00	1.22E-02	9.87E-03	1.13E+01
ADULT	GROUND	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03	3.74E-03
ADULT	CLOUD	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02	5.06E-02
ADULT	VEG. ING	1.63E-02	2.11E-01	1.44E-02	1.44E-02	5.22E-02	0.00E+00
ADULT	MEAT ING	1.95E-03	2.66E-02	2.72E-03	2.72E-03	5.91E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.61E-01	1.25E+00	1.18E+00	8.36E-02	1.22E-01	1.14E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  63
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 17  NAME=SF N                 X=  -4.9KM, Y=   5.3KM, Z=   0.0M, DIST=   7.2KM, IRTYPE=10

                              40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.41E-01	1.23E+00	5.14E+00	5.28E-02	5.88E-02	0.00E+00
INFANT	GROUND	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04
INFANT	CLOUD	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.41E-01	1.23E+00	5.14E+00	5.31E-02	5.91E-02	2.24E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.06E-01	8.91E-01	2.45E+00	1.99E-02	1.86E-02	0.00E+00
CHILD	GROUND	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04
CHILD	CLOUD	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08
CHILD	VEG. ING	6.44E-03	8.42E-02	4.77E-03	4.77E-03	2.08E-02	0.00E+00
CHILD	MEAT ING	6.01E-04	8.32E-03	7.25E-04	7.25E-04	1.84E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.13E-01	9.84E-01	2.45E+00	2.56E-02	4.15E-02	2.24E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.27E-01	9.66E-01	1.28E+00	9.27E-03	1.01E-02	0.00E+00
TEENAGE	GROUND	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04
TEENAGE	CLOUD	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08
TEENAGE	VEG. ING	1.07E-02	1.39E-01	7.89E-03	7.89E-03	3.45E-02	0.00E+00
TEENAGE	MEAT ING	9.76E-04	1.35E-02	1.18E-03	1.18E-03	2.98E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.39E-01	1.12E+00	1.28E+00	1.86E-02	4.78E-02	2.24E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.98E-01	9.11E-01	1.06E+00	7.20E-03	7.28E-03	0.00E+00
ADULT	GROUND	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04	2.24E-04
ADULT	CLOUD	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08	3.42E-08
ADULT	VEG. ING	1.47E-02	1.93E-01	1.09E-02	1.09E-02	4.76E-02	0.00E+00
ADULT	MEAT ING	1.71E-03	2.36E-02	2.06E-03	2.06E-03	5.21E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.15E-01	1.13E+00	1.07E+00	2.04E-02	6.03E-02	2.24E-04

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  64
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 17  NAME=SF N                 X=  -4.9KM, Y=   5.3KM, Z=   0.0M, DIST=   7.2KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.66E+00	1.23E+00	5.14E+00	7.76E-02	6.85E-02	1.36E+01
INFANT	GROUND	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03
INFANT	CLOUD	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.71E+00	1.28E+00	5.18E+00	1.24E-01	1.15E-01	1.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.22E+00	8.95E-01	2.45E+00	3.09E-02	2.31E-02	1.36E+01
CHILD	GROUND	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03
CHILD	CLOUD	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02
CHILD	VEG. ING	6.76E-03	8.79E-02	5.85E-03	5.85E-03	2.17E-02	0.00E+00
CHILD	MEAT ING	6.50E-04	8.89E-03	8.93E-04	8.93E-04	1.97E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.28E+00	1.04E+00	2.50E+00	8.39E-02	9.30E-02	1.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.05E+00	9.75E-01	1.28E+00	1.40E-02	1.24E-02	1.36E+01
TEENAGE	GROUND	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03
TEENAGE	CLOUD	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02
TEENAGE	VEG. ING	1.12E-02	1.46E-01	9.69E-03	9.69E-03	3.59E-02	0.00E+00
TEENAGE	MEAT ING	1.06E-03	1.44E-02	1.45E-03	1.45E-03	3.20E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.10E+00	1.18E+00	1.33E+00	7.14E-02	9.77E-02	1.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.02E+00	9.16E-01	1.06E+00	1.11E-02	9.17E-03	1.36E+01
ADULT	GROUND	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03	3.87E-03
ADULT	CLOUD	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02	4.24E-02
ADULT	VEG. ING	1.54E-02	2.01E-01	1.34E-02	1.34E-02	4.96E-02	0.00E+00
ADULT	MEAT ING	1.84E-03	2.52E-02	2.53E-03	2.53E-03	5.59E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.08E+00	1.19E+00	1.12E+00	7.33E-02	1.11E-01	1.37E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 18 NAME=SF NNE X= -4.2KM, Y= 5.3KM, Z= 0.0M, DIST= 6.7KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.49E-01	9.49E-01	3.96E+00	4.09E-02	4.55E-02	0.00E+00
INFANT	GROUND	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04
INFANT	CLOUD	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.49E-01	9.49E-01	3.96E+00	4.10E-02	4.57E-02	1.73E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.13E-01	6.88E-01	1.89E+00	1.54E-02	1.44E-02	0.00E+00
CHILD	GROUND	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04
CHILD	CLOUD	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08
CHILD	VEG. ING	4.98E-03	6.52E-02	3.69E-03	3.69E-03	1.61E-02	0.00E+00
CHILD	MEAT ING	4.65E-04	6.44E-03	5.61E-04	5.61E-04	1.42E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.19E-01	7.60E-01	1.89E+00	1.98E-02	3.21E-02	1.73E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.75E-01	7.46E-01	9.84E-01	7.17E-03	7.81E-03	0.00E+00
TEENAGE	GROUND	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04
TEENAGE	CLOUD	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08
TEENAGE	VEG. ING	8.25E-03	1.08E-01	6.11E-03	6.11E-03	2.67E-02	0.00E+00
TEENAGE	MEAT ING	7.55E-04	1.05E-02	9.11E-04	9.11E-04	2.31E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.84E-01	8.65E-01	9.91E-01	1.44E-02	3.70E-02	1.73E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.53E-01	7.04E-01	8.18E-01	5.57E-03	5.63E-03	0.00E+00
ADULT	GROUND	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04	1.73E-04
ADULT	CLOUD	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08	2.65E-08
ADULT	VEG. ING	1.14E-02	1.49E-01	8.43E-03	8.43E-03	3.68E-02	0.00E+00
ADULT	MEAT ING	1.32E-03	1.83E-02	1.59E-03	1.59E-03	4.03E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.66E-01	8.71E-01	8.29E-01	1.58E-02	4.67E-02	1.73E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 18 NAME=SF NNE X= -4.2KM, Y= 5.3KM, Z= 0.0M, DIST= 6.7KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.46E+00	9.54E-01	3.96E+00	6.74E-02	5.58E-02	1.36E+01
INFANT	GROUND	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
INFANT	CLOUD	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.51E+00	1.00E+00	4.01E+00	1.15E-01	1.04E-01	1.36E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.13E+00	6.92E-01	1.89E+00	2.71E-02	1.92E-02	1.36E+01
CHILD	GROUND	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
CHILD	CLOUD	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02
CHILD	VEG. ING	5.32E-03	6.91E-02	4.85E-03	4.85E-03	1.71E-02	0.00E+00
CHILD	MEAT ING	5.18E-04	7.05E-03	7.41E-04	7.41E-04	1.57E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.18E+00	8.16E-01	1.94E+00	8.05E-02	8.56E-02	1.36E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.90E-01	7.56E-01	9.84E-01	1.22E-02	1.02E-02	1.36E+01
TEENAGE	GROUND	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
TEENAGE	CLOUD	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02
TEENAGE	VEG. ING	8.81E-03	1.14E-01	8.03E-03	8.03E-03	2.82E-02	0.00E+00
TEENAGE	MEAT ING	8.40E-04	1.14E-02	1.20E-03	1.20E-03	2.54E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.05E+00	9.29E-01	1.04E+00	6.92E-02	8.88E-02	1.36E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.67E-01	7.09E-01	8.19E-01	9.78E-03	7.65E-03	1.36E+01
ADULT	GROUND	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03	3.34E-03
ADULT	CLOUD	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02	4.44E-02
ADULT	VEG. ING	1.22E-02	1.58E-01	1.11E-02	1.11E-02	3.90E-02	0.00E+00
ADULT	MEAT ING	1.47E-03	2.00E-02	2.10E-03	2.10E-03	4.44E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.03E+00	9.35E-01	8.80E-01	7.07E-02	9.88E-02	1.36E+01

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  67
 METSET:                            DATA: DB.MIL                       05/24/11
                                TIME STEP NUMBER 1,                           DURATION IN YRS IS...  1.0

 NUMBER 19  NAME=SF NE                X=  -2.7KM, Y=   5.6KM, Z=   0.0M, DIST=   6.3KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	5.06E-01	7.37E-01	3.10E+00	3.16E-02	3.52E-02	0.00E+00
INFANT	GROUND	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04
INFANT	CLOUD	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	5.07E-01	7.37E-01	3.10E+00	3.17E-02	3.54E-02	1.34E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.45E-01	5.35E-01	1.48E+00	1.19E-02	1.11E-02	0.00E+00
CHILD	GROUND	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04
CHILD	CLOUD	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08
CHILD	VEG. ING	3.85E-03	5.04E-02	2.85E-03	2.85E-03	1.24E-02	0.00E+00
CHILD	MEAT ING	3.59E-04	4.98E-03	4.33E-04	4.33E-04	1.10E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.49E-01	5.90E-01	1.48E+00	1.53E-02	2.48E-02	1.34E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.37E-01	5.79E-01	7.69E-01	5.55E-03	6.04E-03	0.00E+00
TEENAGE	GROUND	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04
TEENAGE	CLOUD	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08
TEENAGE	VEG. ING	6.37E-03	8.34E-02	4.72E-03	4.72E-03	2.06E-02	0.00E+00
TEENAGE	MEAT ING	5.83E-04	8.08E-03	7.04E-04	7.04E-04	1.78E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.44E-01	6.71E-01	7.74E-01	1.11E-02	2.86E-02	1.34E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.19E-01	5.46E-01	6.40E-01	4.31E-03	4.36E-03	0.00E+00
ADULT	GROUND	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04	1.34E-04
ADULT	CLOUD	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08	2.04E-08
ADULT	VEG. ING	8.80E-03	1.15E-01	6.51E-03	6.51E-03	2.84E-02	0.00E+00
ADULT	MEAT ING	1.02E-03	1.41E-02	1.23E-03	1.23E-03	3.11E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.29E-01	6.76E-01	6.48E-01	1.22E-02	3.61E-02	1.34E-04

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  68
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER 19  NAME=SF NE                X=  -2.7KM, Y=   5.6KM, Z=   0.0M, DIST=   6.3KM, IRTYPE=10
```

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.01E+00	7.43E-01	3.10E+00	6.39E-02	4.78E-02	8.38E+00
INFANT	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
INFANT	CLOUD	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.05E+00	7.87E-01	3.14E+00	1.08E-01	9.16E-02	8.42E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.48E-01	5.39E-01	1.48E+00	2.62E-02	1.70E-02	8.38E+00
CHILD	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
CHILD	CLOUD	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02
CHILD	VEG. ING	4.26E-03	5.51E-02	4.26E-03	4.26E-03	1.36E-02	0.00E+00
CHILD	MEAT ING	4.23E-04	5.71E-03	6.52E-04	6.52E-04	1.28E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.97E-01	6.44E-01	1.52E+00	7.50E-02	7.58E-02	8.42E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.40E-01	5.91E-01	7.69E-01	1.17E-02	8.99E-03	8.38E+00
TEENAGE	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
TEENAGE	CLOUD	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02
TEENAGE	VEG. ING	7.06E-03	9.13E-02	7.06E-03	7.06E-03	2.25E-02	0.00E+00
TEENAGE	MEAT ING	6.87E-04	9.27E-03	1.06E-03	1.06E-03	2.07E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.92E-01	7.35E-01	8.21E-01	6.37E-02	7.75E-02	8.42E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.23E-01	5.53E-01	6.40E-01	9.43E-03	6.82E-03	8.38E+00
ADULT	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
ADULT	CLOUD	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02	4.15E-02
ADULT	VEG. ING	9.74E-03	1.26E-01	9.75E-03	9.75E-03	3.11E-02	0.00E+00
ADULT	MEAT ING	1.20E-03	1.62E-02	1.85E-03	1.85E-03	3.62E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	6.78E-01	7.39E-01	6.95E-01	6.49E-02	8.54E-02	8.42E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  69
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 20  NAME=SF ENE               X=  -3.3KM, Y=   4.0KM, Z=   0.0M, DIST=   5.2KM, IRTYPE=10

                              40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.12E+00	1.67E+00	6.81E+00	7.29E-02	8.08E-02	0.00E+00
INFANT	GROUND	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04
INFANT	CLOUD	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.12E+00	1.67E+00	6.82E+00	7.32E-02	8.11E-02	3.10E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.41E-01	1.21E+00	3.25E+00	2.74E-02	2.55E-02	0.00E+00
CHILD	GROUND	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04
CHILD	CLOUD	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08
CHILD	VEG. ING	8.93E-03	1.17E-01	6.61E-03	6.61E-03	2.89E-02	0.00E+00
CHILD	MEAT ING	8.34E-04	1.15E-02	1.01E-03	1.01E-03	2.54E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	5.51E-01	1.34E+00	3.26E+00	3.54E-02	5.73E-02	3.10E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.03E-01	1.31E+00	1.69E+00	1.28E-02	1.39E-02	0.00E+00
TEENAGE	GROUND	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04
TEENAGE	CLOUD	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08
TEENAGE	VEG. ING	1.48E-02	1.93E-01	1.09E-02	1.09E-02	4.78E-02	0.00E+00
TEENAGE	MEAT ING	1.35E-03	1.87E-02	1.63E-03	1.63E-03	4.13E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.19E-01	1.53E+00	1.70E+00	2.57E-02	6.61E-02	3.10E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.64E-01	1.24E+00	1.41E+00	9.93E-03	1.00E-02	0.00E+00
ADULT	GROUND	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04	3.10E-04
ADULT	CLOUD	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08	4.74E-08
ADULT	VEG. ING	2.04E-02	2.67E-01	1.51E-02	1.51E-02	6.60E-02	0.00E+00
ADULT	MEAT ING	2.36E-03	3.27E-02	2.85E-03	2.85E-03	7.22E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.87E-01	1.54E+00	1.43E+00	2.82E-02	8.35E-02	3.10E-04

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  70
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                                  DURATION IN YRS IS...  1.0

 NUMBER 20  NAME=SF ENE               X=  -3.3KM, Y=   4.0KM, Z=   0.0M, DIST=   5.2KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.38E+00	1.67E+00	6.82E+00	9.32E-02	8.87E-02	2.10E+01
INFANT	GROUND	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
INFANT	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.43E+00	1.72E+00	6.86E+00	1.37E-01	1.33E-01	2.11E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.80E+00	1.21E+00	3.25E+00	3.64E-02	2.93E-02	2.10E+01
CHILD	GROUND	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
CHILD	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
CHILD	VEG. ING	9.19E-03	1.20E-01	7.50E-03	7.50E-03	2.96E-02	0.00E+00
CHILD	MEAT ING	8.74E-04	1.20E-02	1.14E-03	1.14E-03	2.66E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.86E+00	1.39E+00	3.30E+00	8.92E-02	1.06E-01	2.11E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.56E+00	1.32E+00	1.69E+00	1.66E-02	1.57E-02	2.10E+01
TEENAGE	GROUND	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
TEENAGE	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
TEENAGE	VEG. ING	1.52E-02	1.98E-01	1.24E-02	1.24E-02	4.90E-02	0.00E+00
TEENAGE	MEAT ING	1.42E-03	1.95E-02	1.85E-03	1.85E-03	4.31E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.62E+00	1.58E+00	1.75E+00	7.51E-02	1.13E-01	2.11E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.53E+00	1.24E+00	1.41E+00	1.32E-02	1.16E-02	2.10E+01
ADULT	GROUND	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03	5.48E-03
ADULT	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
ADULT	VEG. ING	2.10E-02	2.74E-01	1.71E-02	1.71E-02	6.76E-02	0.00E+00
ADULT	MEAT ING	2.48E-03	3.41E-02	3.24E-03	3.24E-03	7.54E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.59E+00	1.60E+00	1.47E+00	7.77E-02	1.31E-01	2.11E+01

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 71
METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 21 NAME=SF E X= -3.0KM, Y= 3.4KM, Z= 0.0M, DIST= 4.5KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.28E+00	1.90E+00	7.78E+00	8.31E-02	9.21E-02	0.00E+00
INFANT	GROUND	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04
INFANT	CLOUD	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.28E+00	1.90E+00	7.78E+00	8.34E-02	9.24E-02	3.53E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.17E-01	1.38E+00	3.71E+00	3.12E-02	2.91E-02	0.00E+00
CHILD	GROUND	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04
CHILD	CLOUD	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08
CHILD	VEG. ING	1.02E-02	1.33E-01	7.53E-03	7.53E-03	3.29E-02	0.00E+00
CHILD	MEAT ING	9.49E-04	1.31E-02	1.14E-03	1.14E-03	2.90E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.28E-01	1.53E+00	3.71E+00	4.03E-02	6.52E-02	3.53E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.45E-01	1.50E+00	1.93E+00	1.46E-02	1.58E-02	0.00E+00
TEENAGE	GROUND	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04
TEENAGE	CLOUD	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08
TEENAGE	VEG. ING	1.68E-02	2.20E-01	1.25E-02	1.25E-02	5.44E-02	0.00E+00
TEENAGE	MEAT ING	1.54E-03	2.13E-02	1.86E-03	1.86E-03	4.70E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.64E-01	1.74E+00	1.95E+00	2.92E-02	7.53E-02	3.53E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.01E-01	1.41E+00	1.61E+00	1.13E-02	1.14E-02	0.00E+00
ADULT	GROUND	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04	3.53E-04
ADULT	CLOUD	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08	5.40E-08
ADULT	VEG. ING	2.32E-02	3.04E-01	1.72E-02	1.72E-02	7.51E-02	0.00E+00
ADULT	MEAT ING	2.69E-03	3.73E-02	3.25E-03	3.25E-03	8.22E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.28E-01	1.75E+00	1.63E+00	3.21E-02	9.51E-02	3.53E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 21 NAME=SF E X= -3.0KM, Y= 3.4KM, Z= 0.0M, DIST= 4.5KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.72E+00	1.91E+00	7.78E+00	1.04E-01	1.00E-01	2.39E+01
INFANT	GROUND	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03
INFANT	CLOUD	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.77E+00	1.96E+00	7.83E+00	1.57E-01	1.53E-01	2.40E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.05E+00	1.38E+00	3.71E+00	4.04E-02	3.29E-02	2.39E+01
CHILD	GROUND	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03
CHILD	CLOUD	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
CHILD	VEG. ING	1.04E-02	1.36E-01	8.43E-03	8.43E-03	3.36E-02	0.00E+00
CHILD	MEAT ING	9.90E-04	1.36E-02	1.28E-03	1.28E-03	3.01E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.12E+00	1.59E+00	3.77E+00	1.03E-01	1.23E-01	2.40E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.78E+00	1.51E+00	1.93E+00	1.85E-02	1.77E-02	2.39E+01
TEENAGE	GROUND	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03
TEENAGE	CLOUD	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
TEENAGE	VEG. ING	1.73E-02	2.25E-01	1.40E-02	1.40E-02	5.56E-02	0.00E+00
TEENAGE	MEAT ING	1.61E-03	2.21E-02	2.08E-03	2.08E-03	4.89E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.85E+00	1.81E+00	2.00E+00	8.76E-02	1.31E-01	2.40E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.74E+00	1.42E+00	1.61E+00	1.46E-02	1.30E-02	2.39E+01
ADULT	GROUND	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03	6.22E-03
ADULT	CLOUD	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02	4.68E-02
ADULT	VEG. ING	2.38E-02	3.11E-01	1.93E-02	1.93E-02	7.68E-02	0.00E+00
ADULT	MEAT ING	2.81E-03	3.86E-02	3.64E-03	3.64E-03	8.54E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.82E+00	1.82E+00	1.68E+00	9.05E-02	1.51E-01	2.40E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 22 NAME=SF SSE X= -3.5KM, Y= 0.2KM, Z= 0.0M, DIST= 3.6KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.08E+00	1.58E+00	6.61E+00	6.83E-02	7.60E-02	0.00E+00
INFANT	GROUND	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04
INFANT	CLOUD	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.08E+00	1.58E+00	6.61E+00	6.86E-02	7.63E-02	2.89E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.23E-01	1.15E+00	3.15E+00	2.57E-02	2.40E-02	0.00E+00
CHILD	GROUND	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04
CHILD	CLOUD	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08
CHILD	VEG. ING	8.33E-03	1.09E-01	6.17E-03	6.17E-03	2.69E-02	0.00E+00
CHILD	MEAT ING	7.77E-04	1.08E-02	9.38E-04	9.38E-04	2.37E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	5.32E-01	1.27E+00	3.16E+00	3.31E-02	5.36E-02	2.89E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.93E-01	1.25E+00	1.64E+00	1.20E-02	1.30E-02	0.00E+00
TEENAGE	GROUND	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04
TEENAGE	CLOUD	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08
TEENAGE	VEG. ING	1.38E-02	1.80E-01	1.02E-02	1.02E-02	4.46E-02	0.00E+00
TEENAGE	MEAT ING	1.26E-03	1.75E-02	1.52E-03	1.52E-03	3.85E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.08E-01	1.44E+00	1.65E+00	2.40E-02	6.17E-02	2.89E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.55E-01	1.18E+00	1.37E+00	9.31E-03	9.41E-03	0.00E+00
ADULT	GROUND	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04	2.89E-04
ADULT	CLOUD	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08	4.42E-08
ADULT	VEG. ING	1.90E-02	2.49E-01	1.41E-02	1.41E-02	6.15E-02	0.00E+00
ADULT	MEAT ING	2.21E-03	3.05E-02	2.66E-03	2.66E-03	6.73E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.77E-01	1.46E+00	1.38E+00	2.63E-02	7.80E-02	2.89E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 22 NAME=SF SSE X= -3.5KM, Y= 0.2KM, Z= 0.0M, DIST= 3.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.26E+00	1.60E+00	6.61E+00	1.26E-01	9.85E-02	1.95E+01
INFANT	GROUND	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03
INFANT	CLOUD	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.36E+00	1.70E+00	6.72E+00	2.29E-01	2.01E-01	1.96E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.69E+00	1.16E+00	3.15E+00	5.14E-02	3.46E-02	1.95E+01
CHILD	GROUND	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03
CHILD	CLOUD	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02
CHILD	VEG. ING	9.06E-03	1.17E-01	8.70E-03	8.70E-03	2.90E-02	0.00E+00
CHILD	MEAT ING	8.91E-04	1.21E-02	1.33E-03	1.33E-03	2.69E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.81E+00	1.39E+00	3.26E+00	1.64E-01	1.69E-01	1.96E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.46E+00	1.27E+00	1.64E+00	2.30E-02	1.83E-02	1.95E+01
TEENAGE	GROUND	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03
TEENAGE	CLOUD	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02
TEENAGE	VEG. ING	1.50E-02	1.94E-01	1.44E-02	1.44E-02	4.80E-02	0.00E+00
TEENAGE	MEAT ING	1.45E-03	1.96E-02	2.16E-03	2.16E-03	4.37E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.58E+00	1.58E+00	1.76E+00	1.42E-01	1.73E-01	1.96E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.43E+00	1.19E+00	1.37E+00	1.85E-02	1.38E-02	1.95E+01
ADULT	GROUND	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03	5.25E-03
ADULT	CLOUD	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02	9.76E-02
ADULT	VEG. ING	2.07E-02	2.69E-01	1.99E-02	1.99E-02	6.62E-02	0.00E+00
ADULT	MEAT ING	2.53E-03	3.43E-02	3.77E-03	3.77E-03	7.64E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.55E+00	1.59E+00	1.49E+00	1.45E-01	1.91E-01	1.96E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 23 NAME=SF SE X= -2.8KM, Y= 1.3KM, Z= 0.0M, DIST= 3.1KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.03E+00	3.02E+00	1.23E+01	1.32E-01	1.46E-01	0.00E+00
INFANT	GROUND	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04
INFANT	CLOUD	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.03E+00	3.02E+00	1.23E+01	1.32E-01	1.46E-01	5.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	9.78E-01	2.19E+00	5.87E+00	4.95E-02	4.61E-02	0.00E+00
CHILD	GROUND	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04
CHILD	CLOUD	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08
CHILD	VEG. ING	1.61E-02	2.11E-01	1.19E-02	1.19E-02	5.20E-02	0.00E+00
CHILD	MEAT ING	1.50E-03	2.08E-02	1.81E-03	1.81E-03	4.59E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	9.96E-01	2.42E+00	5.89E+00	6.38E-02	1.03E-01	5.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	5.48E-01	2.37E+00	3.06E+00	2.31E-02	2.50E-02	0.00E+00
TEENAGE	GROUND	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04
TEENAGE	CLOUD	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08
TEENAGE	VEG. ING	2.67E-02	3.49E-01	1.97E-02	1.97E-02	8.61E-02	0.00E+00
TEENAGE	MEAT ING	2.44E-03	3.38E-02	2.94E-03	2.94E-03	7.45E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	5.77E-01	2.76E+00	3.08E+00	4.63E-02	1.19E-01	5.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	4.78E-01	2.24E+00	2.55E+00	1.79E-02	1.80E-02	0.00E+00
ADULT	GROUND	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04	5.59E-04
ADULT	CLOUD	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08	8.55E-08
ADULT	VEG. ING	3.68E-02	4.81E-01	2.72E-02	2.72E-02	1.19E-01	0.00E+00
ADULT	MEAT ING	4.26E-03	5.90E-02	5.14E-03	5.14E-03	1.30E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	5.20E-01	2.78E+00	2.58E+00	5.08E-02	1.51E-01	5.59E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 23 NAME=SF SE X= -2.8KM, Y= 1.3KM, Z= 0.0M, DIST= 3.1KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.59E+00	3.02E+00	1.23E+01	1.74E-01	1.62E-01	2.61E+01
INFANT	GROUND	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03
INFANT	CLOUD	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.70E+00	3.13E+00	1.24E+01	2.78E-01	2.67E-01	2.62E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.55E+00	2.19E+00	5.87E+00	6.83E-02	5.38E-02	2.61E+01
CHILD	GROUND	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03
CHILD	CLOUD	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02
CHILD	VEG. ING	1.66E-02	2.17E-01	1.38E-02	1.38E-02	5.35E-02	0.00E+00
CHILD	MEAT ING	1.59E-03	2.18E-02	2.10E-03	2.10E-03	4.82E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.67E+00	2.54E+00	6.00E+00	1.89E-01	2.17E-01	2.62E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.12E+00	2.39E+00	3.06E+00	3.11E-02	2.89E-02	2.61E+01
TEENAGE	GROUND	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03
TEENAGE	CLOUD	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02
TEENAGE	VEG. ING	2.75E-02	3.59E-01	2.28E-02	2.28E-02	8.86E-02	0.00E+00
TEENAGE	MEAT ING	2.57E-03	3.53E-02	3.41E-03	3.41E-03	7.82E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.25E+00	2.89E+00	3.19E+00	1.62E-01	2.30E-01	2.62E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.05E+00	2.25E+00	2.55E+00	2.46E-02	2.13E-02	2.61E+01
ADULT	GROUND	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03	8.78E-03
ADULT	CLOUD	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02	9.58E-02
ADULT	VEG. ING	3.80E-02	4.96E-01	3.15E-02	3.15E-02	1.22E-01	0.00E+00
ADULT	MEAT ING	4.50E-03	6.18E-02	5.96E-03	5.96E-03	1.37E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.19E+00	2.91E+00	2.69E+00	1.67E-01	2.62E-01	2.62E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  77
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 24  NAME=SF S                 X=  -4.9KM, Y=  -0.3KM, Z=   0.0M, DIST=   4.9KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.62E-01	9.52E-01	4.06E+00	4.05E-02	4.53E-02	0.00E+00
INFANT	GROUND	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04
INFANT	CLOUD	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.63E-01	9.52E-01	4.06E+00	4.07E-02	4.54E-02	1.71E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.20E-01	6.91E-01	1.93E+00	1.52E-02	1.43E-02	0.00E+00
CHILD	GROUND	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04
CHILD	CLOUD	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08
CHILD	VEG. ING	4.92E-03	6.43E-02	3.64E-03	3.64E-03	1.59E-02	0.00E+00
CHILD	MEAT ING	4.59E-04	6.36E-03	5.54E-04	5.54E-04	1.40E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.25E-01	7.62E-01	1.94E+00	1.96E-02	3.18E-02	1.71E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.79E-01	7.48E-01	1.01E+00	7.11E-03	7.76E-03	0.00E+00
TEENAGE	GROUND	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04
TEENAGE	CLOUD	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08
TEENAGE	VEG. ING	8.14E-03	1.07E-01	6.03E-03	6.03E-03	2.63E-02	0.00E+00
TEENAGE	MEAT ING	7.45E-04	1.03E-02	8.99E-04	8.99E-04	2.28E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.88E-01	8.65E-01	1.01E+00	1.42E-02	3.65E-02	1.71E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.56E-01	7.06E-01	8.38E-01	5.53E-03	5.60E-03	0.00E+00
ADULT	GROUND	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04	1.71E-04
ADULT	CLOUD	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08	2.61E-08
ADULT	VEG. ING	1.12E-02	1.47E-01	8.32E-03	8.32E-03	3.63E-02	0.00E+00
ADULT	MEAT ING	1.30E-03	1.80E-02	1.57E-03	1.57E-03	3.98E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.69E-01	8.71E-01	8.48E-01	1.56E-02	4.61E-02	1.71E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 24 NAME=SF S X= -4.9KM, Y= -0.3KM, Z= 0.0M, DIST= 4.9KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.61E+00	9.64E-01	4.06E+00	1.05E-01	7.05E-02	1.57E+01
INFANT	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
INFANT	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.70E+00	1.06E+00	4.15E+00	1.99E-01	1.64E-01	1.58E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.26E+00	7.00E-01	1.93E+00	4.41E-02	2.62E-02	1.57E+01
CHILD	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
CHILD	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
CHILD	VEG. ING	5.75E-03	7.39E-02	6.49E-03	6.49E-03	1.82E-02	0.00E+00
CHILD	MEAT ING	5.87E-04	7.84E-03	9.94E-04	9.94E-04	1.76E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.36E+00	8.76E-01	2.03E+00	1.45E-01	1.40E-01	1.58E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.12E+00	7.72E-01	1.01E+00	1.95E-02	1.37E-02	1.57E+01
TEENAGE	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
TEENAGE	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
TEENAGE	VEG. ING	9.52E-03	1.22E-01	1.07E-02	1.07E-02	3.02E-02	0.00E+00
TEENAGE	MEAT ING	9.54E-04	1.27E-02	1.61E-03	1.61E-03	2.86E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.22E+00	1.00E+00	1.11E+00	1.25E-01	1.40E-01	1.58E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.10E+00	7.20E-01	8.39E-01	1.58E-02	1.06E-02	1.57E+01
ADULT	GROUND	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03	3.58E-03
ADULT	CLOUD	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02	9.00E-02
ADULT	VEG. ING	1.31E-02	1.69E-01	1.48E-02	1.48E-02	4.16E-02	0.00E+00
ADULT	MEAT ING	1.67E-03	2.22E-02	2.82E-03	2.82E-03	4.99E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.21E+00	1.00E+00	9.50E-01	1.27E-01	1.51E-01	1.58E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 25 NAME=SF SSW X= -5.7KM, Y= 1.4KM, Z= 0.0M, DIST= 5.9KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.94E-01	1.42E+00	6.09E+00	6.04E-02	6.75E-02	0.00E+00
INFANT	GROUND	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04
INFANT	CLOUD	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.94E-01	1.42E+00	6.09E+00	6.06E-02	6.78E-02	2.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.80E-01	1.03E+00	2.90E+00	2.27E-02	2.13E-02	0.00E+00
CHILD	GROUND	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04
CHILD	CLOUD	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08
CHILD	VEG. ING	7.33E-03	9.58E-02	5.43E-03	5.43E-03	2.37E-02	0.00E+00
CHILD	MEAT ING	6.84E-04	9.47E-03	8.25E-04	8.25E-04	2.09E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.88E-01	1.14E+00	2.91E+00	2.92E-02	4.74E-02	2.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.68E-01	1.12E+00	1.51E+00	1.06E-02	1.16E-02	0.00E+00
TEENAGE	GROUND	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04
TEENAGE	CLOUD	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08
TEENAGE	VEG. ING	1.21E-02	1.59E-01	8.98E-03	8.98E-03	3.92E-02	0.00E+00
TEENAGE	MEAT ING	1.11E-03	1.54E-02	1.34E-03	1.34E-03	3.39E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.82E-01	1.29E+00	1.52E+00	2.12E-02	5.44E-02	2.55E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.34E-01	1.06E+00	1.26E+00	8.24E-03	8.36E-03	0.00E+00
ADULT	GROUND	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04	2.54E-04
ADULT	CLOUD	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08	3.89E-08
ADULT	VEG. ING	1.68E-02	2.19E-01	1.24E-02	1.24E-02	5.41E-02	0.00E+00
ADULT	MEAT ING	1.94E-03	2.69E-02	2.34E-03	2.34E-03	5.92E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.53E-01	1.30E+00	1.27E+00	2.32E-02	6.87E-02	2.55E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 25 NAME=SF SSW X= -5.7KM, Y= 1.4KM, Z= 0.0M, DIST= 5.9KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.28E+00	1.43E+00	6.09E+00	1.05E-01	8.48E-02	2.13E+01
INFANT	GROUND	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03
INFANT	CLOUD	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.37E+00	1.53E+00	6.19E+00	2.01E-01	1.81E-01	2.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.76E+00	1.04E+00	2.90E+00	4.25E-02	2.95E-02	2.13E+01
CHILD	GROUND	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03
CHILD	CLOUD	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02
CHILD	VEG. ING	7.90E-03	1.02E-01	7.38E-03	7.38E-03	2.53E-02	0.00E+00
CHILD	MEAT ING	7.72E-04	1.05E-02	1.13E-03	1.13E-03	2.33E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.86E+00	1.25E+00	3.01E+00	1.47E-01	1.53E-01	2.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.55E+00	1.13E+00	1.51E+00	1.91E-02	1.57E-02	2.13E+01
TEENAGE	GROUND	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03
TEENAGE	CLOUD	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02
TEENAGE	VEG. ING	1.31E-02	1.70E-01	1.22E-02	1.22E-02	4.18E-02	0.00E+00
TEENAGE	MEAT ING	1.25E-03	1.70E-02	1.83E-03	1.83E-03	3.79E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.66E+00	1.42E+00	1.62E+00	1.29E-01	1.57E-01	2.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.51E+00	1.06E+00	1.26E+00	1.53E-02	1.18E-02	2.13E+01
ADULT	GROUND	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03	5.09E-03
ADULT	CLOUD	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02	9.08E-02
ADULT	VEG. ING	1.81E-02	2.34E-01	1.69E-02	1.69E-02	5.78E-02	0.00E+00
ADULT	MEAT ING	2.19E-03	2.98E-02	3.20E-03	3.20E-03	6.62E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.63E+00	1.42E+00	1.37E+00	1.31E-01	1.72E-01	2.14E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  81
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 26  NAME=SF SW                X=  -6.3KM, Y=   2.1KM, Z=   0.0M, DIST=   6.6KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.50E-01	1.35E+00	5.83E+00	5.69E-02	6.38E-02	0.00E+00
INFANT	GROUND	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04
INFANT	CLOUD	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.51E-01	1.35E+00	5.83E+00	5.72E-02	6.40E-02	2.40E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.59E-01	9.80E-01	2.78E+00	2.14E-02	2.02E-02	0.00E+00
CHILD	GROUND	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04
CHILD	CLOUD	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08
CHILD	VEG. ING	6.90E-03	9.02E-02	5.11E-03	5.11E-03	2.23E-02	0.00E+00
CHILD	MEAT ING	6.44E-04	8.92E-03	7.77E-04	7.77E-04	1.97E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.67E-01	1.08E+00	2.79E+00	2.76E-02	4.46E-02	2.40E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.57E-01	1.06E+00	1.45E+00	1.00E-02	1.09E-02	0.00E+00
TEENAGE	GROUND	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04
TEENAGE	CLOUD	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08
TEENAGE	VEG. ING	1.14E-02	1.49E-01	8.45E-03	8.45E-03	3.69E-02	0.00E+00
TEENAGE	MEAT ING	1.05E-03	1.45E-02	1.26E-03	1.26E-03	3.19E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.69E-01	1.22E+00	1.46E+00	1.99E-02	5.13E-02	2.40E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.24E-01	1.00E+00	1.21E+00	7.78E-03	7.90E-03	0.00E+00
ADULT	GROUND	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04	2.40E-04
ADULT	CLOUD	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08	3.66E-08
ADULT	VEG. ING	1.58E-02	2.06E-01	1.17E-02	1.17E-02	5.10E-02	0.00E+00
ADULT	MEAT ING	1.83E-03	2.53E-02	2.20E-03	2.20E-03	5.58E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.42E-01	1.23E+00	1.22E+00	2.19E-02	6.47E-02	2.40E-04

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  82
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 26  NAME=SF SW                X=  -6.3KM, Y=   2.1KM, Z=   0.0M, DIST=   6.6KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.98E+00	1.36E+00	5.83E+00	9.20E-02	7.74E-02	1.71E+01
INFANT	GROUND	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03
INFANT	CLOUD	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.05E+00	1.43E+00	5.90E+00	1.62E-01	1.47E-01	1.72E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.49E+00	9.85E-01	2.78E+00	3.70E-02	2.66E-02	1.71E+01
CHILD	GROUND	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03
CHILD	CLOUD	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02
CHILD	VEG. ING	7.35E-03	9.54E-02	6.65E-03	6.65E-03	2.35E-02	0.00E+00
CHILD	MEAT ING	7.13E-04	9.72E-03	1.01E-03	1.01E-03	2.16E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.56E+00	1.16E+00	2.86E+00	1.15E-01	1.22E-01	1.72E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.28E+00	1.07E+00	1.45E+00	1.67E-02	1.42E-02	1.71E+01
TEENAGE	GROUND	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03
TEENAGE	CLOUD	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02
TEENAGE	VEG. ING	1.22E-02	1.58E-01	1.10E-02	1.10E-02	3.90E-02	0.00E+00
TEENAGE	MEAT ING	1.16E-03	1.58E-02	1.65E-03	1.65E-03	3.51E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.37E+00	1.32E+00	1.53E+00	9.92E-02	1.26E-01	1.72E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.25E+00	1.01E+00	1.21E+00	1.33E-02	1.06E-02	1.71E+01
ADULT	GROUND	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03	4.44E-03
ADULT	CLOUD	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02	6.54E-02
ADULT	VEG. ING	1.68E-02	2.18E-01	1.52E-02	1.52E-02	5.38E-02	0.00E+00
ADULT	MEAT ING	2.02E-03	2.76E-02	2.88E-03	2.88E-03	6.13E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.34E+00	1.32E+00	1.29E+00	1.01E-01	1.40E-01	1.72E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 27 NAME=SF WSW X= -6.2KM, Y= 2.9KM, Z= 0.0M, DIST= 6.9KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.47E+00	2.10E+00	9.03E+00	8.91E-02	9.97E-02	0.00E+00
INFANT	GROUND	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04
INFANT	CLOUD	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.47E+00	2.10E+00	9.03E+00	8.95E-02	1.00E-01	3.76E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.11E-01	1.53E+00	4.30E+00	3.35E-02	3.15E-02	0.00E+00
CHILD	GROUND	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04
CHILD	CLOUD	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08
CHILD	VEG. ING	1.08E-02	1.41E-01	8.01E-03	8.01E-03	3.49E-02	0.00E+00
CHILD	MEAT ING	1.01E-03	1.40E-02	1.22E-03	1.22E-03	3.08E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.23E-01	1.68E+00	4.31E+00	4.31E-02	6.99E-02	3.76E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.97E-01	1.65E+00	2.24E+00	1.56E-02	1.71E-02	0.00E+00
TEENAGE	GROUND	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04
TEENAGE	CLOUD	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08
TEENAGE	VEG. ING	1.79E-02	2.34E-01	1.32E-02	1.32E-02	5.79E-02	0.00E+00
TEENAGE	MEAT ING	1.64E-03	2.27E-02	1.98E-03	1.98E-03	5.00E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	4.17E-01	1.91E+00	2.26E+00	3.12E-02	8.03E-02	3.76E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.47E-01	1.56E+00	1.86E+00	1.22E-02	1.23E-02	0.00E+00
ADULT	GROUND	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04	3.76E-04
ADULT	CLOUD	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08	5.74E-08
ADULT	VEG. ING	2.47E-02	3.23E-01	1.83E-02	1.83E-02	7.99E-02	0.00E+00
ADULT	MEAT ING	2.86E-03	3.96E-02	3.45E-03	3.45E-03	8.74E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.75E-01	1.92E+00	1.89E+00	3.43E-02	1.01E-01	3.76E-04

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  84
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 27  NAME=SF WSW               X=  -6.2KM, Y=   2.9KM, Z=   0.0M, DIST=   6.9KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.57E+00	2.11E+00	9.03E+00	1.17E-01	1.10E-01	1.83E+01
INFANT	GROUND	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03
INFANT	CLOUD	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.62E+00	2.16E+00	9.08E+00	1.70E-01	1.64E-01	1.83E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.81E+00	1.53E+00	4.30E+00	4.57E-02	3.65E-02	1.83E+01
CHILD	GROUND	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03
CHILD	CLOUD	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02
CHILD	VEG. ING	1.12E-02	1.45E-01	9.21E-03	9.21E-03	3.59E-02	0.00E+00
CHILD	MEAT ING	1.06E-03	1.46E-02	1.40E-03	1.40E-03	3.23E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.87E+00	1.74E+00	4.36E+00	1.10E-01	1.29E-01	1.83E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.50E+00	1.66E+00	2.24E+00	2.09E-02	1.96E-02	1.83E+01
TEENAGE	GROUND	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03
TEENAGE	CLOUD	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02
TEENAGE	VEG. ING	1.85E-02	2.41E-01	1.52E-02	1.52E-02	5.95E-02	0.00E+00
TEENAGE	MEAT ING	1.73E-03	2.37E-02	2.28E-03	2.28E-03	5.25E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.57E+00	1.98E+00	2.31E+00	9.16E-02	1.38E-01	1.83E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.44E+00	1.57E+00	1.86E+00	1.65E-02	1.44E-02	1.83E+01
ADULT	GROUND	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03	5.91E-03
ADULT	CLOUD	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02	4.73E-02
ADULT	VEG. ING	2.55E-02	3.33E-01	2.10E-02	2.10E-02	8.21E-02	0.00E+00
ADULT	MEAT ING	3.02E-03	4.14E-02	3.98E-03	3.98E-03	9.17E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.53E+00	1.99E+00	1.94E+00	9.48E-02	1.59E-01	1.83E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 28 NAME=SF W X= -7.0KM, Y= 3.4KM, Z= 0.0M, DIST= 7.8KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.17E+00	1.72E+00	7.14E+00	7.46E-02	8.29E-02	0.00E+00
INFANT	GROUND	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04
INFANT	CLOUD	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.17E+00	1.72E+00	7.14E+00	7.49E-02	8.32E-02	3.16E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.66E-01	1.25E+00	3.40E+00	2.80E-02	2.62E-02	0.00E+00
CHILD	GROUND	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04
CHILD	CLOUD	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08
CHILD	VEG. ING	9.10E-03	1.19E-01	6.74E-03	6.74E-03	2.94E-02	0.00E+00
CHILD	MEAT ING	8.50E-04	1.18E-02	1.02E-03	1.02E-03	2.59E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	5.76E-01	1.38E+00	3.41E+00	3.61E-02	5.85E-02	3.16E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.17E-01	1.36E+00	1.77E+00	1.31E-02	1.42E-02	0.00E+00
TEENAGE	GROUND	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04
TEENAGE	CLOUD	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08
TEENAGE	VEG. ING	1.51E-02	1.97E-01	1.12E-02	1.12E-02	4.87E-02	0.00E+00
TEENAGE	MEAT ING	1.38E-03	1.91E-02	1.66E-03	1.66E-03	4.21E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.33E-01	1.57E+00	1.79E+00	2.62E-02	6.74E-02	3.16E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.76E-01	1.28E+00	1.48E+00	1.02E-02	1.03E-02	0.00E+00
ADULT	GROUND	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04	3.16E-04
ADULT	CLOUD	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08	4.83E-08
ADULT	VEG. ING	2.08E-02	2.72E-01	1.54E-02	1.54E-02	6.73E-02	0.00E+00
ADULT	MEAT ING	2.41E-03	3.34E-02	2.91E-03	2.91E-03	7.36E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.00E-01	1.58E+00	1.49E+00	2.88E-02	8.52E-02	3.16E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 28 NAME=SF W X= -7.0KM, Y= 3.4KM, Z= 0.0M, DIST= 7.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.95E+00	1.73E+00	7.14E+00	1.05E-01	9.45E-02	1.30E+01
INFANT	GROUND	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03
INFANT	CLOUD	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.00E+00	1.78E+00	7.19E+00	1.51E-01	1.41E-01	1.30E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.35E+00	1.25E+00	3.40E+00	4.14E-02	3.17E-02	1.30E+01
CHILD	GROUND	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03
CHILD	CLOUD	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02
CHILD	VEG. ING	9.48E-03	1.23E-01	8.05E-03	8.05E-03	3.05E-02	0.00E+00
CHILD	MEAT ING	9.09E-04	1.24E-02	1.23E-03	1.23E-03	2.76E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.40E+00	1.44E+00	3.46E+00	9.70E-02	1.11E-01	1.30E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.10E+00	1.37E+00	1.77E+00	1.88E-02	1.70E-02	1.30E+01
TEENAGE	GROUND	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03
TEENAGE	CLOUD	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02
TEENAGE	VEG. ING	1.57E-02	2.04E-01	1.33E-02	1.33E-02	5.05E-02	0.00E+00
TEENAGE	MEAT ING	1.48E-03	2.02E-02	1.99E-03	1.99E-03	4.48E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.16E+00	1.64E+00	1.84E+00	8.04E-02	1.18E-01	1.30E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.06E+00	1.28E+00	1.48E+00	1.49E-02	1.25E-02	1.30E+01
ADULT	GROUND	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03	4.74E-03
ADULT	CLOUD	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02	4.16E-02
ADULT	VEG. ING	2.17E-02	2.82E-01	1.84E-02	1.84E-02	6.97E-02	0.00E+00
ADULT	MEAT ING	2.58E-03	3.53E-02	3.48E-03	3.48E-03	7.83E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.13E+00	1.65E+00	1.54E+00	8.31E-02	1.36E-01	1.30E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 29 NAME=SF WNW X= -7.0KM, Y= 4.2KM, Z= 0.0M, DIST= 8.2KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.32E+00	1.96E+00	8.01E+00	8.57E-02	9.50E-02	0.00E+00
INFANT	GROUND	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04
INFANT	CLOUD	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.32E+00	1.96E+00	8.01E+00	8.61E-02	9.53E-02	3.64E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.36E-01	1.42E+00	3.82E+00	3.22E-02	3.00E-02	0.00E+00
CHILD	GROUND	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04
CHILD	CLOUD	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08
CHILD	VEG. ING	1.05E-02	1.37E-01	7.77E-03	7.77E-03	3.39E-02	0.00E+00
CHILD	MEAT ING	9.79E-04	1.36E-02	1.18E-03	1.18E-03	2.99E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.48E-01	1.58E+00	3.83E+00	4.15E-02	6.73E-02	3.64E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.56E-01	1.55E+00	1.99E+00	1.50E-02	1.63E-02	0.00E+00
TEENAGE	GROUND	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04
TEENAGE	CLOUD	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08
TEENAGE	VEG. ING	1.74E-02	2.27E-01	1.29E-02	1.29E-02	5.61E-02	0.00E+00
TEENAGE	MEAT ING	1.59E-03	2.20E-02	1.92E-03	1.92E-03	4.85E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.75E-01	1.79E+00	2.00E+00	3.02E-02	7.77E-02	3.64E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.11E-01	1.46E+00	1.66E+00	1.17E-02	1.18E-02	0.00E+00
ADULT	GROUND	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04	3.64E-04
ADULT	CLOUD	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08	5.57E-08
ADULT	VEG. ING	2.40E-02	3.14E-01	1.78E-02	1.78E-02	7.75E-02	0.00E+00
ADULT	MEAT ING	2.78E-03	3.85E-02	3.35E-03	3.35E-03	8.48E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.38E-01	1.81E+00	1.68E+00	3.31E-02	9.81E-02	3.64E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 29 NAME=SF WNW X= -7.0KM, Y= 4.2KM, Z= 0.0M, DIST= 8.2KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.96E+00	1.97E+00	8.01E+00	1.13E-01	1.06E-01	1.06E+01
INFANT	GROUND	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03
INFANT	CLOUD	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.00E+00	2.01E+00	8.05E+00	1.54E-01	1.47E-01	1.07E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.27E+00	1.43E+00	3.82E+00	4.45E-02	3.51E-02	1.06E+01
CHILD	GROUND	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03
CHILD	CLOUD	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02
CHILD	VEG. ING	1.08E-02	1.41E-01	8.98E-03	8.98E-03	3.49E-02	0.00E+00
CHILD	MEAT ING	1.03E-03	1.42E-02	1.37E-03	1.37E-03	3.14E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.33E+00	1.62E+00	3.87E+00	9.58E-02	1.14E-01	1.07E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.95E-01	1.56E+00	1.99E+00	2.03E-02	1.88E-02	1.06E+01
TEENAGE	GROUND	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03
TEENAGE	CLOUD	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02
TEENAGE	VEG. ING	1.80E-02	2.34E-01	1.49E-02	1.49E-02	5.78E-02	0.00E+00
TEENAGE	MEAT ING	1.68E-03	2.30E-02	2.22E-03	2.22E-03	5.10E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.06E+00	1.85E+00	2.05E+00	7.84E-02	1.23E-01	1.07E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.50E-01	1.46E+00	1.66E+00	1.61E-02	1.39E-02	1.06E+01
ADULT	GROUND	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03	5.00E-03
ADULT	CLOUD	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02	3.60E-02
ADULT	VEG. ING	2.48E-02	3.23E-01	2.05E-02	2.05E-02	7.98E-02	0.00E+00
ADULT	MEAT ING	2.93E-03	4.03E-02	3.88E-03	3.88E-03	8.91E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.02E+00	1.87E+00	1.72E+00	8.14E-02	1.44E-01	1.07E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 30 NAME=SF NW X= -6.2KM, Y= 4.7KM, Z= 0.0M, DIST= 7.8KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.16E+00	3.21E+00	1.31E+01	1.40E-01	1.55E-01	0.00E+00
INFANT	GROUND	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04
INFANT	CLOUD	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.16E+00	3.21E+00	1.31E+01	1.40E-01	1.56E-01	5.94E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.04E+00	2.33E+00	6.26E+00	5.26E-02	4.90E-02	0.00E+00
CHILD	GROUND	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04
CHILD	CLOUD	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08
CHILD	VEG. ING	1.71E-02	2.24E-01	1.27E-02	1.27E-02	5.53E-02	0.00E+00
CHILD	MEAT ING	1.60E-03	2.21E-02	1.93E-03	1.93E-03	4.87E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.06E+00	2.57E+00	6.28E+00	6.78E-02	1.10E-01	5.94E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	5.84E-01	2.53E+00	3.26E+00	2.45E-02	2.66E-02	0.00E+00
TEENAGE	GROUND	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04
TEENAGE	CLOUD	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08
TEENAGE	VEG. ING	2.83E-02	3.70E-01	2.10E-02	2.10E-02	9.15E-02	0.00E+00
TEENAGE	MEAT ING	2.59E-03	3.59E-02	3.13E-03	3.13E-03	7.91E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.15E-01	2.93E+00	3.29E+00	4.92E-02	1.27E-01	5.94E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	5.09E-01	2.38E+00	2.72E+00	1.90E-02	1.92E-02	0.00E+00
ADULT	GROUND	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04	5.94E-04
ADULT	CLOUD	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08	9.08E-08
ADULT	VEG. ING	3.91E-02	5.11E-01	2.89E-02	2.89E-02	1.26E-01	0.00E+00
ADULT	MEAT ING	4.53E-03	6.27E-02	5.46E-03	5.46E-03	1.38E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	5.54E-01	2.95E+00	2.75E+00	5.40E-02	1.60E-01	5.94E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 30 NAME=SF NW X= -6.2KM, Y= 4.7KM, Z= 0.0M, DIST= 7.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.88E+00	3.21E+00	1.31E+01	1.64E-01	1.65E-01	1.21E+01
INFANT	GROUND	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03
INFANT	CLOUD	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.93E+00	3.26E+00	1.32E+01	2.07E-01	2.07E-01	1.21E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.77E+00	2.33E+00	6.27E+00	6.35E-02	5.35E-02	1.21E+01
CHILD	GROUND	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03
CHILD	CLOUD	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02
CHILD	VEG. ING	1.74E-02	2.27E-01	1.37E-02	1.37E-02	5.61E-02	0.00E+00
CHILD	MEAT ING	1.65E-03	2.27E-02	2.09E-03	2.09E-03	5.01E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.83E+00	2.62E+00	6.32E+00	1.22E-01	1.57E-01	1.21E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.31E+00	2.53E+00	3.26E+00	2.92E-02	2.89E-02	1.21E+01
TEENAGE	GROUND	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03
TEENAGE	CLOUD	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02
TEENAGE	VEG. ING	2.88E-02	3.76E-01	2.27E-02	2.27E-02	9.30E-02	0.00E+00
TEENAGE	MEAT ING	2.67E-03	3.68E-02	3.40E-03	3.40E-03	8.13E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.38E+00	2.99E+00	3.33E+00	9.76E-02	1.72E-01	1.21E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.23E+00	2.39E+00	2.72E+00	2.29E-02	2.11E-02	1.21E+01
ADULT	GROUND	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03	7.56E-03
ADULT	CLOUD	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02	3.47E-02
ADULT	VEG. ING	3.98E-02	5.20E-01	3.14E-02	3.14E-02	1.28E-01	0.00E+00
ADULT	MEAT ING	4.67E-03	6.43E-02	5.93E-03	5.93E-03	1.42E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.32E+00	3.01E+00	2.80E+00	1.03E-01	2.06E-01	1.21E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 31 NAME=SF NNW X= -5.4KM, Y= 4.7KM, Z= 0.0M, DIST= 7.1KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.68E+00	1.03E+01	4.04E+01	4.61E-01	5.07E-01	0.00E+00
INFANT	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
INFANT	CLOUD	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.69E+00	1.03E+01	4.04E+01	4.63E-01	5.09E-01	1.97E-03

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.23E+00	7.49E+00	1.93E+01	1.73E-01	1.60E-01	0.00E+00
CHILD	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
CHILD	CLOUD	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07
CHILD	VEG. ING	5.68E-02	7.43E-01	4.21E-02	4.21E-02	1.84E-01	0.00E+00
CHILD	MEAT ING	5.31E-03	7.34E-02	6.40E-03	6.40E-03	1.62E-02	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.29E+00	8.30E+00	1.93E+01	2.24E-01	3.62E-01	1.97E-03

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.81E+00	8.13E+00	1.00E+01	8.07E-02	8.71E-02	0.00E+00
TEENAGE	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
TEENAGE	CLOUD	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07
TEENAGE	VEG. ING	9.41E-02	1.23E+00	6.96E-02	6.96E-02	3.04E-01	0.00E+00
TEENAGE	MEAT ING	8.61E-03	1.19E-01	1.04E-02	1.04E-02	2.63E-02	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.91E+00	9.48E+00	1.01E+01	1.63E-01	4.19E-01	1.97E-03

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.58E+00	7.65E+00	8.35E+00	6.27E-02	6.28E-02	0.00E+00
ADULT	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
ADULT	CLOUD	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07	3.02E-07
ADULT	VEG. ING	1.30E-01	1.70E+00	9.61E-02	9.61E-02	4.20E-01	0.00E+00
ADULT	MEAT ING	1.51E-02	2.08E-01	1.82E-02	1.82E-02	4.59E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.73E+00	9.56E+00	8.47E+00	1.79E-01	5.31E-01	1.97E-03

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 92
METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 31 NAME=SF NNW X= -5.4KM, Y= 4.7KM, Z= 0.0M, DIST= 7.1KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	7.82E+00	1.03E+01	4.04E+01	4.83E-01	5.16E-01	1.89E+01
INFANT	GROUND	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02
INFANT	CLOUD	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.88E+00	1.04E+01	4.05E+01	5.44E-01	5.77E-01	1.90E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.36E+00	7.49E+00	1.93E+01	1.83E-01	1.64E-01	1.89E+01
CHILD	GROUND	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02
CHILD	CLOUD	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02
CHILD	VEG. ING	5.71E-02	7.46E-01	4.30E-02	4.30E-02	1.84E-01	0.00E+00
CHILD	MEAT ING	5.35E-03	7.39E-02	6.54E-03	6.54E-03	1.63E-02	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.49E+00	8.37E+00	1.94E+01	2.94E-01	4.26E-01	1.90E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.95E+00	8.14E+00	1.00E+01	8.49E-02	8.91E-02	1.89E+01
TEENAGE	GROUND	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02
TEENAGE	CLOUD	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02
TEENAGE	VEG. ING	9.45E-02	1.24E+00	7.12E-02	7.12E-02	3.05E-01	0.00E+00
TEENAGE	MEAT ING	8.68E-03	1.20E-01	1.06E-02	1.06E-02	2.65E-02	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.11E+00	9.56E+00	1.02E+01	2.28E-01	4.82E-01	1.90E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.72E+00	7.66E+00	8.35E+00	6.61E-02	6.44E-02	1.89E+01
ADULT	GROUND	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02	2.28E-02
ADULT	CLOUD	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02	3.83E-02
ADULT	VEG. ING	1.31E-01	1.71E+00	9.83E-02	9.83E-02	4.22E-01	0.00E+00
ADULT	MEAT ING	1.52E-02	2.10E-01	1.86E-02	1.86E-02	4.63E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.92E+00	9.64E+00	8.53E+00	2.44E-01	5.93E-01	1.90E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 32 NAME=SF ESE X= -3.0KM, Y= 2.7KM, Z= 0.0M, DIST= 4.0KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.48E+00	2.21E+00	9.00E+00	9.62E-02	1.07E-01	0.00E+00
INFANT	GROUND	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04
INFANT	CLOUD	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.48E+00	2.21E+00	9.00E+00	9.66E-02	1.07E-01	4.09E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.14E-01	1.60E+00	4.29E+00	3.62E-02	3.37E-02	0.00E+00
CHILD	GROUND	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04
CHILD	CLOUD	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08
CHILD	VEG. ING	1.18E-02	1.54E-01	8.72E-03	8.72E-03	3.81E-02	0.00E+00
CHILD	MEAT ING	1.10E-03	1.52E-02	1.33E-03	1.33E-03	3.36E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.28E-01	1.77E+00	4.30E+00	4.67E-02	7.55E-02	4.09E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	4.00E-01	1.74E+00	2.24E+00	1.69E-02	1.83E-02	0.00E+00
TEENAGE	GROUND	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04
TEENAGE	CLOUD	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08
TEENAGE	VEG. ING	1.95E-02	2.55E-01	1.44E-02	1.44E-02	6.30E-02	0.00E+00
TEENAGE	MEAT ING	1.79E-03	2.47E-02	2.15E-03	2.15E-03	5.45E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	4.22E-01	2.02E+00	2.25E+00	3.39E-02	8.72E-02	4.09E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.49E-01	1.64E+00	1.86E+00	1.31E-02	1.32E-02	0.00E+00
ADULT	GROUND	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04	4.09E-04
ADULT	CLOUD	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08	6.26E-08
ADULT	VEG. ING	2.69E-02	3.52E-01	1.99E-02	1.99E-02	8.70E-02	0.00E+00
ADULT	MEAT ING	3.12E-03	4.32E-02	3.76E-03	3.76E-03	9.52E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.80E-01	2.03E+00	1.88E+00	3.72E-02	1.10E-01	4.09E-04

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 94
METSET: DATA: DB.MIL 05/24/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 32 NAME=SF ESE X= -3.0KM, Y= 2.7KM, Z= 0.0M, DIST= 4.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.45E+00	2.21E+00	9.00E+00	1.19E-01	1.16E-01	3.28E+01
INFANT	GROUND	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03
INFANT	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.53E+00	2.29E+00	9.08E+00	1.95E-01	1.91E-01	3.29E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.69E+00	1.60E+00	4.29E+00	4.65E-02	3.79E-02	3.28E+01
CHILD	GROUND	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03
CHILD	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
CHILD	VEG. ING	1.21E-02	1.58E-01	9.74E-03	9.74E-03	3.89E-02	0.00E+00
CHILD	MEAT ING	1.15E-03	1.58E-02	1.48E-03	1.48E-03	3.48E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.77E+00	1.85E+00	4.38E+00	1.33E-01	1.56E-01	3.29E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.37E+00	1.74E+00	2.24E+00	2.13E-02	2.04E-02	3.28E+01
TEENAGE	GROUND	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03
TEENAGE	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
TEENAGE	VEG. ING	2.00E-02	2.61E-01	1.61E-02	1.61E-02	6.44E-02	0.00E+00
TEENAGE	MEAT ING	1.86E-03	2.56E-02	2.41E-03	2.41E-03	5.66E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.47E+00	2.11E+00	2.33E+00	1.15E-01	1.66E-01	3.29E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.32E+00	1.64E+00	1.86E+00	1.68E-02	1.50E-02	3.28E+01
ADULT	GROUND	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03	7.79E-03
ADULT	CLOUD	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02	6.76E-02
ADULT	VEG. ING	2.76E-02	3.60E-01	2.22E-02	2.22E-02	8.89E-02	0.00E+00
ADULT	MEAT ING	3.25E-03	4.47E-02	4.21E-03	4.21E-03	9.89E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.43E+00	2.12E+00	1.96E+00	1.19E-01	1.89E-01	3.29E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 33 NAME=Daniels Ranch X= 2.1KM, Y= 0.0KM, Z= 0.0M, DIST= 2.1KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.23E+00	1.83E+00	7.47E+00	7.97E-02	8.84E-02	0.00E+00
INFANT	GROUND	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04
INFANT	CLOUD	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.23E+00	1.83E+00	7.47E+00	8.00E-02	8.87E-02	3.39E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.93E-01	1.33E+00	3.56E+00	3.00E-02	2.79E-02	0.00E+00
CHILD	GROUND	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04
CHILD	CLOUD	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08
CHILD	VEG. ING	9.75E-03	1.28E-01	7.22E-03	7.22E-03	3.15E-02	0.00E+00
CHILD	MEAT ING	9.11E-04	1.26E-02	1.10E-03	1.10E-03	2.78E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.04E-01	1.47E+00	3.57E+00	3.86E-02	6.26E-02	3.39E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.32E-01	1.44E+00	1.86E+00	1.40E-02	1.52E-02	0.00E+00
TEENAGE	GROUND	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04
TEENAGE	CLOUD	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08
TEENAGE	VEG. ING	1.61E-02	2.11E-01	1.20E-02	1.20E-02	5.22E-02	0.00E+00
TEENAGE	MEAT ING	1.48E-03	2.05E-02	1.78E-03	1.78E-03	4.51E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.50E-01	1.67E+00	1.87E+00	2.80E-02	7.22E-02	3.39E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.90E-01	1.36E+00	1.54E+00	1.09E-02	1.09E-02	0.00E+00
ADULT	GROUND	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04	3.39E-04
ADULT	CLOUD	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08	5.18E-08
ADULT	VEG. ING	2.23E-02	2.92E-01	1.65E-02	1.65E-02	7.21E-02	0.00E+00
ADULT	MEAT ING	2.58E-03	3.58E-02	3.12E-03	3.12E-03	7.89E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.15E-01	1.68E+00	1.56E+00	3.08E-02	9.12E-02	3.39E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 33 NAME=Daniels Ranch X= 2.1KM, Y= 0.0KM, Z= 0.0M, DIST= 2.1KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.45E+00	1.84E+00	7.47E+00	1.22E-01	1.05E-01	2.04E+01
INFANT	GROUND	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03
INFANT	CLOUD	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.51E+00	1.89E+00	7.53E+00	1.76E-01	1.59E-01	2.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.82E+00	1.33E+00	3.56E+00	4.86E-02	3.56E-02	2.04E+01
CHILD	GROUND	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03
CHILD	CLOUD	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02
CHILD	VEG. ING	1.03E-02	1.34E-01	9.06E-03	9.06E-03	3.30E-02	0.00E+00
CHILD	MEAT ING	9.93E-04	1.36E-02	1.38E-03	1.38E-03	3.01E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.88E+00	1.53E+00	3.63E+00	1.13E-01	1.26E-01	2.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.56E+00	1.45E+00	1.86E+00	2.20E-02	1.90E-02	2.04E+01
TEENAGE	GROUND	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03
TEENAGE	CLOUD	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02
TEENAGE	VEG. ING	1.70E-02	2.21E-01	1.50E-02	1.50E-02	5.47E-02	0.00E+00
TEENAGE	MEAT ING	1.61E-03	2.20E-02	2.24E-03	2.24E-03	4.89E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.63E+00	1.75E+00	1.93E+00	9.32E-02	1.33E-01	2.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.51E+00	1.36E+00	1.54E+00	1.75E-02	1.41E-02	2.04E+01
ADULT	GROUND	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03	5.76E-03
ADULT	CLOUD	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02	4.82E-02
ADULT	VEG. ING	2.35E-02	3.06E-01	2.07E-02	2.07E-02	7.55E-02	0.00E+00
ADULT	MEAT ING	2.82E-03	3.85E-02	3.92E-03	3.92E-03	8.54E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.59E+00	1.76E+00	1.62E+00	9.61E-02	1.52E-01	2.04E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  97
 METSET:                             DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 34  NAME=Spencer Ranch         X=  -2.0KM, Y=   1.2KM, Z=   0.0M, DIST=   2.3KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.06E+00	4.60E+00	1.86E+01	2.02E-01	2.23E-01	0.00E+00
INFANT	GROUND	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04
INFANT	CLOUD	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.06E+00	4.60E+00	1.86E+01	2.03E-01	2.24E-01	8.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.48E+00	3.34E+00	8.87E+00	7.59E-02	7.06E-02	0.00E+00
CHILD	GROUND	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04
CHILD	CLOUD	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07
CHILD	VEG. ING	2.47E-02	3.24E-01	1.83E-02	1.83E-02	7.99E-02	0.00E+00
CHILD	MEAT ING	2.31E-03	3.20E-02	2.78E-03	2.78E-03	7.05E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.51E+00	3.69E+00	8.89E+00	9.78E-02	1.58E-01	8.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.28E-01	3.62E+00	4.62E+00	3.54E-02	3.83E-02	0.00E+00
TEENAGE	GROUND	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04
TEENAGE	CLOUD	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07
TEENAGE	VEG. ING	4.09E-02	5.36E-01	3.03E-02	3.03E-02	1.32E-01	0.00E+00
TEENAGE	MEAT ING	3.75E-03	5.19E-02	4.52E-03	4.52E-03	1.14E-02	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.74E-01	4.21E+00	4.66E+00	7.10E-02	1.83E-01	8.59E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.23E-01	3.41E+00	3.85E+00	2.75E-02	2.76E-02	0.00E+00
ADULT	GROUND	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04	8.59E-04
ADULT	CLOUD	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07	1.31E-07
ADULT	VEG. ING	5.65E-02	7.40E-01	4.18E-02	4.18E-02	1.83E-01	0.00E+00
ADULT	MEAT ING	6.55E-03	9.07E-02	7.90E-03	7.90E-03	2.00E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.87E-01	4.24E+00	3.90E+00	7.81E-02	2.31E-01	8.59E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 34 NAME=Spencer Ranch X= -2.0KM, Y= 1.2KM, Z= 0.0M, DIST= 2.3KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	4.39E+00	4.61E+00	1.86E+01	2.43E-01	2.39E-01	2.21E+01
INFANT	GROUND	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02
INFANT	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	4.49E+00	4.70E+00	1.87E+01	3.39E-01	3.35E-01	2.22E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.81E+00	3.34E+00	8.87E+00	9.43E-02	7.81E-02	2.21E+01
CHILD	GROUND	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02
CHILD	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
CHILD	VEG. ING	2.53E-02	3.30E-01	2.01E-02	2.01E-02	8.14E-02	0.00E+00
CHILD	MEAT ING	2.39E-03	3.29E-02	3.07E-03	3.07E-03	7.28E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.93E+00	3.80E+00	8.99E+00	2.13E-01	2.62E-01	2.22E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.16E+00	3.64E+00	4.62E+00	4.32E-02	4.21E-02	2.21E+01
TEENAGE	GROUND	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02
TEENAGE	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
TEENAGE	VEG. ING	4.18E-02	5.46E-01	3.33E-02	3.33E-02	1.35E-01	0.00E+00
TEENAGE	MEAT ING	3.88E-03	5.34E-02	4.98E-03	4.98E-03	1.18E-02	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.30E+00	4.33E+00	4.76E+00	1.77E-01	2.84E-01	2.22E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.05E+00	3.42E+00	3.85E+00	3.40E-02	3.08E-02	2.21E+01
ADULT	GROUND	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02	1.15E-02
ADULT	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
ADULT	VEG. ING	5.78E-02	7.54E-01	4.60E-02	4.60E-02	1.86E-01	0.00E+00
ADULT	MEAT ING	6.78E-03	9.34E-02	8.70E-03	8.70E-03	2.06E-02	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.21E+00	4.36E+00	4.00E+00	1.84E-01	3.33E-01	2.22E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 35 NAME=BC Ranch X= -6.6KM, Y= 3.8KM, Z= 0.0M, DIST= 7.7KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.34E+00	2.00E+00	8.16E+00	8.76E-02	9.71E-02	0.00E+00
INFANT	GROUND	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04
INFANT	CLOUD	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.34E+00	2.00E+00	8.16E+00	8.80E-02	9.74E-02	3.73E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.48E-01	1.45E+00	3.89E+00	3.30E-02	3.07E-02	0.00E+00
CHILD	GROUND	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04
CHILD	CLOUD	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08
CHILD	VEG. ING	1.07E-02	1.40E-01	7.95E-03	7.95E-03	3.47E-02	0.00E+00
CHILD	MEAT ING	1.00E-03	1.39E-02	1.21E-03	1.21E-03	3.06E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.60E-01	1.61E+00	3.90E+00	4.25E-02	6.88E-02	3.73E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.63E-01	1.58E+00	2.03E+00	1.54E-02	1.67E-02	0.00E+00
TEENAGE	GROUND	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04
TEENAGE	CLOUD	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08
TEENAGE	VEG. ING	1.78E-02	2.32E-01	1.31E-02	1.31E-02	5.74E-02	0.00E+00
TEENAGE	MEAT ING	1.63E-03	2.25E-02	1.96E-03	1.96E-03	4.96E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	3.82E-01	1.83E+00	2.04E+00	3.08E-02	7.94E-02	3.73E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.16E-01	1.49E+00	1.69E+00	1.19E-02	1.20E-02	0.00E+00
ADULT	GROUND	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04	3.73E-04
ADULT	CLOUD	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08	5.70E-08
ADULT	VEG. ING	2.45E-02	3.21E-01	1.82E-02	1.82E-02	7.93E-02	0.00E+00
ADULT	MEAT ING	2.84E-03	3.93E-02	3.43E-03	3.43E-03	8.68E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	3.44E-01	1.85E+00	1.71E+00	3.39E-02	1.00E-01	3.73E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 35 NAME=BC Ranch X= -6.6KM, Y= 3.8KM, Z= 0.0M, DIST= 7.7KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.23E+00	2.01E+00	8.16E+00	1.14E-01	1.07E-01	1.47E+01
INFANT	GROUND	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03
INFANT	CLOUD	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.27E+00	2.05E+00	8.20E+00	1.59E-01	1.52E-01	1.48E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.53E+00	1.46E+00	3.89E+00	4.47E-02	3.55E-02	1.47E+01
CHILD	GROUND	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03
CHILD	CLOUD	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
CHILD	VEG. ING	1.11E-02	1.44E-01	9.10E-03	9.10E-03	3.56E-02	0.00E+00
CHILD	MEAT ING	1.05E-03	1.45E-02	1.39E-03	1.39E-03	3.20E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.59E+00	1.66E+00	3.94E+00	1.00E-01	1.19E-01	1.48E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.25E+00	1.59E+00	2.03E+00	2.04E-02	1.91E-02	1.47E+01
TEENAGE	GROUND	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03
TEENAGE	CLOUD	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
TEENAGE	VEG. ING	1.83E-02	2.39E-01	1.51E-02	1.51E-02	5.90E-02	0.00E+00
TEENAGE	MEAT ING	1.71E-03	2.35E-02	2.25E-03	2.25E-03	5.20E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.31E+00	1.89E+00	2.09E+00	8.25E-02	1.28E-01	1.48E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.20E+00	1.49E+00	1.69E+00	1.61E-02	1.40E-02	1.47E+01
ADULT	GROUND	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03	5.49E-03
ADULT	CLOUD	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02	3.93E-02
ADULT	VEG. ING	2.53E-02	3.30E-01	2.08E-02	2.08E-02	8.14E-02	0.00E+00
ADULT	MEAT ING	2.99E-03	4.11E-02	3.93E-03	3.93E-03	9.09E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.27E+00	1.91E+00	1.76E+00	8.57E-02	1.49E-01	1.48E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 101
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 36  NAME=Puttman Ranch         X=  -5.2KM, Y=   7.2KM, Z=   0.0M, DIST=   8.9KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	4.12E-01	5.91E-01	2.52E+00	2.51E-02	2.81E-02	0.00E+00
INFANT	GROUND	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04
INFANT	CLOUD	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	4.12E-01	5.91E-01	2.52E+00	2.53E-02	2.82E-02	1.06E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.99E-01	4.29E-01	1.20E+00	9.46E-03	8.88E-03	0.00E+00
CHILD	GROUND	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04
CHILD	CLOUD	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08
CHILD	VEG. ING	3.05E-03	3.99E-02	2.26E-03	2.26E-03	9.87E-03	0.00E+00
CHILD	MEAT ING	2.85E-04	3.95E-03	3.44E-04	3.44E-04	8.70E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.02E-01	4.73E-01	1.20E+00	1.22E-02	1.97E-02	1.06E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.11E-01	4.65E-01	6.26E-01	4.41E-03	4.82E-03	0.00E+00
TEENAGE	GROUND	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04
TEENAGE	CLOUD	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08
TEENAGE	VEG. ING	5.06E-03	6.61E-02	3.74E-03	3.74E-03	1.63E-02	0.00E+00
TEENAGE	MEAT ING	4.63E-04	6.41E-03	5.58E-04	5.58E-04	1.41E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.17E-01	5.37E-01	6.31E-01	8.82E-03	2.27E-02	1.06E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.70E-02	4.39E-01	5.21E-01	3.43E-03	3.48E-03	0.00E+00
ADULT	GROUND	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04	1.06E-04
ADULT	CLOUD	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08	1.62E-08
ADULT	VEG. ING	6.98E-03	9.13E-02	5.17E-03	5.17E-03	2.26E-02	0.00E+00
ADULT	MEAT ING	8.09E-04	1.12E-02	9.75E-04	9.75E-04	2.47E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.05E-01	5.41E-01	5.27E-01	9.68E-03	2.86E-02	1.06E-04

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE 102
 METSET:                            DATA: DB.MIL                      05/24/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 36  NAME=Puttman Ranch         X=  -5.2KM, Y=   7.2KM, Z=   0.0M, DIST=   8.9KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.13E-01	5.98E-01	2.52E+00	6.33E-02	4.29E-02	6.66E+00
INFANT	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
INFANT	CLOUD	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.53E-01	6.38E-01	2.56E+00	1.03E-01	8.29E-02	6.70E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.99E-01	4.35E-01	1.20E+00	2.64E-02	1.59E-02	6.66E+00
CHILD	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
CHILD	CLOUD	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02
CHILD	VEG. ING	3.54E-03	4.56E-02	3.93E-03	3.93E-03	1.12E-02	0.00E+00
CHILD	MEAT ING	3.60E-04	4.82E-03	6.03E-04	6.03E-04	1.08E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.43E-01	5.25E-01	1.25E+00	7.09E-02	6.81E-02	6.70E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	5.12E-01	4.79E-01	6.26E-01	1.17E-02	8.31E-03	6.66E+00
TEENAGE	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
TEENAGE	CLOUD	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02
TEENAGE	VEG. ING	5.86E-03	7.55E-02	6.51E-03	6.51E-03	1.86E-02	0.00E+00
TEENAGE	MEAT ING	5.85E-04	7.82E-03	9.78E-04	9.78E-04	1.75E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	5.58E-01	6.02E-01	6.74E-01	5.91E-02	6.86E-02	6.70E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	4.97E-01	4.47E-01	5.21E-01	9.49E-03	6.39E-03	6.66E+00
ADULT	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
ADULT	CLOUD	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02	3.81E-02
ADULT	VEG. ING	8.10E-03	1.04E-01	8.99E-03	8.99E-03	2.57E-02	0.00E+00
ADULT	MEAT ING	1.02E-03	1.37E-02	1.71E-03	1.71E-03	3.07E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	5.46E-01	6.04E-01	5.72E-01	6.01E-02	7.51E-02	6.70E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 103
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 37  NAME=Englebert Ranch       X=   0.3KM, Y=  -4.8KM, Z=   0.0M, DIST=   4.8KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.86E-01	5.46E-01	2.37E+00	2.30E-02	2.58E-02	0.00E+00
INFANT	GROUND	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05
INFANT	CLOUD	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	3.86E-01	5.47E-01	2.37E+00	2.31E-02	2.59E-02	9.68E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.86E-01	3.97E-01	1.13E+00	8.67E-03	8.15E-03	0.00E+00
CHILD	GROUND	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05
CHILD	CLOUD	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08
CHILD	VEG. ING	2.79E-03	3.65E-02	2.06E-03	2.06E-03	9.01E-03	0.00E+00
CHILD	MEAT ING	2.60E-04	3.60E-03	3.14E-04	3.14E-04	7.94E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.90E-01	4.37E-01	1.13E+00	1.11E-02	1.81E-02	9.68E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.04E-01	4.30E-01	5.88E-01	4.04E-03	4.43E-03	0.00E+00
TEENAGE	GROUND	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05
TEENAGE	CLOUD	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08
TEENAGE	VEG. ING	4.62E-03	6.04E-02	3.42E-03	3.42E-03	1.49E-02	0.00E+00
TEENAGE	MEAT ING	4.22E-04	5.85E-03	5.09E-04	5.09E-04	1.29E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.09E-01	4.96E-01	5.92E-01	8.07E-03	2.07E-02	9.68E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.08E-02	4.06E-01	4.90E-01	3.15E-03	3.20E-03	0.00E+00
ADULT	GROUND	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05	9.68E-05
ADULT	CLOUD	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08	1.48E-08
ADULT	VEG. ING	6.37E-03	8.34E-02	4.72E-03	4.72E-03	2.06E-02	0.00E+00
ADULT	MEAT ING	7.38E-04	1.02E-02	8.90E-04	8.90E-04	2.25E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.80E-02	4.99E-01	4.95E-01	8.85E-03	2.61E-02	9.68E-05

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 37 NAME=Englebert Ranch X= 0.3KM, Y= -4.8KM, Z= 0.0M, DIST= 4.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.22E+00	5.69E-01	2.37E+00	1.40E-01	7.14E-02	1.38E+01
INFANT	GROUND	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03
INFANT	CLOUD	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.32E+00	6.65E-01	2.47E+00	2.36E-01	1.67E-01	1.39E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.02E+00	4.14E-01	1.13E+00	6.08E-02	2.96E-02	1.38E+01
CHILD	GROUND	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03
CHILD	CLOUD	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02
CHILD	VEG. ING	4.28E-03	5.38E-02	7.20E-03	7.20E-03	1.32E-02	0.00E+00
CHILD	MEAT ING	4.92E-04	6.28E-03	1.11E-03	1.11E-03	1.44E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.12E+00	5.70E-01	1.23E+00	1.65E-01	1.40E-01	1.39E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.35E-01	4.72E-01	5.89E-01	2.64E-02	1.52E-02	1.38E+01
TEENAGE	GROUND	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03
TEENAGE	CLOUD	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02
TEENAGE	VEG. ING	7.09E-03	8.90E-02	1.19E-02	1.19E-02	2.18E-02	0.00E+00
TEENAGE	MEAT ING	7.98E-04	1.02E-02	1.80E-03	1.80E-03	2.34E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.04E+00	6.67E-01	6.98E-01	1.36E-01	1.35E-01	1.39E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.21E-01	4.30E-01	4.90E-01	2.18E-02	1.21E-02	1.38E+01
ADULT	GROUND	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03	2.59E-03
ADULT	CLOUD	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02	9.33E-02
ADULT	VEG. ING	9.80E-03	1.23E-01	1.65E-02	1.65E-02	3.02E-02	0.00E+00
ADULT	MEAT ING	1.40E-03	1.78E-02	3.15E-03	3.15E-03	4.09E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.03E+00	6.67E-01	6.06E-01	1.37E-01	1.42E-01	1.39E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 105
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 38  NAME=Burdock School        X=  -2.3KM, Y=  -2.0KM, Z=   0.0M, DIST=   3.0KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.21E-01	8.81E-01	3.82E+00	3.71E-02	4.16E-02	0.00E+00
INFANT	GROUND	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04
INFANT	CLOUD	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.22E-01	8.81E-01	3.82E+00	3.73E-02	4.18E-02	1.56E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.00E-01	6.40E-01	1.82E+00	1.40E-02	1.31E-02	0.00E+00
CHILD	GROUND	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04
CHILD	CLOUD	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08
CHILD	VEG. ING	4.50E-03	5.88E-02	3.33E-03	3.33E-03	1.45E-02	0.00E+00
CHILD	MEAT ING	4.20E-04	5.81E-03	5.06E-04	5.06E-04	1.28E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	3.05E-01	7.04E-01	1.82E+00	1.80E-02	2.91E-02	1.56E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.68E-01	6.92E-01	9.47E-01	6.52E-03	7.14E-03	0.00E+00
TEENAGE	GROUND	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04
TEENAGE	CLOUD	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08
TEENAGE	VEG. ING	7.44E-03	9.74E-02	5.51E-03	5.51E-03	2.41E-02	0.00E+00
TEENAGE	MEAT ING	6.81E-04	9.43E-03	8.22E-04	8.22E-04	2.08E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.76E-01	7.99E-01	9.54E-01	1.30E-02	3.34E-02	1.56E-04

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.46E-01	6.54E-01	7.88E-01	5.07E-03	5.15E-03	0.00E+00
ADULT	GROUND	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04	1.56E-04
ADULT	CLOUD	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08	2.39E-08
ADULT	VEG. ING	1.03E-02	1.34E-01	7.61E-03	7.61E-03	3.32E-02	0.00E+00
ADULT	MEAT ING	1.19E-03	1.65E-02	1.44E-03	1.44E-03	3.63E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.58E-01	8.05E-01	7.98E-01	1.43E-02	4.22E-02	1.56E-04

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 38 NAME=Burdock School X= -2.3KM, Y= -2.0KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.55E+00	8.96E-01	3.82E+00	1.18E-01	7.31E-02	1.53E+01
INFANT	GROUND	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03
INFANT	CLOUD	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.64E+00	9.90E-01	3.91E+00	2.11E-01	1.66E-01	1.54E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.22E+00	6.51E-01	1.82E+00	5.00E-02	2.80E-02	1.53E+01
CHILD	GROUND	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03
CHILD	CLOUD	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02
CHILD	VEG. ING	5.53E-03	7.07E-02	6.88E-03	6.88E-03	1.74E-02	0.00E+00
CHILD	MEAT ING	5.80E-04	7.66E-03	1.06E-03	1.06E-03	1.73E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.32E+00	8.23E-01	1.92E+00	1.51E-01	1.40E-01	1.54E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.09E+00	7.22E-01	9.48E-01	2.20E-02	1.45E-02	1.53E+01
TEENAGE	GROUND	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03
TEENAGE	CLOUD	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02
TEENAGE	VEG. ING	9.16E-03	1.17E-01	1.14E-02	1.14E-02	2.88E-02	0.00E+00
TEENAGE	MEAT ING	9.41E-04	1.24E-02	1.71E-03	1.71E-03	2.81E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.19E+00	9.44E-01	1.05E+00	1.28E-01	1.39E-01	1.54E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.07E+00	6.71E-01	7.89E-01	1.79E-02	1.13E-02	1.53E+01
ADULT	GROUND	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03	3.38E-03
ADULT	CLOUD	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02	8.99E-02
ADULT	VEG. ING	1.26E-02	1.62E-01	1.57E-02	1.57E-02	3.98E-02	0.00E+00
ADULT	MEAT ING	1.64E-03	2.17E-02	2.99E-03	2.99E-03	4.90E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.18E+00	9.48E-01	9.01E-01	1.30E-01	1.49E-01	1.54E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 107
 METSET:                            DATA: DB.MIL                       05/24/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 39  NAME=Heck Ranch            X=   1.7KM, Y=  -6.4KM, Z=   0.0M, DIST=   6.6KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.99E-01	4.23E-01	1.83E+00	1.78E-02	1.99E-02	0.00E+00
INFANT	GROUND	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05
INFANT	CLOUD	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.99E-01	4.23E-01	1.83E+00	1.79E-02	2.00E-02	7.48E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.44E-01	3.07E-01	8.74E-01	6.69E-03	6.30E-03	0.00E+00
CHILD	GROUND	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05
CHILD	CLOUD	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08
CHILD	VEG. ING	2.15E-03	2.82E-02	1.59E-03	1.59E-03	6.96E-03	0.00E+00
CHILD	MEAT ING	2.01E-04	2.78E-03	2.42E-04	2.42E-04	6.14E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.47E-01	3.38E-01	8.76E-01	8.61E-03	1.39E-02	7.48E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.06E-02	3.32E-01	4.56E-01	3.12E-03	3.42E-03	0.00E+00
TEENAGE	GROUND	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05
TEENAGE	CLOUD	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08
TEENAGE	VEG. ING	3.56E-03	4.66E-02	2.64E-03	2.64E-03	1.15E-02	0.00E+00
TEENAGE	MEAT ING	3.26E-04	4.52E-03	3.93E-04	3.93E-04	9.96E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.46E-02	3.83E-01	4.59E-01	6.23E-03	1.60E-02	7.48E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.03E-02	3.14E-01	3.79E-01	2.43E-03	2.47E-03	0.00E+00
ADULT	GROUND	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05	7.48E-05
ADULT	CLOUD	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08	1.14E-08
ADULT	VEG. ING	4.92E-03	6.44E-02	3.64E-03	3.64E-03	1.59E-02	0.00E+00
ADULT	MEAT ING	5.70E-04	7.89E-03	6.88E-04	6.88E-04	1.74E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.59E-02	3.86E-01	3.83E-01	6.84E-03	2.02E-02	7.48E-05

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 39 NAME=Heck Ranch X= 1.7KM, Y= -6.4KM, Z= 0.0M, DIST= 6.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.60E-01	4.48E-01	1.84E+00	1.49E-01	7.11E-02	1.09E+01
INFANT	GROUND	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03
INFANT	CLOUD	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.04E+00	5.28E-01	1.92E+00	2.30E-01	1.52E-01	1.10E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	8.02E-01	3.26E-01	8.75E-01	6.51E-02	3.03E-02	1.09E+01
CHILD	GROUND	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03
CHILD	CLOUD	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02
CHILD	VEG. ING	3.83E-03	4.75E-02	7.36E-03	7.36E-03	1.17E-02	0.00E+00
CHILD	MEAT ING	4.61E-04	5.78E-03	1.13E-03	1.13E-03	1.34E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	8.87E-01	4.60E-01	9.64E-01	1.54E-01	1.24E-01	1.10E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	7.38E-01	3.79E-01	4.56E-01	2.82E-02	1.54E-02	1.09E+01
TEENAGE	GROUND	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03
TEENAGE	CLOUD	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02
TEENAGE	VEG. ING	6.34E-03	7.87E-02	1.22E-02	1.22E-02	1.93E-02	0.00E+00
TEENAGE	MEAT ING	7.48E-04	9.39E-03	1.84E-03	1.84E-03	2.17E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.26E-01	5.48E-01	5.51E-01	1.23E-01	1.17E-01	1.10E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.27E-01	3.41E-01	3.79E-01	2.33E-02	1.25E-02	1.09E+01
ADULT	GROUND	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03	2.03E-03
ADULT	CLOUD	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02	7.85E-02
ADULT	VEG. ING	8.76E-03	1.09E-01	1.68E-02	1.68E-02	2.66E-02	0.00E+00
ADULT	MEAT ING	1.31E-03	1.64E-02	3.22E-03	3.22E-03	3.80E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	8.18E-01	5.47E-01	4.80E-01	1.24E-01	1.23E-01	1.10E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 40 NAME=Edgemont X= 11.0KM, Y= -18.6KM, Z= 0.0M, DIST= 21.6KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.66E-02	1.35E-01	5.95E-01	5.62E-03	6.33E-03	0.00E+00
INFANT	GROUND	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05
INFANT	CLOUD	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.67E-02	1.35E-01	5.95E-01	5.65E-03	6.35E-03	2.36E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.67E-02	9.80E-02	2.83E-01	2.12E-03	2.00E-03	0.00E+00
CHILD	GROUND	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05
CHILD	CLOUD	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09
CHILD	VEG. ING	6.79E-04	8.88E-03	5.03E-04	5.03E-04	2.19E-03	0.00E+00
CHILD	MEAT ING	6.34E-05	8.77E-04	7.64E-05	7.64E-05	1.93E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.74E-02	1.08E-01	2.84E-01	2.72E-03	4.41E-03	2.36E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.61E-02	1.06E-01	1.48E-01	9.88E-04	1.08E-03	0.00E+00
TEENAGE	GROUND	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05
TEENAGE	CLOUD	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09
TEENAGE	VEG. ING	1.12E-03	1.47E-02	8.32E-04	8.32E-04	3.63E-03	0.00E+00
TEENAGE	MEAT ING	1.03E-04	1.42E-03	1.24E-04	1.24E-04	3.14E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.73E-02	1.22E-01	1.49E-01	1.97E-03	5.05E-03	2.36E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.27E-02	1.00E-01	1.23E-01	7.69E-04	7.83E-04	0.00E+00
ADULT	GROUND	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05	2.36E-05
ADULT	CLOUD	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09	3.60E-09
ADULT	VEG. ING	1.55E-03	2.03E-02	1.15E-03	1.15E-03	5.01E-03	0.00E+00
ADULT	MEAT ING	1.80E-04	2.49E-03	2.17E-04	2.17E-04	5.49E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.45E-02	1.23E-01	1.24E-01	2.16E-03	6.37E-03	2.36E-05

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 40 NAME=Edgemont X= 11.0KM, Y= -18.6KM, Z= 0.0M, DIST= 21.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.73E-01	1.60E-01	5.97E-01	1.37E-01	5.75E-02	2.81E+00
INFANT	GROUND	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04
INFANT	CLOUD	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.97E-01	1.84E-01	6.21E-01	1.61E-01	8.11E-02	2.83E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.19E-01	1.17E-01	2.85E-01	6.06E-02	2.61E-02	2.81E+00
CHILD	GROUND	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04
CHILD	CLOUD	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02
CHILD	VEG. ING	2.36E-03	2.83E-02	6.27E-03	6.27E-03	6.89E-03	0.00E+00
CHILD	MEAT ING	3.23E-04	3.88E-03	9.68E-04	9.68E-04	9.20E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.46E-01	1.73E-01	3.15E-01	9.14E-02	5.75E-02	2.83E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.99E-01	1.53E-01	1.48E-01	2.60E-02	1.31E-02	2.81E+00
TEENAGE	GROUND	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04
TEENAGE	CLOUD	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02
TEENAGE	VEG. ING	3.90E-03	4.68E-02	1.04E-02	1.04E-02	1.14E-02	0.00E+00
TEENAGE	MEAT ING	5.24E-04	6.30E-03	1.57E-03	1.57E-03	1.49E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.27E-01	2.30E-01	1.84E-01	6.16E-02	4.96E-02	2.83E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.95E-01	1.28E-01	1.23E-01	2.16E-02	1.08E-02	2.81E+00
ADULT	GROUND	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04	5.75E-04
ADULT	CLOUD	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02	2.30E-02
ADULT	VEG. ING	5.39E-03	6.46E-02	1.43E-02	1.43E-02	1.58E-02	0.00E+00
ADULT	MEAT ING	9.17E-04	1.10E-02	2.75E-03	2.75E-03	2.61E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.25E-01	2.27E-01	1.64E-01	6.23E-02	5.28E-02	2.83E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 41 NAME=Background X= -5.3KM, Y= -3.0KM, Z= 0.0M, DIST= 6.0KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.59E-01	3.64E-01	1.59E+00	1.53E-02	1.71E-02	0.00E+00
INFANT	GROUND	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05
INFANT	CLOUD	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.59E-01	3.64E-01	1.59E+00	1.53E-02	1.72E-02	6.41E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.25E-01	2.65E-01	7.59E-01	5.74E-03	5.41E-03	0.00E+00
CHILD	GROUND	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05
CHILD	CLOUD	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09
CHILD	VEG. ING	1.84E-03	2.41E-02	1.37E-03	1.37E-03	5.96E-03	0.00E+00
CHILD	MEAT ING	1.72E-04	2.38E-03	2.08E-04	2.08E-04	5.26E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.27E-01	2.91E-01	7.61E-01	7.38E-03	1.20E-02	6.41E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.99E-02	2.86E-01	3.96E-01	2.68E-03	2.94E-03	0.00E+00
TEENAGE	GROUND	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05
TEENAGE	CLOUD	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09
TEENAGE	VEG. ING	3.05E-03	3.99E-02	2.26E-03	2.26E-03	9.87E-03	0.00E+00
TEENAGE	MEAT ING	2.79E-04	3.87E-03	3.37E-04	3.37E-04	8.53E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	7.33E-02	3.30E-01	3.98E-01	5.34E-03	1.37E-02	6.41E-05

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.10E-02	2.70E-01	3.29E-01	2.09E-03	2.12E-03	0.00E+00
ADULT	GROUND	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05	6.41E-05
ADULT	CLOUD	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09	9.80E-09
ADULT	VEG. ING	4.22E-03	5.52E-02	3.12E-03	3.12E-03	1.36E-02	0.00E+00
ADULT	MEAT ING	4.88E-04	6.76E-03	5.89E-04	5.89E-04	1.49E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	6.58E-02	3.32E-01	3.33E-01	5.86E-03	1.73E-02	6.41E-05

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 41 NAME=Background X= -5.3KM, Y= -3.0KM, Z= 0.0M, DIST= 6.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.11E-01	3.82E-01	1.60E+00	1.06E-01	5.22E-02	9.10E+00
INFANT	GROUND	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03
INFANT	CLOUD	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.78E-01	4.49E-01	1.66E+00	1.73E-01	1.20E-01	9.17E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.74E-01	2.78E-01	7.60E-01	4.59E-02	2.19E-02	9.10E+00
CHILD	GROUND	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03
CHILD	CLOUD	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02
CHILD	VEG. ING	3.00E-03	3.74E-02	5.32E-03	5.32E-03	9.18E-03	0.00E+00
CHILD	MEAT ING	3.50E-04	4.44E-03	8.20E-04	8.20E-04	1.02E-03	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.45E-01	3.87E-01	8.34E-01	1.20E-01	9.97E-02	9.17E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.19E-01	3.19E-01	3.96E-01	1.99E-02	1.12E-02	9.10E+00
TEENAGE	GROUND	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03
TEENAGE	CLOUD	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02
TEENAGE	VEG. ING	4.96E-03	6.20E-02	8.81E-03	8.81E-03	1.52E-02	0.00E+00
TEENAGE	MEAT ING	5.69E-04	7.21E-03	1.33E-03	1.33E-03	1.66E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.92E-01	4.55E-01	4.74E-01	9.76E-02	9.56E-02	9.17E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.09E-01	2.89E-01	3.30E-01	1.64E-02	9.00E-03	9.10E+00
ADULT	GROUND	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03	1.71E-03
ADULT	CLOUD	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02	6.58E-02
ADULT	VEG. ING	6.85E-03	8.56E-02	1.22E-02	1.22E-02	2.10E-02	0.00E+00
ADULT	MEAT ING	9.94E-04	1.26E-02	2.33E-03	2.33E-03	2.91E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	6.85E-01	4.55E-01	4.12E-01	9.84E-02	1.00E-01	9.17E+00

0Program execution time = 3.73 seconds

APPENDIX 7.3-B

MILDOS AREA SIMULATION FOR DEEP DISPOSAL WELL

```
11REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE   1
 METSET:                            DATA: DB.MIL                      10/06/11
0                             TABLE OF CONTENTS
```

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 2
METSET: DATA: DB.MIL 10/06/11
JOINT FREQUENCY IN PERCENT, DIRECTION INDICATES WHERE WIND IS FROM FREQWS=0.27672,0.32202,0.22235,0.13487,0.03587,0.00810

MPH	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTALS
STABILITY CLASS 1																	
1.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0270	0.0000	0.0270	0.0270	0.0410	0.0410	0.0140	0.0270	0.0410	0.0000	0.0000	0.2450
5.5	0.0000	0.0130	0.0000	0.0000	0.0000	0.0000	0.0260	0.0390	0.0520	0.0790	0.0390	0.0790	0.0390	0.0520	0.0000	0.0000	0.4180
10.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.0000	0.0130	0.0000	0.0000	0.0000	0.0270	0.0260	0.0660	0.0790	0.1200	0.0800	0.0930	0.0660	0.0930	0.0000	0.0000	0.6630
STABILITY CLASS 2																	
1.5	0.2740	0.1100	0.1100	0.0820	0.0820	0.0410	0.1780	0.2600	0.5210	0.5070	0.3560	0.3700	0.3840	0.4380	0.4380	0.3970	4.5480
5.5	0.0520	0.0000	0.0000	0.0260	0.0130	0.0390	0.1960	0.4190	0.3140	0.1700	0.2230	0.2880	0.5370	0.4190	0.1830	0.1050	2.9840
10.0	0.0000	0.0000	0.0000	0.0000	0.0130	0.0650	0.2100	0.1440	0.0520	0.0130	0.0390	0.0260	0.1440	0.3400	0.0920	0.0130	1.1510
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.3260	0.1100	0.1100	0.1080	0.1080	0.1450	0.5840	0.8230	0.8870	0.6900	0.6180	0.6840	1.0650	1.1970	0.7130	0.5150	8.6830
STABILITY CLASS 3																	
1.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
5.5	0.1310	0.0390	0.0130	0.0260	0.1310	0.1960	0.3800	0.4850	0.5500	0.1570	0.1700	0.3930	0.6550	1.1520	0.7070	0.5110	5.6960
10.0	0.0000	0.0000	0.0000	0.0130	0.1700	0.3270	0.4190	0.3400	0.0790	0.0920	0.0650	0.1310	0.1310	0.8910	0.4850	0.1830	3.3260
15.5	0.0000	0.0000	0.0000	0.0000	0.0130	0.0130	0.0130	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390	0.0130	0.1440	0.0000	0.2350
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0390	0.0390	0.0000	0.0780
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	0.1310	0.0390	0.0130	0.0390	0.3140	0.5360	0.8120	0.8250	0.6290	0.2490	0.2350	0.5240	0.8250	2.0950	1.3750	0.6940	9.3350
STABILITY CLASS 4																	
1.5	0.8490	0.7670	0.2740	0.1780	0.3290	0.1640	0.1100	0.2740	0.2740	0.3420	0.1370	0.2330	0.1640	0.3700	0.5620	0.6580	5.6850
5.5	1.0200	0.4980	0.2750	0.5630	0.7600	0.7860	0.6020	0.4580	0.3010	0.1960	0.0920	0.2230	0.3540	1.1660	1.6370	1.5190	10.4500
10.0	0.2230	0.1700	0.4060	1.2830	2.4230	1.1660	0.7730	0.4060	0.1050	0.1440	0.2100	0.2620	0.3270	1.8990	3.8370	0.8640	14.4980
15.5	0.1310	0.0520	0.2360	1.3750	1.6370	0.9690	0.2230	0.1440	0.0130	0.0390	0.2490	0.3270	0.3400	2.1870	4.7670	0.5630	13.2520
21.5	0.0390	0.0000	0.0130	0.2360	0.1570	0.0920	0.0260	0.0390	0.0000	0.0000	0.0920	0.1050	0.1700	0.4450	1.9120	0.1830	3.5090
28.0	0.0000	0.0130	0.0390	0.2100	0.0650	0.0000	0.0000	0.0000	0.0000	0.0000	0.0130	0.0650	0.0130	0.0390	0.3140	0.0390	0.8100
ALL	2.2620	1.5000	1.2430	3.8450	5.3710	3.1770	1.7340	1.3210	0.6930	0.7210	0.7930	1.2150	1.3680	6.1060	13.0290	3.8260	48.2040
STABILITY CLASS 5																	
1.5	0.6440	0.4250	0.2470	0.1370	0.0550	0.0270	0.0550	0.0410	0.0410	0.0270	0.0140	0.0820	0.0960	0.1510	0.1640	0.4930	2.6990
5.5	1.0100	0.4190	0.2230	0.3930	0.6810	0.4450	0.4190	0.3670	0.1310	0.1050	0.1180	0.0790	0.2880	0.4580	0.9430	0.9690	7.0480
10.0	0.0790	0.0130	0.0650	0.2880	0.7200	0.3400	0.2100	0.0650	0.0000	0.0520	0.0260	0.0000	0.1050	0.4190	0.5110	0.3670	3.2600
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	1.7330	0.8570	0.5350	0.8180	1.4560	0.8120	0.6840	0.4730	0.1720	0.1840	0.1580	0.1610	0.4890	1.0280	1.6180	1.8290	13.0070
STABILITY CLASS 6																	
1.5	1.8100	1.9180	1.2880	0.7260	0.6030	0.6160	0.4520	0.7810	0.5480	0.5210	0.4380	0.3970	0.4790	0.8220	1.3150	1.7810	14.4950
5.5	0.6680	0.4710	0.3140	0.3800	0.3270	0.2100	0.2230	0.3540	0.2490	0.1180	0.1440	0.1180	0.2750	0.4190	0.6420	0.6940	5.6060
10.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
21.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
28.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ALL	2.4780	2.3890	1.6020	1.1060	0.9300	0.8260	0.6750	1.1350	0.7970	0.6390	0.5820	0.5150	0.7540	1.2410	1.9570	2.4750	20.1010
ALL	6.9300	4.9080	3.5030	5.9160	8.1790	5.5230	4.5150	4.6430	3.2570	2.6030	2.4660	3.1920	4.5670	11.7600	18.6920	9.3390	99.9930

```
1REGION: Dewey Burdock                CODE: MILDOS-AREA (02/97)          PAGE   3
 METSET:                              DATA: DB.MIL                       10/06/11
```

INDIVIDUAL RECEPTOR LOCATION DATA, 41 LOCATIONS INPUT THIS RUN

I	LOCATION NAMES	X(KM)	Y(KM)	Z(M)	DIST(KM)	TYPE	I	LOCATION NAMES	X(KM)	Y(KM)	Z(M)	DIST(KM)	TYPE
1	CPP N	0.00	2.82	0.00	2.82	10	22	SF SSE	-3.55	0.15	0.00	3.55	10
2	CPP NNE	1.07	2.78	0.00	2.98	10	23	SF SE	-2.81	1.30	0.00	3.10	10
3	CPP NE	1.16	1.17	0.00	1.65	10	24	SF S	-4.91	-0.25	0.00	4.92	10
4	CPP ENE	2.64	1.01	0.00	2.83	10	25	SF SSW	-5.70	1.38	0.00	5.86	10
5	CPP E	2.60	0.00	0.00	2.60	10	26	SF SW	-6.28	2.06	0.00	6.61	10
6	CPP ESE	2.53	-0.97	0.00	2.71	10	27	SF WSW	-6.24	2.92	0.00	6.89	10
7	CPP SSE	0.85	-2.25	0.00	2.41	10	28	SF W	-7.02	3.43	0.00	7.81	10
8	CPP SE	2.13	-2.14	0.00	3.02	10	29	SF WNW	-6.98	4.21	0.00	8.15	10
9	CPP S	0.00	-2.87	0.00	2.87	10	30	SF NW	-6.24	4.69	0.00	7.81	10
10	CPP SSW	-1.09	-2.84	0.00	3.04	10	31	SF NNW	-5.40	4.67	0.00	7.14	10
11	CPP SW	-2.44	-2.43	0.00	3.44	10	32	SF ESE	-3.00	2.69	0.00	4.03	10
12	CPP WSW	-2.37	-0.90	0.00	2.54	10	33	Daniels Ranch	2.13	0.02	0.00	2.13	10
13	CPP W	-2.32	0.00	0.00	2.32	10	34	Spencer Ranch	-2.00	1.21	0.00	2.34	10
14	CPP WNW	-2.29	0.87	0.00	2.45	10	35	BC Ranch	-6.64	3.81	0.00	7.66	10
15	CPP NW	-2.55	2.52	0.00	3.59	10	36	Puttman Ranch	-5.16	7.23	0.00	8.88	10
16	CPP NNW	-1.42	3.70	0.00	3.96	10	37	Englebert Ranch	0.30	-4.83	0.00	4.84	10
17	SF N	-4.92	5.28	0.00	7.22	10	38	Burdock School	-2.25	-1.96	0.00	2.98	10
18	SF NNE	-4.23	5.25	0.00	6.74	10	39	Heck Ranch	1.73	-6.38	0.00	6.61	10
19	SF NE	-2.70	5.64	0.00	6.25	10	40	Edgemont	11.03	-18.59	0.00	21.62	10
20	SF ENE	-3.35	4.01	0.00	5.23	10	41	Background	-5.25	-3.00	0.00	6.05	10
21	SF E	-2.97	3.43	0.00	4.54	10							

MISCELLANEOUS INPUTABLE PARAMETER VALUES

DMM	DMA	TSTART	FFORI	FHAYI	FFORP	FHAYP	FPR(1)	FPR(2)	FPR(3)	ACTRAT
100.0	100.0	2011.00	0.50	0.50	0.50	0.50	0.00	0.00	0.00	2.50

```
IPACT EQUALS 0, 0, 0, 0, 0, 1,

JC EQUALS    1, 0, 1, 1, 0, 0, 1, 0, 1, 0

TIME STEP DATA....       STEP NAMES         LENGTH, YRS    IFTODO
              1                                  1.00         1

XRHO EQUALS    1.5,   2.5,   3.5,   4.5,   7.5,  15.0,  25.0,  35.0,  45.0,  55.0,  65.0,  75.0,

HDP EQUALS  50.0
```

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 4
METSET: DATA: DB.MIL 10/06/11

POPULATION DISTRIBUTION

KILOMETERS	N 0.0	NNE 22.5	NE 45.0	ENE 67.5	E 90.0	ESE 112.5	SE 135.0	SSE 157.5	S 180.0	SSW 202.5	SW 225.0	WSW 247.5	W 270.0	WNW 292.5	NW 315.0	NNW 337.5
1.0- 2.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.0- 3.0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
3.0- 4.0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0
4.0- 5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.0-10.0	0	0	0	0	0	0	0	2	11	3	0	0	0	8	6	2
10.0-20.0	26	12	10	0	24	21	12	18	0	7	0	19	0	6	2	0
20.0-30.0	165	8	15	154	47	26	342	649	7	0	0	14	0	2	0	35
30.0-40.0	54	59	494	282	501	76	18	52	6	2	29	15	2	2	10	234
40.0-50.0	25	64	3852	21	4651	329	32	7	18	2	18	4	10	18	22	4129
50.0-60.0	25	229	391	73	278	183	12	30	2	25	21	28	0	57	30	121
60.0-70.0	39	780	1825	268	70	143	13	20	17	21	23	8	22	58	50	316
70.0-80.0	58	386	3427	539	95	136	34	30	44	48	61	9	18	33	72	77
1.0-80.0	392	1538	10014	1337	5666	914	463	808	106	108	152	103	52	184	192	4914

TOTAL 1-80 KM POPULATION IS 26943 PERSONS

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 5
METSET: DATA: DB.MIL 10/06/11

NUMBER OF SOURCES= 6

NO.	KM X	KM Y	M Z	KM2 AREA	U-238	Th-230	CI/YEAR Ra-226	Pb-210	Rn-222	ID	PSIZE SET	M/SEC EXIT VEL	SOURCE NAME
1	-5.00	3.54	16.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+02	1001	1	3.30E+00	SF
2	1.61	-0.55	0.00	0.9130	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E+02	1002	1	0.00E+00	CPP Wellfield
3	-4.08	3.49	0.00	0.8380	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.39E+02	1003	1	0.00E+00	SF Wellfield
4	-5.75	4.09	0.00	1.8200	9.74E-02	3.25E-02	1.95E-02	3.25E-03	6.08E+00	1004	3	0.00E+00	Dewey LA Cluster
5	-0.89	1.21	0.00	0.5060	9.74E-02	3.25E-02	1.95E-02	3.25E-03	7.49E+00	1005	3	0.00E+00	Burdock LA Cluster
6	0.00	0.00	16.00	0.0000	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.15E+02	1006	1	3.30E+00	CPP

INPUT TAILS ACTIVITIES, PCI/G

SET	URANIUM	THORIUM	RADIUM	LEAD
1	0.00E+00	0.00E+00	0.00E+00	0.00E+00
2	0.00E+00	0.00E+00	0.00E+00	0.00E+00
3	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AMAD AND FRACTIONAL DISTRIBUTION

SET	1.5	3.0	7.7	54.0
1	0.000	1.000	0.000	0.000
2	1.000	0.000	0.000	0.000
3	0.000	0.000	0.300	0.700

PARTICULATE SOURCE STRENGTH MULTIPLIERS BY TIME STEP, 1 TIME STEP(S) USED FOR THIS RUN

SOURCE NUMBER	TSTEP 1 1.00YRS	TSTEP 2 100.00YRS	TSTEP 3 5.00YRS	TSTEP 4 5.00YRS	TSTEP 5 5.00YRS	TSTEP 6 5.00YRS	TSTEP 7 5.00YRS	TSTEP 8 5.00YRS	TSTEP 9 5.00YRS	TSTEP10 5.00YRS
1	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
2	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
3	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
4	0.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
5	0.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
6	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

RADON SOURCE STRENGTH MULTIPLIERS BY TIME STEP, 1 TIME STEP(S) USED FOR THIS RUN

SOURCE NUMBER	TSTEP 1 1.00YRS	TSTEP 2 100.00YRS	TSTEP 3 5.00YRS	TSTEP 4 5.00YRS	TSTEP 5 5.00YRS	TSTEP 6 5.00YRS	TSTEP 7 5.00YRS	TSTEP 8 5.00YRS	TSTEP 9 5.00YRS	TSTEP10 5.00YRS
1	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
2	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
3	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
4	0.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
5	0.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
6	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE N DIRECTION, THETA EQUALS 0.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.430E+01	1.406E+01	8.602E+00	5.478E+00	1.335E-05	7.853E-05
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.930E+00	9.869E+00	6.981E+00	4.968E+00	1.227E-05	6.409E-05
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.747E+00	7.722E+00	5.932E+00	4.556E+00	1.287E-05	5.502E-05
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.624E+00	5.616E+00	4.596E+00	3.744E+00	1.279E-05	4.305E-05
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.392E+00	3.392E+00	3.063E+00	2.749E+00	1.575E-05	2.928E-05
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.564E+00	1.565E+00	1.531E+00	1.480E+00	2.062E-05	1.490E-05
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.551E-01	8.556E-01	8.536E-01	8.454E-01	2.148E-05	8.362E-06
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.638E-01	5.641E-01	5.657E-01	5.653E-01	2.122E-05	5.558E-06
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.109E-01	4.112E-01	4.129E-01	4.138E-01	2.076E-05	4.060E-06
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.183E-01	3.185E-01	3.199E-01	3.209E-01	2.027E-05	3.147E-06
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.567E-01	2.568E-01	2.580E-01	2.589E-01	1.979E-05	2.538E-06
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.130E-01	2.131E-01	2.141E-01	2.149E-01	1.934E-05	2.107E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.114E+01	1.114E+01	1.114E+01	1.236E+00
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.817E+00	7.817E+00	7.817E+00	1.136E+00
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.116E+00	6.116E+00	6.116E+00	1.191E+00
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.448E+00	4.448E+00	4.448E+00	1.184E+00
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.686E+00	2.686E+00	2.686E+00	1.459E+00
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.240E+00	1.240E+00	1.240E+00	1.909E+00
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.777E-01	6.777E-01	6.777E-01	1.988E+00
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.468E-01	4.468E-01	4.468E-01	1.965E+00
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.257E-01	3.257E-01	3.257E-01	1.922E+00
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.522E-01	2.522E-01	2.522E-01	1.876E+00
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.034E-01	2.034E-01	2.034E-01	1.832E+00
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.688E-01	1.688E-01	1.688E-01	1.791E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	4.004E-08
2.5	0.000E+00	0.000E+00	0.000E+00	3.680E-08
3.5	0.000E+00	0.000E+00	0.000E+00	3.861E-08
4.5	0.000E+00	0.000E+00	0.000E+00	3.837E-08
7.5	0.000E+00	0.000E+00	0.000E+00	4.726E-08
15.0	0.000E+00	0.000E+00	0.000E+00	6.187E-08
25.0	0.000E+00	0.000E+00	0.000E+00	6.443E-08
35.0	0.000E+00	0.000E+00	0.000E+00	6.366E-08
45.0	0.000E+00	0.000E+00	0.000E+00	6.227E-08
55.0	0.000E+00	0.000E+00	0.000E+00	6.080E-08
65.0	0.000E+00	0.000E+00	0.000E+00	5.938E-08
75.0	0.000E+00	0.000E+00	0.000E+00	5.802E-08

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE   7
 METSET:                            DATA: DB.MIL                      10/06/11
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TIME STEP NUMBER 1,   DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE E   DIRECTION, THETA EQUALS 90.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.737E+01	2.293E+01	8.074E+00	3.965E+00	1.421E-05	7.934E-05
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.509E+01	1.432E+01	7.127E+00	4.028E+00	1.513E-05	6.590E-05
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.206E+00	9.040E+00	6.005E+00	4.110E+00	1.712E-05	5.509E-05
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.778E+00	6.730E+00	5.047E+00	3.841E+00	1.843E-05	4.685E-05
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.420E+00	3.419E+00	2.972E+00	2.581E+00	1.950E-05	2.822E-05
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.526E+00	1.527E+00	1.455E+00	1.362E+00	2.027E-05	1.403E-05
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.286E-01	8.290E-01	8.173E-01	7.966E-01	1.951E-05	7.969E-06
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.502E-01	5.505E-01	5.486E-01	5.429E-01	1.874E-05	5.374E-06
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.030E-01	4.032E-01	4.035E-01	4.020E-01	1.804E-05	3.961E-06
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.132E-01	3.134E-01	3.142E-01	3.140E-01	1.743E-05	3.087E-06
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.533E-01	2.534E-01	2.544E-01	2.546E-01	1.689E-05	2.500E-06
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.107E-01	2.108E-01	2.117E-01	2.122E-01	1.642E-05	2.082E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.816E+01	1.816E+01	1.816E+01	1.315E+00
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.134E+01	1.134E+01	1.134E+01	1.400E+00
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.160E+00	7.160E+00	7.160E+00	1.585E+00
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.330E+00	5.330E+00	5.330E+00	1.706E+00
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.708E+00	2.708E+00	2.708E+00	1.805E+00
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.210E+00	1.210E+00	1.210E+00	1.877E+00
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.566E-01	6.566E-01	6.566E-01	1.807E+00
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.360E-01	4.360E-01	4.360E-01	1.735E+00
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.194E-01	3.194E-01	3.194E-01	1.670E+00
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.482E-01	2.482E-01	2.482E-01	1.614E+00
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.007E-01	2.007E-01	2.007E-01	1.564E+00
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.670E-01	1.670E-01	1.670E-01	1.520E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	4.262E-08
2.5	0.000E+00	0.000E+00	0.000E+00	4.538E-08
3.5	0.000E+00	0.000E+00	0.000E+00	5.135E-08
4.5	0.000E+00	0.000E+00	0.000E+00	5.528E-08
7.5	0.000E+00	0.000E+00	0.000E+00	5.849E-08
15.0	0.000E+00	0.000E+00	0.000E+00	6.081E-08
25.0	0.000E+00	0.000E+00	0.000E+00	5.854E-08
35.0	0.000E+00	0.000E+00	0.000E+00	5.621E-08
45.0	0.000E+00	0.000E+00	0.000E+00	5.412E-08
55.0	0.000E+00	0.000E+00	0.000E+00	5.229E-08
65.0	0.000E+00	0.000E+00	0.000E+00	5.068E-08
75.0	0.000E+00	0.000E+00	0.000E+00	4.925E-08

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 8
METSET: DATA: DB.MIL 10/06/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE S DIRECTION, THETA EQUALS 180.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.731E+01	2.670E+01	1.508E+01	8.448E+00	2.201E-05	1.355E-04
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.955E+01	1.945E+01	1.406E+01	9.726E+00	2.889E-05	1.276E-04
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.478E+01	1.477E+01	1.206E+01	9.486E+00	3.537E-05	1.117E-04
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E+01	1.199E+01	1.045E+01	8.891E+00	4.128E-05	9.852E-05
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.732E+00	6.735E+00	6.377E+00	5.967E+00	4.926E-05	6.152E-05
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.153E+00	3.155E+00	3.115E+00	3.045E+00	5.322E-05	3.040E-05
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.731E+00	1.732E+00	1.732E+00	1.724E+00	5.195E-05	1.700E-05
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.144E+00	1.144E+00	1.148E+00	1.148E+00	4.980E-05	1.128E-05
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.311E-01	8.315E-01	8.350E-01	8.368E-01	4.775E-05	8.211E-06
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.403E-01	6.406E-01	6.435E-01	6.454E-01	4.591E-05	6.330E-06
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.130E-01	5.133E-01	5.157E-01	5.174E-01	4.428E-05	5.073E-06
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.228E-01	4.231E-01	4.251E-01	4.265E-01	4.282E-05	4.182E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.114E+01	2.114E+01	2.114E+01	2.038E+00
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.540E+01	1.540E+01	1.540E+01	2.675E+00
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.170E+01	1.170E+01	1.170E+01	3.274E+00
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.500E+00	9.500E+00	9.500E+00	3.822E+00
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.335E+00	5.335E+00	5.335E+00	4.560E+00
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.499E+00	2.499E+00	2.499E+00	4.927E+00
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.372E+00	1.372E+00	1.372E+00	4.810E+00
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.062E-01	9.062E-01	9.062E-01	4.610E+00
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.586E-01	6.586E-01	6.586E-01	4.421E+00
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.074E-01	5.074E-01	5.074E-01	4.251E+00
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.066E-01	4.066E-01	4.066E-01	4.100E+00
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.351E-01	3.351E-01	3.351E-01	3.964E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	6.604E-08
2.5	0.000E+00	0.000E+00	0.000E+00	8.667E-08
3.5	0.000E+00	0.000E+00	0.000E+00	1.061E-07
4.5	0.000E+00	0.000E+00	0.000E+00	1.238E-07
7.5	0.000E+00	0.000E+00	0.000E+00	1.478E-07
15.0	0.000E+00	0.000E+00	0.000E+00	1.597E-07
25.0	0.000E+00	0.000E+00	0.000E+00	1.559E-07
35.0	0.000E+00	0.000E+00	0.000E+00	1.494E-07
45.0	0.000E+00	0.000E+00	0.000E+00	1.432E-07
55.0	0.000E+00	0.000E+00	0.000E+00	1.377E-07
65.0	0.000E+00	0.000E+00	0.000E+00	1.328E-07
75.0	0.000E+00	0.000E+00	0.000E+00	1.285E-07

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 9
METSET: DATA: DB.MIL 10/06/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE W DIRECTION, THETA EQUALS 270.0 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.817E+01	1.718E+01	9.878E+00	6.607E+00	1.731E-05	9.242E-05
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.633E+01	1.606E+01	1.110E+01	8.087E+00	2.033E-05	1.030E-04
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.491E+01	1.483E+01	1.112E+01	8.333E+00	2.105E-05	1.027E-04
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.460E+01	1.456E+01	1.129E+01	8.543E+00	2.208E-05	1.041E-04
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.324E+00	7.319E+00	6.300E+00	5.325E+00	2.170E-05	5.934E-05
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.949E+00	1.949E+00	1.740E+00	1.546E+00	1.744E-05	1.660E-05
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.020E+00	1.020E+00	9.724E-01	9.076E-01	1.766E-05	9.366E-06
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.650E-01	6.654E-01	6.523E-01	6.289E-01	1.724E-05	6.338E-06
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.844E-01	4.847E-01	4.811E-01	4.722E-01	1.677E-05	4.700E-06
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.763E-01	3.765E-01	3.760E-01	3.727E-01	1.631E-05	3.684E-06
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.049E-01	3.050E-01	3.055E-01	3.045E-01	1.588E-05	2.999E-06
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.544E-01	2.546E-01	2.553E-01	2.552E-01	1.548E-05	2.509E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.360E+01	1.360E+01	1.360E+01	1.603E+00
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.272E+01	1.272E+01	1.272E+01	1.882E+00
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.175E+01	1.175E+01	1.175E+01	1.949E+00
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.153E+01	1.153E+01	1.153E+01	2.044E+00
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.797E+00	5.797E+00	5.797E+00	2.009E+00
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.544E+00	1.544E+00	1.544E+00	1.614E+00
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.081E-01	8.081E-01	8.081E-01	1.635E+00
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.270E-01	5.270E-01	5.270E-01	1.596E+00
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.839E-01	3.839E-01	3.839E-01	1.552E+00
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.982E-01	2.982E-01	2.982E-01	1.510E+00
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.416E-01	2.416E-01	2.416E-01	1.470E+00
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.016E-01	2.016E-01	2.016E-01	1.434E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	5.194E-08
2.5	0.000E+00	0.000E+00	0.000E+00	6.099E-08
3.5	0.000E+00	0.000E+00	0.000E+00	6.315E-08
4.5	0.000E+00	0.000E+00	0.000E+00	6.625E-08
7.5	0.000E+00	0.000E+00	0.000E+00	6.511E-08
15.0	0.000E+00	0.000E+00	0.000E+00	5.231E-08
25.0	0.000E+00	0.000E+00	0.000E+00	5.298E-08
35.0	0.000E+00	0.000E+00	0.000E+00	5.173E-08
45.0	0.000E+00	0.000E+00	0.000E+00	5.030E-08
55.0	0.000E+00	0.000E+00	0.000E+00	4.892E-08
65.0	0.000E+00	0.000E+00	0.000E+00	4.764E-08
75.0	0.000E+00	0.000E+00	0.000E+00	4.645E-08

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

CONCENTRATION DATA FOR THE WNW DIRECTION, THETA EQUALS 292.5 DEGREES

TOTAL AIR CONCENTRATIONS, PCI/M3, AND WL

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	WL
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.734E+01	1.666E+01	9.978E+00	6.696E+00	1.623E-05	9.273E-05
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.715E+01	1.681E+01	1.087E+01	7.398E+00	1.550E-05	1.000E-04
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.269E+01	2.220E+01	1.384E+01	8.666E+00	1.525E-05	1.254E-04
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.876E+01	2.821E+01	1.624E+01	8.793E+00	1.337E-05	1.442E-04
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.792E+00	9.461E+00	5.731E+00	3.694E+00	1.110E-05	5.258E-05
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.989E+00	1.989E+00	1.734E+00	1.513E+00	1.520E-05	1.649E-05
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.858E-01	8.863E-01	8.472E-01	7.938E-01	1.508E-05	8.169E-06
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.475E-01	5.478E-01	5.389E-01	5.224E-01	1.443E-05	5.245E-06
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.878E-01	3.881E-01	3.861E-01	3.805E-01	1.384E-05	3.777E-06
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.965E-01	2.967E-01	2.967E-01	2.949E-01	1.335E-05	2.910E-06
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.380E-01	2.381E-01	2.387E-01	2.383E-01	1.293E-05	2.344E-06
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.972E-01	1.973E-01	1.980E-01	1.981E-01	1.255E-05	1.946E-06

GROUND SURFACE CONCENTRATIONS, PCI/M2

XRHO, KM	U-238	Th-230	Ra-226	Pb-210	Rn-222	Po-218	Pb-214	Bi-214	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.320E+01	1.320E+01	1.320E+01	1.502E+00
2.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.332E+01	1.332E+01	1.332E+01	1.435E+00
3.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.758E+01	1.758E+01	1.758E+01	1.412E+00
4.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.234E+01	2.234E+01	2.234E+01	1.238E+00
7.5	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.493E+00	7.493E+00	7.493E+00	1.028E+00
15.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.576E+00	1.576E+00	1.576E+00	1.407E+00
25.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.020E-01	7.020E-01	7.020E-01	1.396E+00
35.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.338E-01	4.338E-01	4.338E-01	1.336E+00
45.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.074E-01	3.074E-01	3.074E-01	1.282E+00
55.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.350E-01	2.350E-01	2.350E-01	1.236E+00
65.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.886E-01	1.886E-01	1.886E-01	1.197E+00
75.0	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.563E-01	1.563E-01	1.563E-01	1.162E+00

TOTAL DEPOSITION RATES, PCI/M2-SEC

XRHO, KM	U-238	Th-230	Ra-226	Pb-210
1.5	0.000E+00	0.000E+00	0.000E+00	4.868E-08
2.5	0.000E+00	0.000E+00	0.000E+00	4.651E-08
3.5	0.000E+00	0.000E+00	0.000E+00	4.574E-08
4.5	0.000E+00	0.000E+00	0.000E+00	4.010E-08
7.5	0.000E+00	0.000E+00	0.000E+00	3.331E-08
15.0	0.000E+00	0.000E+00	0.000E+00	4.560E-08
25.0	0.000E+00	0.000E+00	0.000E+00	4.524E-08
35.0	0.000E+00	0.000E+00	0.000E+00	4.330E-08
45.0	0.000E+00	0.000E+00	0.000E+00	4.153E-08
55.0	0.000E+00	0.000E+00	0.000E+00	4.005E-08
65.0	0.000E+00	0.000E+00	0.000E+00	3.879E-08
75.0	0.000E+00	0.000E+00	0.000E+00	3.765E-08

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1REGION: Dewey Burdock             CODE: MILDOS-AREA (02/97)         PAGE  11
 METSET:                           DATA: DB.MIL                      10/06/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.916E-05	2.589E-04	8.376E-05	3.795E-05	3.707E-05	5.650E-05	8.214E-05
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.581E-05	1.135E-05	8.476E-05	9.128E-05	3.221E-04	1.079E-03	5.246E-04
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.153E-05	1.719E-05	5.479E-04	4.128E-03	4.057E-04	1.837E-03	3.355E-03
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.878E-04	3.368E-04	2.446E-05	8.290E-05	2.970E-04	5.837E-04
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.554E-05	6.702E-05	6.863E-04	6.136E-03	3.545E-04	8.656E-05	1.142E-04
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.652E-05	5.655E-05	1.605E-04	6.754E-04	3.662E-04	2.801E-04	2.614E-04
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.488E-05	9.869E-04	5.077E-05	8.802E-05	3.222E-05	3.413E-05	8.742E-05
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.577E-06	6.554E-05	2.330E-03	1.804E-04	2.343E-05	9.703E-05	6.264E-05	9.117E-05
S	0.000E+00	2.109E-06	0.000E+00	0.000E+00	3.957E-05	0.000E+00	2.657E-05	2.184E-05	6.286E-05	6.719E-06	5.511E-05	1.380E-04
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.016E-05	2.548E-05	0.000E+00	6.733E-06	6.420E-06	7.682E-05	6.200E-05	1.366E-04
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.628E-05	3.810E-05	4.168E-05	4.319E-05	1.091E-04
WSW	0.000E+00	0.000E+00	1.086E-05	0.000E+00	0.000E+00	3.351E-05	2.171E-05	2.123E-05	5.268E-06	3.477E-05	9.451E-06	1.018E-05
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.521E-06	1.226E-05	0.000E+00	2.557E-05	2.040E-05
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.486E-06	6.661E-06	2.204E-06	2.110E-06	1.822E-05	5.566E-05	5.488E-05	3.032E-05
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.847E-06	2.035E-06	0.000E+00	9.593E-06	2.036E-05	2.686E-05	4.347E-05	6.108E-05
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.122E-06	0.000E+00	5.551E-05	3.654E-04	6.278E-03	1.789E-04	4.546E-04	1.079E-04

TOTAL DOSE COMMITMENT IS 3.701E-02 PERSON-REM/YR

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS BONE

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.177E-04	2.100E-03	6.789E-04	3.074E-04	3.002E-04	4.573E-04	6.647E-04
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.282E-04	9.202E-05	6.870E-04	7.395E-04	2.608E-03	8.733E-03	4.244E-03
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.354E-05	1.394E-04	4.441E-03	3.345E-02	3.285E-03	1.487E-02	2.714E-02
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.523E-03	2.730E-03	1.981E-04	6.713E-04	2.404E-03	4.722E-03
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.882E-04	5.434E-04	5.562E-03	4.971E-02	2.871E-03	7.007E-04	9.240E-04
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.773E-04	4.585E-04	1.301E-03	5.472E-03	2.966E-03	2.268E-03	2.115E-03
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.829E-04	8.002E-03	4.115E-04	7.130E-04	2.609E-04	2.763E-04	7.074E-04
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.336E-05	5.316E-04	1.889E-02	1.462E-03	1.898E-04	7.857E-04	5.070E-04	7.376E-04
S	0.000E+00	1.712E-05	0.000E+00	0.000E+00	3.210E-04	0.000E+00	2.155E-04	1.770E-04	5.092E-04	5.441E-05	4.460E-04	1.116E-03
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.244E-05	2.067E-04	0.000E+00	5.457E-05	5.201E-05	6.220E-04	5.018E-04	1.105E-03
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.372E-04	3.087E-04	3.375E-04	3.496E-04	8.824E-04
WSW	0.000E+00	0.000E+00	8.814E-05	0.000E+00	0.000E+00	2.719E-04	1.761E-04	1.720E-04	4.268E-05	2.816E-04	7.651E-05	8.236E-05
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.043E-05	9.933E-05	0.000E+00	2.070E-04	1.651E-04
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.263E-05	5.404E-05	1.787E-05	1.710E-05	1.476E-04	4.508E-04	4.443E-04	2.454E-04
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.121E-05	1.651E-05	0.000E+00	7.777E-05	1.650E-04	2.175E-04	3.520E-04	4.943E-04
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.722E-05	0.000E+00	4.502E-04	2.962E-03	5.087E-02	1.449E-03	3.680E-03	8.730E-04

TOTAL DOSE COMMITMENT IS 2.998E-01 PERSON-REM/YR

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS AVG.LUNG

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.608E-06	3.123E-05	1.036E-05	4.812E-06	4.818E-06	7.524E-06	1.121E-05
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.865E-06	1.373E-06	1.052E-05	1.163E-05	4.208E-05	1.445E-04	7.203E-05
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.363E-06	2.083E-06	6.811E-05	5.262E-04	5.302E-05	2.461E-04	4.603E-04
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.279E-05	4.191E-05	3.119E-06	1.083E-05	3.976E-05	8.001E-05
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.213E-06	8.138E-06	8.534E-05	7.813E-04	4.621E-05	1.154E-05	1.558E-05
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.514E-06	6.866E-06	1.996E-05	8.591E-05	4.765E-05	3.726E-05	3.553E-05
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.136E-06	1.200E-04	6.321E-06	1.122E-05	4.201E-06	4.551E-06	1.192E-05
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.656E-07	7.772E-06	2.834E-04	2.251E-05	2.997E-06	1.272E-05	8.412E-06	1.254E-05
S	0.000E+00	2.433E-07	0.000E+00	0.000E+00	4.605E-06	0.000E+00	3.232E-06	2.726E-06	8.046E-06	8.820E-07	7.415E-06	1.902E-05
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.181E-06	3.018E-06	0.000E+00	8.397E-07	8.215E-07	1.008E-05	8.346E-06	1.885E-05
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.244E-06	4.862E-06	5.456E-06	5.796E-06	1.501E-05
WSW	0.000E+00	0.000E+00	1.250E-06	0.000E+00	0.000E+00	3.946E-06	2.620E-06	2.626E-06	6.677E-07	4.514E-06	1.256E-06	1.384E-06
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.105E-07	1.546E-06	0.000E+00	3.373E-06	2.752E-06
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.492E-07	7.810E-07	2.647E-07	2.596E-07	2.295E-06	7.174E-06	7.236E-06	4.087E-06
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.442E-07	2.383E-07	0.000E+00	1.179E-06	2.561E-06	3.457E-06	5.722E-06	8.217E-06
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.450E-07	0.000E+00	6.677E-06	4.505E-05	7.934E-04	2.316E-05	6.025E-05	1.464E-05

TOTAL DOSE COMMITMENT IS 4.762E-03 PERSON-REM/YR

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)        PAGE  14
 METSET:                            DATA: DB.MIL                     10/06/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS INHAL. EXPOSED ORGAN IS BRONCHI

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.084E-02	1.764E-01	3.806E-02	1.284E-02	9.947E-03	1.251E-02	1.544E-02
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.824E-02	6.982E-03	3.494E-02	2.804E-02	7.837E-02	2.163E-01	8.909E-02
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.311E-02	1.083E-02	2.357E-01	1.339E+00	1.051E-01	3.946E-01	6.134E-01
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.231E-01	1.516E-01	8.334E-03	2.264E-02	6.747E-02	1.132E-01
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.579E-02	4.868E-02	3.446E-01	2.343E+00	1.088E-01	2.216E-02	2.502E-02
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.786E-02	4.649E-02	9.187E-02	2.961E-01	1.300E-01	8.356E-02	6.718E-02
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.992E-02	8.092E-01	2.924E-02	3.909E-02	1.164E-02	1.039E-02	2.300E-02
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.789E-02	7.394E-02	1.467E+00	7.832E-02	7.727E-03	2.571E-02	1.383E-02	1.721E-02
S	0.000E+00	2.443E-02	0.000E+00	0.000E+00	9.257E-02	0.000E+00	1.515E-02	8.577E-03	1.870E-02	1.601E-03	1.090E-02	2.326E-02
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.282E-02	2.486E-02	0.000E+00	2.528E-03	1.818E-03	1.736E-02	1.159E-02	2.170E-02
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.608E-02	1.129E-02	9.854E-03	8.453E-03	1.815E-02
WSW	0.000E+00	0.000E+00	8.152E-02	0.000E+00	0.000E+00	4.449E-02	1.619E-02	1.100E-02	2.088E-03	1.115E-02	2.544E-03	2.358E-03
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.663E-03	6.055E-03	0.000E+00	8.384E-03	5.724E-03
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.792E-02	1.492E-02	2.215E-03	1.369E-03	8.726E-03	2.113E-02	1.726E-02	8.134E-03
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.930E-02	4.509E-03	0.000E+00	6.113E-03	9.588E-03	1.003E-02	1.344E-02	1.609E-02
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.291E-02	0.000E+00	4.416E-02	1.900E-01	2.416E+00	5.448E-02	1.143E-01	2.305E-02

TOTAL DOSE COMMITMENT IS 1.411E+01 PERSON-REM/YR

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  15
 METSET:                            DATA: DB.MIL                      10/06/11
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TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS GROUND EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.853E-06	2.060E-05	4.510E-06	1.545E-06	1.215E-06	1.551E-06	1.944E-06
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.104E-06	8.180E-07	4.160E-06	3.393E-06	9.642E-06	2.707E-05	1.134E-05
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.513E-06	1.267E-06	2.800E-05	1.615E-04	1.287E-05	4.906E-05	7.743E-05
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.439E-05	1.797E-05	1.002E-06	2.761E-06	8.347E-06	1.420E-05
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.272E-06	5.674E-06	4.067E-05	2.800E-04	1.317E-05	2.716E-06	3.105E-06
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.799E-06	5.402E-06	1.079E-05	3.515E-05	1.560E-05	1.013E-05	8.230E-06
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.738E-06	9.402E-05	3.433E-06	4.637E-06	1.395E-06	1.258E-06	2.813E-06
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.042E-06	8.532E-06	1.718E-04	9.301E-06	9.310E-07	3.143E-06	1.716E-06	2.166E-06
S	0.000E+00	2.757E-06	0.000E+00	0.000E+00	1.058E-05	0.000E+00	1.779E-06	1.023E-06	2.268E-06	1.973E-07	1.366E-06	2.961E-06
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.609E-06	2.877E-06	0.000E+00	3.024E-07	2.212E-07	2.148E-06	1.460E-06	2.782E-06
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.111E-06	1.370E-06	1.215E-06	1.060E-06	2.314E-06
WSW	0.000E+00	0.000E+00	9.217E-06	0.000E+00	0.000E+00	5.120E-06	1.886E-06	1.296E-06	2.491E-07	1.346E-06	3.106E-07	2.913E-07
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.943E-07	7.151E-07	0.000E+00	1.010E-06	6.968E-07
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.073E-05	1.705E-06	2.561E-07	1.601E-07	1.032E-06	2.526E-06	2.085E-06	9.934E-07
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.797E-06	5.157E-07	0.000E+00	7.154E-07	1.135E-06	1.200E-06	1.625E-06	1.968E-06
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.465E-06	0.000E+00	5.135E-06	2.239E-05	2.886E-04	6.597E-06	1.403E-05	2.867E-06

TOTAL DOSE COMMITMENT IS 1.686E-03 PERSON-REM/YR

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 16
METSET: DATA: DB.MIL 10/06/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS CLOUD EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.232E-04	1.529E-03	3.343E-04	1.132E-04	8.782E-05	1.105E-04	1.364E-04
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.525E-04	6.058E-05	3.066E-04	2.470E-04	6.916E-04	1.910E-03	7.870E-04
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.083E-04	9.292E-05	2.052E-03	1.174E-02	9.241E-04	3.477E-03	5.410E-03
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.052E-03	1.317E-03	7.297E-05	1.990E-04	5.941E-04	9.979E-04
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.611E-04	4.113E-04	2.983E-03	2.048E-02	9.561E-04	1.952E-04	2.207E-04
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.028E-04	3.791E-04	7.797E-04	2.561E-03	1.136E-03	7.334E-04	5.913E-04
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.648E-04	6.458E-03	2.438E-04	3.337E-04	1.008E-04	9.067E-05	2.017E-04
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.303E-04	6.027E-04	1.255E-02	6.818E-04	6.776E-05	2.263E-04	1.219E-04	1.519E-04
S	0.000E+00	1.125E-04	0.000E+00	0.000E+00	7.250E-04	0.000E+00	1.322E-04	7.545E-05	1.649E-04	1.413E-05	9.628E-05	2.054E-04
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.833E-04	2.136E-04	0.000E+00	2.228E-05	1.605E-05	1.533E-04	1.024E-04	1.917E-04
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.287E-04	9.938E-05	8.686E-05	7.459E-05	1.602E-04
WSW	0.000E+00	0.000E+00	4.816E-04	0.000E+00	0.000E+00	3.564E-04	1.342E-04	9.340E-05	1.801E-05	9.707E-05	2.226E-05	2.071E-05
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.384E-05	5.184E-05	0.000E+00	7.338E-05	5.031E-05
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.462E-04	1.013E-04	1.753E-05	1.149E-05	7.514E-05	1.842E-04	1.514E-04	7.159E-05
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.479E-04	3.219E-05	0.000E+00	5.231E-05	8.353E-05	8.803E-05	1.184E-04	1.420E-04
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.934E-05	0.000E+00	3.753E-04	1.654E-03	2.121E-02	4.800E-04	1.008E-03	2.036E-04

TOTAL DOSE COMMITMENT IS 1.208E-01 PERSON-REM/YR

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 17
METSET: DATA: DB.MIL 10/06/11

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS VEG. ING EXPOSED ORGAN IS EFFECTIV

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN
ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL
FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED
BY THE POPULATION OF THIS REGION. SEE SUMMARY
TABLE FOR THIS INFORMATION.

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

EXPOSURE PATHWAY IS VEG. ING EXPOSED ORGAN IS BONE

DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

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DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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1REGION: Dewey Burdock          CODE: MILDOS-AREA (02/97)        PAGE  21
 METSET:                        DATA: DB.MIL                     10/06/11

                         TIME STEP NUMBER 1,                           DURATION IN YRS IS...  1.0

                               EXPOSURE PATHWAY IS MILK ING          EXPOSED ORGAN IS EFFECTIV

                         DOSES SHOWN BELOW ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR
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DIRECTION	XRHO 1.5	XRHO 2.5	XRHO 3.5	XRHO 4.5	XRHO 7.5	XRHO 15.0	XRHO 25.0	XRHO 35.0	XRHO 45.0	XRHO 55.0	XRHO 65.0	XRHO 75.0
N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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N	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ENE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
E	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
ESE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSE	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
S	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
SW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WSW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
W	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
WNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
NNW	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TOTAL DOSE COMMITMENT IS 0.000E+00 PERSON-REM/YR

WARNING--POPULATION FOOD INGESTION DOSES SHOWN
ABOVE HAVE NOT BEEN CORRECTED TO REFLECT POTENTIAL
FOOD EXPORT AND MAY EXCEED DOSES ACTUALLY RECEIVED
BY THE POPULATION OF THIS REGION. SEE SUMMARY
TABLE FOR THIS INFORMATION.

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

SUMMARY PRINT OF POPULATION DOSES COMPUTED FOR TSTEP 1--DOSES SHOWN ARE ANNUAL POPULATION DOSE COMMITMENTS, PERSON-REM PER YEAR

DOSES RECEIVED BY PEOPLE WITHIN 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	3.701E-02	2.998E-01	4.762E-03	2.248E-01	1.081E-01	1.411E+01
GROUND	1.686E-03	1.686E-03	1.686E-03	1.686E-03	1.686E-03	1.686E-03
CLOUD	1.208E-01	1.208E-01	1.208E-01	1.208E-01	1.208E-01	1.208E-01
VEG. ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MEAT ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
TOTALS	1.594E-01	4.222E-01	1.272E-01	3.473E-01	2.305E-01	1.423E+01

DOSES RECEIVED BY PEOPLE BEYOND 80 KILOMETERS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
GROUND	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
CLOUD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
VEG. ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MEAT ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	7.984E+00	1.089E+02	1.815E+00	7.984E+00	7.984E+00	5.081E+01
TOTALS	7.984E+00	1.089E+02	1.815E+00	7.984E+00	7.984E+00	5.081E+01

TOTAL DOSES COMPUTED OVER ALL POPULATIONS

PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INHAL.	3.701E-02	2.998E-01	4.762E-03	2.248E-01	1.081E-01	1.411E+01
GROUND	1.686E-03	1.686E-03	1.686E-03	1.686E-03	1.686E-03	1.686E-03
CLOUD	1.208E-01	1.208E-01	1.208E-01	1.208E-01	1.208E-01	1.208E-01
VEG. ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MEAT ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
MILK ING	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
RNPLUS50	7.984E+00	1.089E+02	1.815E+00	7.984E+00	7.984E+00	5.081E+01
TOTALS	8.144E+00	1.093E+02	1.942E+00	8.332E+00	8.215E+00	6.504E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

			AIRBORNE CONCENTRATIONS, PCI/M3				GROUND CONCENTRATIONS, PCI/M2			
NO.	NAME	PTSZ	U-238	Th-230	Ra-226	Pb-210	U-238	Th-230	Ra-226	Pb-210
1	CPP N	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1	CPP N	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1	CPP N	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
1	CPP N	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	CPP NNE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	CPP NNE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	CPP NNE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
2	CPP NNE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	CPP NE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	CPP NE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	CPP NE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
3	CPP NE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	CPP ENE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	CPP ENE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	CPP ENE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
4	CPP ENE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	CPP E	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	CPP E	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	CPP E	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
5	CPP E	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	CPP ESE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	CPP ESE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	CPP ESE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
6	CPP ESE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
7	CPP SSE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
7	CPP SSE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
7	CPP SSE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
7	CPP SSE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	CPP SE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	CPP SE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	CPP SE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
8	CPP SE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
9	CPP S	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	CPP S	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	CPP S	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
9	CPP S	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	CPP SSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	CPP SSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	CPP SSW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
10	CPP SSW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	CPP SW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	CPP SW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	CPP SW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
11	CPP SW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
12	CPP WSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
12	CPP WSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
12	CPP WSW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
12	CPP WSW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
13	CPP W	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
13	CPP W	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
13	CPP W	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
13	CPP W	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	CPP WNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	CPP WNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	CPP WNW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
14	CPP WNW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	CPP NW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	CPP NW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	CPP NW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
15	CPP NW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	CPP NNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	CPP NNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	CPP NNW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
16	CPP NNW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  26
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0
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INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

			AIRBORNE CONCENTRATIONS, PCI/M3				GROUND CONCENTRATIONS, PCI/M2			
NO.	NAME	PTSZ	U-238	Th-230	Ra-226	Pb-210	U-238	Th-230	Ra-226	Pb-210
17	SF N	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	SF N	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	SF N	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
17	SF N	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
18	SF NNE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
18	SF NNE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
18	SF NNE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
18	SF NNE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
19	SF NE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
19	SF NE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
19	SF NE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
19	SF NE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	SF ENE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	SF ENE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	SF ENE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
20	SF ENE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	SF E	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	SF E	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	SF E	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
21	SF E	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	SF SSE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	SF SSE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	SF SSE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
22	SF SSE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
23	SF SE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
23	SF SE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
23	SF SE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
23	SF SE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
24	SF S	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
24	SF S	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
24	SF S	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
24	SF S	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 27
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
25	SF SSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
25	SF SSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
25	SF SSW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
25	SF SSW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
26	SF SW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
26	SF SW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
26	SF SW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
26	SF SW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
27	SF WSW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
27	SF WSW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
27	SF WSW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
27	SF WSW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
28	SF W	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
28	SF W	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
28	SF W	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
28	SF W	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
29	SF WNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
29	SF WNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
29	SF WNW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
29	SF WNW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30	SF NW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30	SF NW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30	SF NW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
30	SF NW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
31	SF NNW	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
31	SF NNW	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
31	SF NNW	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
31	SF NNW	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
32	SF ESE	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
32	SF ESE	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
32	SF ESE	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
32	SF ESE	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  28
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0
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INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

NO.	NAME	PTSZ	AIRBORNE CONCENTRATIONS, PCI/M3 U-238	Th-230	Ra-226	Pb-210	GROUND CONCENTRATIONS, PCI/M2 U-238	Th-230	Ra-226	Pb-210
33	Daniels Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
33	Daniels Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
33	Daniels Ranch	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
33	Daniels Ranch	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
34	Spencer Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
34	Spencer Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
34	Spencer Ranch	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
34	Spencer Ranch	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
35	BC Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
35	BC Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
35	BC Ranch	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
35	BC Ranch	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
36	Puttman Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
36	Puttman Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
36	Puttman Ranch	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
36	Puttman Ranch	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
37	Englebert Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
37	Englebert Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
37	Englebert Ranch	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
37	Englebert Ranch	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	Burdock School	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	Burdock School	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	Burdock School	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
38	Burdock School	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	Heck Ranch	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	Heck Ranch	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	Heck Ranch	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
39	Heck Ranch	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	Edgemont	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	Edgemont	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	Edgemont	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
40	Edgemont	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

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1REGION: Dewey Burdock             CODE: MILDOS-AREA (02/97)          PAGE  29
 METSET:                           DATA: DB.MIL                       10/06/11
                           TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0
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INDIVIDUAL RECEPTOR PARTICULATE CONCENTRATIONS

			AIRBORNE CONCENTRATIONS, PCI/M3				GROUND CONCENTRATIONS, PCI/M2			
NO.	NAME	PTSZ	U-238	Th-230	Ra-226	Pb-210	U-238	Th-230	Ra-226	Pb-210
41	Background	1	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	Background	2	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	Background	3	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
41	Background	4	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
	CONCENTRATION TOTALS		0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 30
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

INDIVIDUAL RECEPTOR RADON AND RADON DAUGHTER CONCENTRATIONS

NO.	AIRBORNE CONCENTRATIONS, PCI/M3								GROUND CONCENTRATIONS, PCI/M2			
	Rn-222	Po-218	Pb-214	Bi-214	Pb-210	Bi-210	Po-210	WL	Po-218	Pb-214	Bi-214	Pb-210
1	9.006E+00	8.964E+00	6.537E+00	4.782E+00	1.222E-05	3.517E-08	2.855E-12	6.021E-05	7.100E+00	7.100E+00	7.100E+00	1.131E+00
2	7.691E+00	7.667E+00	5.854E+00	4.402E+00	1.277E-05	4.406E-08	4.448E-12	5.400E-05	6.073E+00	6.073E+00	6.073E+00	1.182E+00
3	1.288E+01	1.263E+01	7.667E+00	4.748E+00	1.378E-05	5.818E-08	7.173E-12	6.959E-05	1.000E+01	1.000E+01	1.000E+01	1.275E+00
4	9.045E+00	8.949E+00	6.074E+00	4.091E+00	1.465E-05	7.779E-08	1.212E-11	5.527E-05	7.088E+00	7.088E+00	7.088E+00	1.357E+00
5	1.421E+01	1.355E+01	7.013E+00	4.047E+00	1.528E-05	8.924E-08	1.488E-11	6.461E-05	1.073E+01	1.073E+01	1.073E+01	1.414E+00
6	2.656E+01	2.439E+01	1.063E+01	5.417E+00	1.812E-05	1.075E-07	1.873E-11	9.922E-05	1.932E+01	1.932E+01	1.932E+01	1.677E+00
7	2.500E+01	2.473E+01	1.590E+01	9.787E+00	2.670E-05	1.322E-07	2.103E-11	1.426E-04	1.959E+01	1.959E+01	1.959E+01	2.472E+00
8	2.667E+01	2.585E+01	1.474E+01	8.586E+00	2.492E-05	1.391E-07	2.480E-11	1.334E-04	2.048E+01	2.048E+01	2.048E+01	2.307E+00
9	1.757E+01	1.752E+01	1.334E+01	9.734E+00	3.134E-05	1.493E-07	2.248E-11	1.220E-04	1.387E+01	1.387E+01	1.387E+01	2.902E+00
10	1.390E+01	1.388E+01	1.132E+01	8.940E+00	3.280E-05	1.520E-07	2.092E-11	1.050E-04	1.099E+01	1.099E+01	1.099E+01	3.037E+00
11	1.056E+01	1.054E+01	8.928E+00	7.487E+00	3.016E-05	1.321E-07	1.604E-11	8.404E-05	8.346E+00	8.346E+00	8.346E+00	2.792E+00
12	1.380E+01	1.364E+01	1.009E+01	7.759E+00	2.388E-05	8.038E-08	7.436E-12	9.413E-05	1.080E+01	1.080E+01	1.080E+01	2.211E+00
13	1.624E+01	1.592E+01	1.076E+01	7.760E+00	1.959E-05	5.472E-08	4.220E-12	9.987E-05	1.261E+01	1.261E+01	1.261E+01	1.814E+00
14	1.689E+01	1.656E+01	1.077E+01	7.376E+00	1.578E-05	3.797E-08	2.559E-12	9.917E-05	1.312E+01	1.312E+01	1.312E+01	1.461E+00
15	1.967E+01	1.882E+01	1.003E+01	5.621E+00	9.239E-06	2.149E-08	1.640E-12	9.122E-05	1.490E+01	1.490E+01	1.490E+01	8.554E-01
16	8.896E+00	8.797E+00	6.109E+00	4.301E+00	1.042E-05	2.985E-08	2.482E-12	5.608E-05	6.967E+00	6.967E+00	6.967E+00	9.651E-01
17	1.073E+01	1.053E+01	6.119E+00	3.480E+00	8.715E-06	4.423E-08	7.380E-12	5.485E-05	8.338E+00	8.338E+00	8.338E+00	8.069E-01
18	1.072E+01	1.055E+01	6.348E+00	3.660E+00	9.330E-06	4.515E-08	6.991E-12	5.670E-05	8.354E+00	8.354E+00	8.354E+00	8.638E-01
19	6.588E+00	6.552E+00	4.898E+00	3.551E+00	1.132E-05	5.008E-08	6.757E-12	4.483E-05	5.189E+00	5.189E+00	5.189E+00	1.048E+00
20	1.662E+01	1.546E+01	6.472E+00	3.014E+00	7.109E-06	2.929E-08	3.622E-12	5.998E-05	1.224E+01	1.224E+01	1.224E+01	6.582E-01
21	1.894E+01	1.745E+01	7.642E+00	3.683E+00	7.190E-06	2.409E-08	2.548E-12	7.045E-05	1.382E+01	1.382E+01	1.382E+01	6.657E-01
22	1.533E+01	1.524E+01	1.136E+01	8.395E+00	2.030E-05	5.412E-08	4.064E-12	1.046E-04	1.207E+01	1.207E+01	1.207E+01	1.879E+00
23	2.053E+01	2.006E+01	1.253E+01	8.049E+00	1.487E-05	3.308E-08	2.207E-12	1.142E-04	1.589E+01	1.589E+01	1.589E+01	1.377E+00
24	1.233E+01	1.232E+01	9.929E+00	7.816E+00	2.281E-05	7.401E-08	6.934E-12	9.218E-05	9.754E+00	9.754E+00	9.754E+00	2.112E+00
25	1.677E+01	1.669E+01	1.174E+01	7.628E+00	1.562E-05	5.009E-08	5.842E-12	1.051E-04	1.322E+01	1.322E+01	1.322E+01	1.446E+00
26	1.337E+01	1.321E+01	8.718E+00	5.434E+00	1.232E-05	5.014E-08	7.235E-12	7.808E-05	1.046E+01	1.046E+01	1.046E+01	1.141E+00
27	1.423E+01	1.339E+01	6.927E+00	3.819E+00	9.656E-06	4.803E-08	7.785E-12	6.315E-05	1.060E+01	1.060E+01	1.060E+01	8.939E-01
28	1.013E+01	9.698E+00	5.492E+00	3.470E+00	1.056E-05	5.730E-08	1.023E-11	5.078E-05	7.681E+00	7.681E+00	7.681E+00	9.779E-01
29	8.292E+00	8.011E+00	4.700E+00	3.022E+00	9.750E-06	5.590E-08	1.042E-11	4.335E-05	6.345E+00	6.345E+00	6.345E+00	9.027E-01
30	9.344E+00	8.964E+00	4.851E+00	2.878E+00	8.658E-06	4.928E-08	8.956E-12	4.456E-05	7.100E+00	7.100E+00	7.100E+00	8.016E-01
31	1.444E+01	1.363E+01	6.246E+00	3.042E+00	7.621E-06	4.131E-08	7.018E-12	5.706E-05	1.080E+01	1.080E+01	1.080E+01	7.055E-01
32	2.602E+01	2.435E+01	1.111E+01	5.342E+00	8.100E-06	2.114E-08	1.909E-12	1.013E-04	1.928E+01	1.928E+01	1.928E+01	7.499E-01
33	1.609E+01	1.529E+01	7.108E+00	3.891E+00	1.465E-05	8.227E-08	1.295E-11	6.630E-05	1.211E+01	1.211E+01	1.211E+01	1.357E+00
34	1.714E+01	1.677E+01	1.061E+01	7.113E+00	1.459E-05	3.394E-08	2.218E-12	9.759E-05	1.328E+01	1.328E+01	1.328E+01	1.351E+00
35	1.153E+01	1.083E+01	5.562E+00	3.245E+00	9.286E-06	5.072E-08	9.010E-12	5.146E-05	8.577E+00	8.577E+00	8.577E+00	8.597E-01
36	5.233E+00	5.226E+00	4.186E+00	3.307E+00	1.344E-05	7.731E-08	1.431E-11	3.894E-05	4.139E+00	4.139E+00	4.139E+00	1.245E+00
37	1.090E+01	1.090E+01	9.577E+00	8.246E+00	4.121E-05	2.505E-07	4.574E-11	9.054E-05	8.632E+00	8.632E+00	8.632E+00	3.815E+00
38	1.199E+01	1.194E+01	9.651E+00	7.794E+00	2.838E-05	1.152E-07	1.303E-11	9.030E-05	9.458E+00	9.458E+00	9.458E+00	2.628E+00
39	8.612E+00	8.613E+00	7.785E+00	6.980E+00	4.624E-05	3.506E-07	7.792E-11	7.438E-05	6.822E+00	6.822E+00	6.822E+00	4.281E+00
40	2.216E+00	2.217E+00	2.152E+00	2.063E+00	4.629E-05	1.081E-06	6.630E-10	2.089E-05	1.756E+00	1.756E+00	1.756E+00	4.286E+00
41	7.149E+00	7.147E+00	6.450E+00	5.821E+00	3.165E-05	1.673E-07	2.314E-11	6.177E-05	5.661E+00	5.661E+00	5.661E+00	2.930E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  31
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                  DURATION IN YRS IS...  1.0

 NUMBER  1  NAME=CPP N                X=   0.0KM, Y=   2.8KM, Z=   0.0M, DIST=   2.8KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  32
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  1  NAME=CPP N              X=   0.0KM, Y=   2.8KM, Z=   0.0M, DIST=   2.8KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.78E-01	6.59E-03	6.15E-04	3.42E-02	1.33E-02	1.13E+01
INFANT	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
INFANT	CLOUD	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.34E-01	6.27E-02	5.67E-02	9.03E-02	6.94E-02	1.13E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.77E-01	4.99E-03	2.87E-04	1.52E-02	6.26E-03	1.13E+01
CHILD	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
CHILD	CLOUD	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02
CHILD	VEG. ING	4.36E-04	5.04E-03	1.50E-03	1.50E-03	1.22E-03	0.00E+00
CHILD	MEAT ING	6.75E-05	7.80E-04	2.32E-04	2.32E-04	1.89E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.33E-01	6.69E-02	5.81E-02	7.30E-02	6.37E-02	1.13E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.77E-01	1.23E-02	1.23E-04	6.51E-03	3.13E-03	1.13E+01
TEENAGE	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
TEENAGE	CLOUD	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02
TEENAGE	VEG. ING	7.23E-04	8.35E-03	2.48E-03	2.48E-03	2.02E-03	0.00E+00
TEENAGE	MEAT ING	1.10E-04	1.27E-03	3.76E-04	3.76E-04	3.07E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	7.33E-01	7.80E-02	5.90E-02	6.54E-02	6.15E-02	1.13E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.76E-01	7.24E-03	1.02E-04	5.43E-03	2.61E-03	1.13E+01
ADULT	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
ADULT	CLOUD	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02	5.48E-02
ADULT	VEG. ING	9.98E-04	1.15E-02	3.43E-03	3.43E-03	2.79E-03	0.00E+00
ADULT	MEAT ING	1.92E-04	2.21E-03	6.58E-04	6.58E-04	5.36E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.34E-01	7.70E-02	6.03E-02	6.56E-02	6.20E-02	1.13E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  33
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER  2  NAME=CPP NNE              X=   1.1KM, Y=   2.8KM, Z=   0.0M, DIST=   3.0KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 2 NAME=CPP NNE X= 1.1KM, Y= 2.8KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	5.79E-01	6.89E-03	6.43E-04	3.58E-02	1.39E-02	9.61E+00
INFANT	GROUND	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03
INFANT	CLOUD	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.30E-01	5.82E-02	5.19E-02	8.71E-02	6.52E-02	9.66E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.78E-01	5.22E-03	3.00E-04	1.59E-02	6.54E-03	9.61E+00
CHILD	GROUND	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03
CHILD	CLOUD	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02
CHILD	VEG. ING	4.56E-04	5.27E-03	1.57E-03	1.57E-03	1.28E-03	0.00E+00
CHILD	MEAT ING	7.06E-05	8.16E-04	2.42E-04	2.42E-04	1.98E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.30E-01	6.26E-02	5.34E-02	6.90E-02	5.93E-02	9.66E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	5.78E-01	1.29E-02	1.29E-04	6.81E-03	3.27E-03	9.61E+00
TEENAGE	GROUND	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03
TEENAGE	CLOUD	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02
TEENAGE	VEG. ING	7.56E-04	8.73E-03	2.59E-03	2.59E-03	2.11E-03	0.00E+00
TEENAGE	MEAT ING	1.15E-04	1.32E-03	3.94E-04	3.94E-04	3.21E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.30E-01	7.42E-02	5.44E-02	6.11E-02	5.70E-02	9.66E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	5.78E-01	7.57E-03	1.07E-04	5.68E-03	2.73E-03	9.61E+00
ADULT	GROUND	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03	1.09E-03
ADULT	CLOUD	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02	5.02E-02
ADULT	VEG. ING	1.04E-03	1.21E-02	3.58E-03	3.58E-03	2.92E-03	0.00E+00
ADULT	MEAT ING	2.00E-04	2.31E-03	6.88E-04	6.88E-04	5.60E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	6.30E-01	7.32E-02	5.57E-02	6.12E-02	5.75E-02	9.66E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  35
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER  3  NAME=CPP NE               X=   1.2KM, Y=   1.2KM, Z=   0.0M, DIST=   1.6KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 3 NAME=CPP NE X= 1.2KM, Y= 1.2KM, Z= 0.0M, DIST= 1.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.69E-01	7.43E-03	6.95E-04	3.86E-02	1.50E-02	1.61E+01
INFANT	GROUND	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03
INFANT	CLOUD	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.03E+00	6.53E-02	5.85E-02	9.64E-02	7.28E-02	1.62E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	9.68E-01	5.63E-03	3.25E-04	1.71E-02	7.06E-03	1.61E+01
CHILD	GROUND	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03
CHILD	CLOUD	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02
CHILD	VEG. ING	4.92E-04	5.69E-03	1.69E-03	1.69E-03	1.38E-03	0.00E+00
CHILD	MEAT ING	7.62E-05	8.80E-04	2.62E-04	2.62E-04	2.13E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.03E+00	7.00E-02	6.01E-02	7.69E-02	6.65E-02	1.62E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.68E-01	1.39E-02	1.39E-04	7.35E-03	3.53E-03	1.61E+01
TEENAGE	GROUND	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03
TEENAGE	CLOUD	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02
TEENAGE	VEG. ING	8.15E-04	9.42E-03	2.80E-03	2.80E-03	2.28E-03	0.00E+00
TEENAGE	MEAT ING	1.24E-04	1.43E-03	4.25E-04	4.25E-04	3.46E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.03E+00	8.25E-02	6.12E-02	6.84E-02	6.40E-02	1.62E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.67E-01	8.16E-03	1.16E-04	6.12E-03	2.94E-03	1.61E+01
ADULT	GROUND	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03	1.79E-03
ADULT	CLOUD	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02	5.60E-02
ADULT	VEG. ING	1.13E-03	1.30E-02	3.86E-03	3.86E-03	3.15E-03	0.00E+00
ADULT	MEAT ING	2.16E-04	2.50E-03	7.42E-04	7.42E-04	6.04E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.03E+00	8.15E-02	6.26E-02	6.86E-02	6.45E-02	1.62E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 4 NAME=CPP ENE X= 2.6KM, Y= 1.0KM, Z= 0.0M, DIST= 2.8KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  38
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  4  NAME=CPP ENE              X=   2.6KM, Y=   1.0KM, Z=   0.0M, DIST=   2.8KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.81E-01	7.90E-03	7.42E-04	4.10E-02	1.59E-02	1.13E+01
INFANT	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
INFANT	CLOUD	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.30E-01	5.67E-02	4.96E-02	8.98E-02	6.48E-02	1.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.80E-01	5.99E-03	3.46E-04	1.82E-02	7.50E-03	1.13E+01
CHILD	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
CHILD	CLOUD	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02
CHILD	VEG. ING	5.23E-04	6.05E-03	1.80E-03	1.80E-03	1.46E-03	0.00E+00
CHILD	MEAT ING	8.10E-05	9.36E-04	2.78E-04	2.78E-04	2.27E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.29E-01	6.18E-02	5.12E-02	6.91E-02	5.80E-02	1.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.80E-01	1.48E-02	1.48E-04	7.81E-03	3.75E-03	1.13E+01
TEENAGE	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
TEENAGE	CLOUD	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02
TEENAGE	VEG. ING	8.67E-04	1.00E-02	2.98E-03	2.98E-03	2.42E-03	0.00E+00
TEENAGE	MEAT ING	1.31E-04	1.52E-03	4.52E-04	4.52E-04	3.68E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	7.29E-01	7.51E-02	5.24E-02	6.01E-02	5.54E-02	1.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.79E-01	8.68E-03	1.24E-04	6.51E-03	3.13E-03	1.13E+01
ADULT	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
ADULT	CLOUD	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02	4.75E-02
ADULT	VEG. ING	1.20E-03	1.38E-02	4.11E-03	4.11E-03	3.35E-03	0.00E+00
ADULT	MEAT ING	2.30E-04	2.66E-03	7.89E-04	7.89E-04	6.43E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.30E-01	7.40E-02	5.38E-02	6.02E-02	5.59E-02	1.14E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 5 NAME=CPP E X= 2.6KM, Y= 0.0KM, Z= 0.0M, DIST= 2.6KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 5 NAME=CPP E X= 2.6KM, Y= 0.0KM, Z= 0.0M, DIST= 2.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.07E+00	8.24E-03	7.74E-04	4.28E-02	1.66E-02	1.78E+01
INFANT	GROUND	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03
INFANT	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.12E+00	5.86E-02	5.11E-02	9.31E-02	6.70E-02	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.07E+00	6.25E-03	3.61E-04	1.90E-02	7.82E-03	1.78E+01
CHILD	GROUND	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03
CHILD	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
CHILD	VEG. ING	5.46E-04	6.31E-03	1.87E-03	1.87E-03	1.53E-03	0.00E+00
CHILD	MEAT ING	8.44E-05	9.76E-04	2.90E-04	2.90E-04	2.36E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.12E+00	6.39E-02	5.29E-02	7.15E-02	5.99E-02	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.07E+00	1.54E-02	1.55E-04	8.15E-03	3.91E-03	1.78E+01
TEENAGE	GROUND	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03
TEENAGE	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
TEENAGE	VEG. ING	9.04E-04	1.04E-02	3.10E-03	3.10E-03	2.53E-03	0.00E+00
TEENAGE	MEAT ING	1.37E-04	1.58E-03	4.71E-04	4.71E-04	3.83E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.12E+00	7.78E-02	5.41E-02	6.21E-02	5.72E-02	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.07E+00	9.05E-03	1.29E-04	6.79E-03	3.26E-03	1.78E+01
ADULT	GROUND	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03	1.92E-03
ADULT	CLOUD	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02	4.84E-02
ADULT	VEG. ING	1.25E-03	1.44E-02	4.29E-03	4.29E-03	3.49E-03	0.00E+00
ADULT	MEAT ING	2.40E-04	2.77E-03	8.23E-04	8.23E-04	6.70E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.12E+00	7.66E-02	5.56E-02	6.23E-02	5.78E-02	1.78E+01

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 41
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 6 NAME=CPP ESE X= 2.5KM, Y= -1.0KM, Z= 0.0M, DIST= 2.7KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 6 NAME=CPP ESE X= 2.5KM, Y= -1.0KM, Z= 0.0M, DIST= 2.7KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.00E+00	9.77E-03	9.18E-04	5.07E-02	1.97E-02	3.32E+01
INFANT	GROUND	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03
INFANT	CLOUD	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.07E+00	7.98E-02	7.09E-02	1.21E-01	8.97E-02	3.33E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.99E+00	7.41E-03	4.28E-04	2.25E-02	9.28E-03	3.32E+01
CHILD	GROUND	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03
CHILD	CLOUD	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02
CHILD	VEG. ING	6.47E-04	7.48E-03	2.22E-03	2.22E-03	1.81E-03	0.00E+00
CHILD	MEAT ING	1.00E-04	1.16E-03	3.44E-04	3.44E-04	2.80E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.06E+00	8.61E-02	7.30E-02	9.51E-02	8.14E-02	3.33E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.99E+00	1.82E-02	1.84E-04	9.66E-03	4.64E-03	3.32E+01
TEENAGE	GROUND	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03
TEENAGE	CLOUD	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02
TEENAGE	VEG. ING	1.07E-03	1.24E-02	3.68E-03	3.68E-03	3.00E-03	0.00E+00
TEENAGE	MEAT ING	1.63E-04	1.88E-03	5.58E-04	5.58E-04	4.55E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.06E+00	1.03E-01	7.44E-02	8.39E-02	7.81E-02	3.33E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.99E+00	1.07E-02	1.53E-04	8.05E-03	3.87E-03	3.32E+01
ADULT	GROUND	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03	3.46E-03
ADULT	CLOUD	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02	6.66E-02
ADULT	VEG. ING	1.48E-03	1.71E-02	5.08E-03	5.08E-03	4.14E-03	0.00E+00
ADULT	MEAT ING	2.84E-04	3.28E-03	9.76E-04	9.76E-04	7.95E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.07E+00	1.01E-01	7.62E-02	8.41E-02	7.88E-02	3.33E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  43
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  7  NAME=CPP SSE              X=   0.9KM, Y=  -2.3KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  44
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER  7  NAME=CPP SSE               X=   0.9KM, Y=  -2.3KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.88E+00	1.44E-02	1.35E-03	7.48E-02	2.91E-02	3.12E+01
INFANT	GROUND	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
INFANT	CLOUD	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.00E+00	1.34E-01	1.20E-01	1.94E-01	1.48E-01	3.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.88E+00	1.09E-02	6.30E-04	3.32E-02	1.37E-02	3.12E+01
CHILD	GROUND	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
CHILD	CLOUD	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01
CHILD	VEG. ING	9.54E-04	1.10E-02	3.28E-03	3.28E-03	2.67E-03	0.00E+00
CHILD	MEAT ING	1.48E-04	1.71E-03	5.07E-04	5.07E-04	4.13E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.00E+00	1.43E-01	1.24E-01	1.56E-01	1.36E-01	3.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.88E+00	2.69E-02	2.70E-04	1.42E-02	6.84E-03	3.12E+01
TEENAGE	GROUND	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
TEENAGE	CLOUD	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01
TEENAGE	VEG. ING	1.58E-03	1.83E-02	5.43E-03	5.43E-03	4.42E-03	0.00E+00
TEENAGE	MEAT ING	2.40E-04	2.77E-03	8.23E-04	8.23E-04	6.70E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.00E+00	1.67E-01	1.26E-01	1.40E-01	1.31E-01	3.14E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.88E+00	1.58E-02	2.25E-04	1.19E-02	5.70E-03	3.12E+01
ADULT	GROUND	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03	3.50E-03
ADULT	CLOUD	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01	1.16E-01
ADULT	VEG. ING	2.18E-03	2.52E-02	7.49E-03	7.49E-03	6.10E-03	0.00E+00
ADULT	MEAT ING	4.19E-04	4.84E-03	1.44E-03	1.44E-03	1.17E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.00E+00	1.65E-01	1.28E-01	1.40E-01	1.32E-01	3.14E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 8 NAME=CPP SE X= 2.1KM, Y= -2.1KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  46
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER  8  NAME=CPP SE               X=   2.1KM, Y=  -2.1KM, Z=   0.0M, DIST=   3.0KM, IRTYPE=10
```

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	2.00E+00	1.34E-02	1.26E-03	6.98E-02	2.71E-02	3.33E+01
INFANT	GROUND	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03
INFANT	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.11E+00	1.20E-01	1.07E-01	1.76E-01	1.33E-01	3.34E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	2.00E+00	1.02E-02	5.89E-04	3.10E-02	1.28E-02	3.33E+01
CHILD	GROUND	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03
CHILD	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
CHILD	VEG. ING	8.90E-04	1.03E-02	3.06E-03	3.06E-03	2.49E-03	0.00E+00
CHILD	MEAT ING	1.38E-04	1.59E-03	4.73E-04	4.73E-04	3.85E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.11E+00	1.28E-01	1.10E-01	1.41E-01	1.22E-01	3.34E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	2.00E+00	2.51E-02	2.52E-04	1.33E-02	6.38E-03	3.33E+01
TEENAGE	GROUND	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03
TEENAGE	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
TEENAGE	VEG. ING	1.47E-03	1.70E-02	5.06E-03	5.06E-03	4.12E-03	0.00E+00
TEENAGE	MEAT ING	2.24E-04	2.58E-03	7.68E-04	7.68E-04	6.26E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.11E+00	1.51E-01	1.12E-01	1.25E-01	1.17E-01	3.34E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	2.00E+00	1.48E-02	2.10E-04	1.11E-02	5.32E-03	3.33E+01
ADULT	GROUND	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03	3.66E-03
ADULT	CLOUD	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01	1.03E-01
ADULT	VEG. ING	2.04E-03	2.35E-02	6.99E-03	6.99E-03	5.70E-03	0.00E+00
ADULT	MEAT ING	3.91E-04	4.52E-03	1.34E-03	1.34E-03	1.09E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.11E+00	1.49E-01	1.15E-01	1.26E-01	1.18E-01	3.34E+01

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 47
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 9 NAME=CPP S X= 0.0KM, Y= -2.9KM, Z= 0.0M, DIST= 2.9KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  48
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER  9  NAME=CPP S                X=   0.0KM, Y=  -2.9KM, Z=   0.0M, DIST=   2.9KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.32E+00	1.69E-02	1.58E-03	8.77E-02	3.41E-02	2.20E+01
INFANT	GROUND	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03
INFANT	CLOUD	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.44E+00	1.31E-01	1.16E-01	2.02E-01	1.48E-01	2.21E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.32E+00	1.28E-02	7.39E-04	3.90E-02	1.61E-02	2.20E+01
CHILD	GROUND	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03
CHILD	CLOUD	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01
CHILD	VEG. ING	1.12E-03	1.29E-02	3.85E-03	3.85E-03	3.13E-03	0.00E+00
CHILD	MEAT ING	1.73E-04	2.00E-03	5.95E-04	5.95E-04	4.85E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.44E+00	1.42E-01	1.19E-01	1.58E-01	1.34E-01	2.21E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.32E+00	3.16E-02	3.17E-04	1.67E-02	8.03E-03	2.20E+01
TEENAGE	GROUND	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03
TEENAGE	CLOUD	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01
TEENAGE	VEG. ING	1.85E-03	2.14E-02	6.37E-03	6.37E-03	5.19E-03	0.00E+00
TEENAGE	MEAT ING	2.81E-04	3.25E-03	9.66E-04	9.66E-04	7.87E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.44E+00	1.70E-01	1.22E-01	1.38E-01	1.28E-01	2.21E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.32E+00	1.86E-02	2.64E-04	1.39E-02	6.69E-03	2.20E+01
ADULT	GROUND	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03	2.48E-03
ADULT	CLOUD	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01	1.12E-01
ADULT	VEG. ING	2.56E-03	2.96E-02	8.79E-03	8.79E-03	7.16E-03	0.00E+00
ADULT	MEAT ING	4.92E-04	5.68E-03	1.69E-03	1.69E-03	1.38E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.44E+00	1.68E-01	1.25E-01	1.38E-01	1.29E-01	2.21E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  49
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 10  NAME=CPP SSW              X=  -1.1KM, Y=  -2.8KM, Z=   0.0M, DIST=   3.0KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 10 NAME=CPP SSW X= -1.1KM, Y= -2.8KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.05E+00	1.77E-02	1.66E-03	9.18E-02	3.57E-02	1.74E+01
INFANT	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
INFANT	CLOUD	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.15E+00	1.21E-01	1.05E-01	1.95E-01	1.39E-01	1.75E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.05E+00	1.34E-02	7.73E-04	4.08E-02	1.68E-02	1.74E+01
CHILD	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
CHILD	CLOUD	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
CHILD	VEG. ING	1.17E-03	1.35E-02	4.02E-03	4.02E-03	3.28E-03	0.00E+00
CHILD	MEAT ING	1.81E-04	2.09E-03	6.23E-04	6.23E-04	5.07E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.15E+00	1.32E-01	1.09E-01	1.49E-01	1.24E-01	1.75E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.05E+00	3.30E-02	3.31E-04	1.75E-02	8.40E-03	1.74E+01
TEENAGE	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
TEENAGE	CLOUD	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
TEENAGE	VEG. ING	1.94E-03	2.24E-02	6.66E-03	6.66E-03	5.43E-03	0.00E+00
TEENAGE	MEAT ING	2.94E-04	3.40E-03	1.01E-03	1.01E-03	8.23E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.15E+00	1.62E-01	1.11E-01	1.28E-01	1.18E-01	1.75E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.05E+00	1.94E-02	2.76E-04	1.46E-02	7.00E-03	1.74E+01
ADULT	GROUND	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03	1.97E-03
ADULT	CLOUD	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01	1.01E-01
ADULT	VEG. ING	2.68E-03	3.10E-02	9.20E-03	9.20E-03	7.49E-03	0.00E+00
ADULT	MEAT ING	5.14E-04	5.94E-03	1.77E-03	1.77E-03	1.44E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.15E+00	1.59E-01	1.14E-01	1.29E-01	1.19E-01	1.75E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  51
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER 11  NAME=CPP SW               X=  -2.4KM, Y=  -2.4KM, Z=   0.0M, DIST=   3.4KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 11 NAME=CPP SW X= -2.4KM, Y= -2.4KM, Z= 0.0M, DIST= 3.4KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	7.97E-01	1.63E-02	1.52E-03	8.44E-02	3.28E-02	1.32E+01
INFANT	GROUND	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03
INFANT	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.83E-01	1.02E-01	8.70E-02	1.70E-01	1.18E-01	1.33E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.94E-01	1.23E-02	7.11E-04	3.75E-02	1.54E-02	1.32E+01
CHILD	GROUND	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03
CHILD	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
CHILD	VEG. ING	1.08E-03	1.24E-02	3.70E-03	3.70E-03	3.01E-03	0.00E+00
CHILD	MEAT ING	1.67E-04	1.93E-03	5.73E-04	5.73E-04	4.66E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	8.81E-01	1.12E-01	9.05E-02	1.27E-01	1.04E-01	1.33E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	7.94E-01	3.04E-02	3.05E-04	1.61E-02	7.72E-03	1.32E+01
TEENAGE	GROUND	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03
TEENAGE	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
TEENAGE	VEG. ING	1.78E-03	2.06E-02	6.13E-03	6.13E-03	4.99E-03	0.00E+00
TEENAGE	MEAT ING	2.71E-04	3.13E-03	9.29E-04	9.29E-04	7.57E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.82E-01	1.40E-01	9.28E-02	1.09E-01	9.89E-02	1.33E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.94E-01	1.79E-02	2.54E-04	1.34E-02	6.43E-03	1.32E+01
ADULT	GROUND	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03	1.50E-03
ADULT	CLOUD	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02	8.40E-02
ADULT	VEG. ING	2.46E-03	2.85E-02	8.46E-03	8.46E-03	6.89E-03	0.00E+00
ADULT	MEAT ING	4.73E-04	5.46E-03	1.62E-03	1.62E-03	1.32E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	8.82E-01	1.37E-01	9.58E-02	1.09E-01	1.00E-01	1.33E+01

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1REGION: Dewey Burdock          CODE: MILDOS-AREA (02/97)       PAGE  53
 METSET:                        DATA: DB.MIL                    10/06/11
                        TIME STEP NUMBER 1,                            DURATION IN YRS IS...  1.0

 NUMBER 12  NAME=CPP WSW          X=  -2.4KM, Y=  -0.9KM, Z=   0.0M, DIST=   2.5KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  54
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 12  NAME=CPP WSW              X=  -2.4KM, Y=  -0.9KM, Z=   0.0M, DIST=   2.5KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.04E+00	1.29E-02	1.20E-03	6.68E-02	2.60E-02	1.73E+01
INFANT	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
INFANT	CLOUD	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.13E+00	1.03E-01	9.13E-02	1.57E-01	1.16E-01	1.73E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.04E+00	9.76E-03	5.61E-04	2.97E-02	1.22E-02	1.73E+01
CHILD	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
CHILD	CLOUD	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02
CHILD	VEG. ING	8.53E-04	9.86E-03	2.93E-03	2.93E-03	2.39E-03	0.00E+00
CHILD	MEAT ING	1.32E-04	1.53E-03	4.53E-04	4.53E-04	3.69E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.13E+00	1.11E-01	9.41E-02	1.23E-01	1.05E-01	1.73E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.04E+00	2.41E-02	2.41E-04	1.27E-02	6.11E-03	1.73E+01
TEENAGE	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
TEENAGE	CLOUD	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02
TEENAGE	VEG. ING	1.41E-03	1.63E-02	4.85E-03	4.85E-03	3.95E-03	0.00E+00
TEENAGE	MEAT ING	2.14E-04	2.48E-03	7.36E-04	7.36E-04	5.99E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.13E+00	1.33E-01	9.60E-02	1.08E-01	1.01E-01	1.73E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.04E+00	1.41E-02	2.00E-04	1.06E-02	5.10E-03	1.73E+01
ADULT	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
ADULT	CLOUD	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02	8.82E-02
ADULT	VEG. ING	1.95E-03	2.25E-02	6.70E-03	6.70E-03	5.46E-03	0.00E+00
ADULT	MEAT ING	3.74E-04	4.33E-03	1.29E-03	1.29E-03	1.05E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.13E+00	1.31E-01	9.83E-02	1.09E-01	1.02E-01	1.73E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  55
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 13  NAME=CPP W                X=  -2.3KM, Y=   0.0KM, Z=   0.0M, DIST=   2.3KM, IRTYPE=10

                              40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 13 NAME=CPP W X= -2.3KM, Y= 0.0KM, Z= 0.0M, DIST= 2.3KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.22E+00	1.06E-02	9.85E-04	5.48E-02	2.13E-02	2.03E+01
INFANT	GROUND	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03
INFANT	CLOUD	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.31E+00	1.02E-01	9.24E-02	1.46E-01	1.13E-01	2.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.22E+00	8.01E-03	4.60E-04	2.44E-02	1.00E-02	2.03E+01
CHILD	GROUND	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03
CHILD	CLOUD	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02
CHILD	VEG. ING	7.00E-04	8.09E-03	2.40E-03	2.40E-03	1.96E-03	0.00E+00
CHILD	MEAT ING	1.08E-04	1.25E-03	3.72E-04	3.72E-04	3.03E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.31E+00	1.09E-01	9.46E-02	1.19E-01	1.04E-01	2.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.22E+00	1.97E-02	1.97E-04	1.04E-02	5.02E-03	2.03E+01
TEENAGE	GROUND	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03
TEENAGE	CLOUD	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02
TEENAGE	VEG. ING	1.16E-03	1.34E-02	3.98E-03	3.98E-03	3.24E-03	0.00E+00
TEENAGE	MEAT ING	1.76E-04	2.03E-03	6.04E-04	6.04E-04	4.92E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.31E+00	1.27E-01	9.62E-02	1.06E-01	1.00E-01	2.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.22E+00	1.16E-02	1.64E-04	8.71E-03	4.18E-03	2.03E+01
ADULT	GROUND	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03	2.26E-03
ADULT	CLOUD	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02	8.91E-02
ADULT	VEG. ING	1.60E-03	1.85E-02	5.50E-03	5.50E-03	4.48E-03	0.00E+00
ADULT	MEAT ING	3.07E-04	3.55E-03	1.06E-03	1.06E-03	8.59E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.31E+00	1.25E-01	9.81E-02	1.07E-01	1.01E-01	2.04E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  57
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 14  NAME=CPP WNW              X=  -2.3KM, Y=   0.9KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  58
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER 14  NAME=CPP WNW             X=  -2.3KM, Y=   0.9KM, Z=   0.0M, DIST=   2.4KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.27E+00	8.51E-03	7.93E-04	4.42E-02	1.72E-02	2.11E+01
INFANT	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
INFANT	CLOUD	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.36E+00	9.63E-02	8.86E-02	1.32E-01	1.05E-01	2.12E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.27E+00	6.45E-03	3.70E-04	1.96E-02	8.08E-03	2.11E+01
CHILD	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
CHILD	CLOUD	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02
CHILD	VEG. ING	5.64E-04	6.51E-03	1.94E-03	1.94E-03	1.58E-03	0.00E+00
CHILD	MEAT ING	8.72E-05	1.01E-03	3.00E-04	3.00E-04	2.44E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.36E+00	1.02E-01	9.04E-02	1.10E-01	9.77E-02	2.12E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.27E+00	1.59E-02	1.59E-04	8.41E-03	4.04E-03	2.11E+01
TEENAGE	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
TEENAGE	CLOUD	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02
TEENAGE	VEG. ING	9.33E-04	1.08E-02	3.21E-03	3.21E-03	2.61E-03	0.00E+00
TEENAGE	MEAT ING	1.42E-04	1.64E-03	4.86E-04	4.86E-04	3.96E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.36E+00	1.16E-01	9.17E-02	9.99E-02	9.49E-02	2.12E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.27E+00	9.35E-03	1.32E-04	7.01E-03	3.37E-03	2.11E+01
ADULT	GROUND	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03	2.35E-03
ADULT	CLOUD	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02	8.55E-02
ADULT	VEG. ING	1.29E-03	1.49E-02	4.43E-03	4.43E-03	3.61E-03	0.00E+00
ADULT	MEAT ING	2.47E-04	2.86E-03	8.50E-04	8.50E-04	6.92E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.36E+00	1.15E-01	9.32E-02	1.00E-01	9.55E-02	2.12E+01

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1REGION: Dewey Burdock            CODE: MILDOS-AREA (02/97)         PAGE  59
 METSET:                          DATA: DB.MIL                      10/06/11
                          TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 15  NAME=CPP NW               X=  -2.5KM, Y=   2.5KM, Z=   0.0M, DIST=   3.6KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 15 NAME=CPP NW X= -2.5KM, Y= 2.5KM, Z= 0.0M, DIST= 3.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.48E+00	4.98E-03	4.64E-04	2.59E-02	1.01E-02	2.46E+01
INFANT	GROUND	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
INFANT	CLOUD	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.55E+00	7.53E-02	7.08E-02	9.62E-02	8.04E-02	2.47E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.48E+00	3.78E-03	2.17E-04	1.15E-02	4.73E-03	2.46E+01
CHILD	GROUND	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
CHILD	CLOUD	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02
CHILD	VEG. ING	3.30E-04	3.81E-03	1.13E-03	1.13E-03	9.23E-04	0.00E+00
CHILD	MEAT ING	5.11E-05	5.90E-04	1.75E-04	1.75E-04	1.43E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.55E+00	7.85E-02	7.19E-02	8.31E-02	7.61E-02	2.47E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.48E+00	9.31E-03	9.28E-05	4.93E-03	2.37E-03	2.46E+01
TEENAGE	GROUND	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
TEENAGE	CLOUD	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02
TEENAGE	VEG. ING	5.47E-04	6.32E-03	1.88E-03	1.88E-03	1.53E-03	0.00E+00
TEENAGE	MEAT ING	8.29E-05	9.58E-04	2.85E-04	2.85E-04	2.32E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.55E+00	8.69E-02	7.26E-02	7.74E-02	7.45E-02	2.47E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.48E+00	5.47E-03	7.74E-05	4.11E-03	1.97E-03	2.46E+01
ADULT	GROUND	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03	2.66E-03
ADULT	CLOUD	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02	6.77E-02
ADULT	VEG. ING	7.55E-04	8.72E-03	2.59E-03	2.59E-03	2.11E-03	0.00E+00
ADULT	MEAT ING	1.45E-04	1.67E-03	4.98E-04	4.98E-04	4.05E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.55E+00	8.62E-02	7.35E-02	7.75E-02	7.48E-02	2.47E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  61
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 16  NAME=CPP NNW              X=  -1.4KM, Y=   3.7KM, Z=   0.0M, DIST=   4.0KM, IRTYPE=10

                         40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 16 NAME=CPP NNW X= -1.4KM, Y= 3.7KM, Z= 0.0M, DIST= 4.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.69E-01	5.62E-03	5.24E-04	2.92E-02	1.13E-02	1.11E+01
INFANT	GROUND	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03
INFANT	CLOUD	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.20E-01	5.65E-02	5.14E-02	8.00E-02	6.22E-02	1.12E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.68E-01	4.26E-03	2.45E-04	1.30E-02	5.34E-03	1.11E+01
CHILD	GROUND	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03
CHILD	CLOUD	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02
CHILD	VEG. ING	3.72E-04	4.30E-03	1.28E-03	1.28E-03	1.04E-03	0.00E+00
CHILD	MEAT ING	5.76E-05	6.66E-04	1.98E-04	1.98E-04	1.61E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.19E-01	6.01E-02	5.26E-02	6.53E-02	5.74E-02	1.12E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.68E-01	1.05E-02	1.05E-04	5.56E-03	2.67E-03	1.11E+01
TEENAGE	GROUND	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03
TEENAGE	CLOUD	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02
TEENAGE	VEG. ING	6.17E-04	7.13E-03	2.12E-03	2.12E-03	1.73E-03	0.00E+00
TEENAGE	MEAT ING	9.35E-05	1.08E-03	3.21E-04	3.21E-04	2.62E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	7.20E-01	6.96E-02	5.34E-02	5.88E-02	5.55E-02	1.12E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.68E-01	6.18E-03	8.74E-05	4.63E-03	2.22E-03	1.11E+01
ADULT	GROUND	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03	1.25E-03
ADULT	CLOUD	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02	4.96E-02
ADULT	VEG. ING	8.52E-04	9.84E-03	2.92E-03	2.92E-03	2.38E-03	0.00E+00
ADULT	MEAT ING	1.63E-04	1.89E-03	5.61E-04	5.61E-04	4.57E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.20E-01	6.88E-02	5.44E-02	5.90E-02	5.59E-02	1.12E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  63
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 17  NAME=SF N                 X=  -4.9KM, Y=   5.3KM, Z=   0.0M, DIST=   7.2KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 64
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 17 NAME=SF N X= -4.9KM, Y= 5.3KM, Z= 0.0M, DIST= 7.2KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.06E-01	4.70E-03	4.41E-04	2.44E-02	9.48E-03	1.34E+01
INFANT	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
INFANT	CLOUD	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.50E-01	4.80E-02	4.37E-02	6.77E-02	5.27E-02	1.35E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	8.06E-01	3.56E-03	2.06E-04	1.08E-02	4.46E-03	1.34E+01
CHILD	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
CHILD	CLOUD	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02
CHILD	VEG. ING	3.11E-04	3.60E-03	1.07E-03	1.07E-03	8.71E-04	0.00E+00
CHILD	MEAT ING	4.82E-05	5.57E-04	1.65E-04	1.65E-04	1.35E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	8.49E-01	5.10E-02	4.47E-02	5.53E-02	4.87E-02	1.35E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.06E-01	8.78E-03	8.82E-05	4.65E-03	2.23E-03	1.34E+01
TEENAGE	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
TEENAGE	CLOUD	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02
TEENAGE	VEG. ING	5.16E-04	5.96E-03	1.77E-03	1.77E-03	1.44E-03	0.00E+00
TEENAGE	MEAT ING	7.82E-05	9.04E-04	2.69E-04	2.69E-04	2.19E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.50E-01	5.89E-02	4.54E-02	4.99E-02	4.72E-02	1.35E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	8.06E-01	5.16E-03	7.35E-05	3.87E-03	1.86E-03	1.34E+01
ADULT	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
ADULT	CLOUD	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02	4.18E-02
ADULT	VEG. ING	7.12E-04	8.23E-03	2.44E-03	2.44E-03	1.99E-03	0.00E+00
ADULT	MEAT ING	1.37E-04	1.58E-03	4.69E-04	4.69E-04	3.82E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	8.50E-01	5.82E-02	4.62E-02	5.00E-02	4.75E-02	1.35E+01

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 65
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 18 NAME=SF NNE X= -4.2KM, Y= 5.3KM, Z= 0.0M, DIST= 6.7KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 18 NAME=SF NNE X= -4.2KM, Y= 5.3KM, Z= 0.0M, DIST= 6.7KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.06E-01	5.03E-03	4.72E-04	2.61E-02	1.02E-02	1.34E+01
INFANT	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
INFANT	CLOUD	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.51E-01	5.03E-02	4.58E-02	7.14E-02	5.54E-02	1.34E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	8.05E-01	3.81E-03	2.20E-04	1.16E-02	4.78E-03	1.34E+01
CHILD	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
CHILD	CLOUD	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02
CHILD	VEG. ING	3.33E-04	3.85E-03	1.14E-03	1.14E-03	9.32E-04	0.00E+00
CHILD	MEAT ING	5.16E-05	5.96E-04	1.77E-04	1.77E-04	1.44E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	8.50E-01	5.36E-02	4.68E-02	5.82E-02	5.11E-02	1.34E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.05E-01	9.40E-03	9.43E-05	4.97E-03	2.39E-03	1.34E+01
TEENAGE	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
TEENAGE	CLOUD	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02
TEENAGE	VEG. ING	5.52E-04	6.38E-03	1.90E-03	1.90E-03	1.54E-03	0.00E+00
TEENAGE	MEAT ING	8.37E-05	9.67E-04	2.88E-04	2.88E-04	2.34E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.51E-01	6.20E-02	4.76E-02	5.25E-02	4.95E-02	1.34E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	8.05E-01	5.53E-03	7.86E-05	4.15E-03	1.99E-03	1.34E+01
ADULT	GROUND	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03	1.49E-03
ADULT	CLOUD	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02	4.38E-02
ADULT	VEG. ING	7.62E-04	8.81E-03	2.62E-03	2.62E-03	2.13E-03	0.00E+00
ADULT	MEAT ING	1.46E-04	1.69E-03	5.03E-04	5.03E-04	4.09E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	8.51E-01	6.13E-02	4.85E-02	5.26E-02	4.98E-02	1.34E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  67
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 19  NAME=SF NE                X=  -2.7KM, Y=   5.6KM, Z=   0.0M, DIST=   6.3KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 68
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 19 NAME=SF NE X= -2.7KM, Y= 5.6KM, Z= 0.0M, DIST= 6.3KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	4.96E-01	6.10E-03	5.72E-04	3.17E-02	1.23E-02	8.24E+00
INFANT	GROUND	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04
INFANT	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	5.38E-01	4.78E-02	4.23E-02	7.34E-02	5.40E-02	8.28E+00
AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	4.95E-01	4.63E-03	2.67E-04	1.41E-02	5.80E-03	8.24E+00
CHILD	GROUND	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04
CHILD	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
CHILD	VEG. ING	4.04E-04	4.67E-03	1.39E-03	1.39E-03	1.13E-03	0.00E+00
CHILD	MEAT ING	6.26E-05	7.23E-04	2.15E-04	2.15E-04	1.75E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	5.37E-01	5.17E-02	4.36E-02	5.74E-02	4.88E-02	8.28E+00
AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	4.95E-01	1.14E-02	1.14E-04	6.04E-03	2.90E-03	8.24E+00
TEENAGE	GROUND	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04
TEENAGE	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
TEENAGE	VEG. ING	6.70E-04	7.74E-03	2.30E-03	2.30E-03	1.87E-03	0.00E+00
TEENAGE	MEAT ING	1.02E-04	1.17E-03	3.49E-04	3.49E-04	2.84E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	5.38E-01	6.20E-02	4.44E-02	5.04E-02	4.67E-02	8.28E+00
AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	4.95E-01	6.71E-03	9.53E-05	5.03E-03	2.42E-03	8.24E+00
ADULT	GROUND	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04	9.29E-04
ADULT	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
ADULT	VEG. ING	9.25E-04	1.07E-02	3.18E-03	3.18E-03	2.59E-03	0.00E+00
ADULT	MEAT ING	1.78E-04	2.05E-03	6.10E-04	6.10E-04	4.97E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	5.38E-01	6.11E-02	4.56E-02	5.05E-02	4.72E-02	8.28E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  69
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 20  NAME=SF ENE               X=  -3.3KM, Y=   4.0KM, Z=   0.0M, DIST=   5.2KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  70
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                  DURATION IN YRS IS...  1.0

 NUMBER 20  NAME=SF ENE              X=  -3.3KM, Y=   4.0KM, Z=   0.0M, DIST=   5.2KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.25E+00	3.83E-03	3.59E-04	1.99E-02	7.74E-03	2.08E+01
INFANT	GROUND	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
INFANT	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.29E+00	4.38E-02	4.04E-02	5.99E-02	4.77E-02	2.08E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.25E+00	2.91E-03	1.67E-04	8.85E-03	3.64E-03	2.08E+01
CHILD	GROUND	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
CHILD	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
CHILD	VEG. ING	2.54E-04	2.93E-03	8.72E-04	8.72E-04	7.11E-04	0.00E+00
CHILD	MEAT ING	3.93E-05	4.54E-04	1.35E-04	1.35E-04	1.10E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.29E+00	4.63E-02	4.12E-02	4.98E-02	4.45E-02	2.08E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.25E+00	7.16E-03	7.18E-05	3.79E-03	1.82E-03	2.08E+01
TEENAGE	GROUND	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
TEENAGE	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
TEENAGE	VEG. ING	4.21E-04	4.86E-03	1.44E-03	1.44E-03	1.18E-03	0.00E+00
TEENAGE	MEAT ING	6.38E-05	7.37E-04	2.19E-04	2.19E-04	1.78E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.29E+00	5.28E-02	4.17E-02	4.54E-02	4.32E-02	2.08E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.25E+00	4.21E-03	5.98E-05	3.16E-03	1.52E-03	2.08E+01
ADULT	GROUND	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03	2.19E-03
ADULT	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
ADULT	VEG. ING	5.81E-04	6.71E-03	1.99E-03	1.99E-03	1.62E-03	0.00E+00
ADULT	MEAT ING	1.11E-04	1.29E-03	3.83E-04	3.83E-04	3.12E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.29E+00	5.22E-02	4.24E-02	4.55E-02	4.34E-02	2.08E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  71
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 21  NAME=SF E                 X=  -3.0KM, Y=   3.4KM, Z=   0.0M, DIST=   4.5KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 21 NAME=SF E X= -3.0KM, Y= 3.4KM, Z= 0.0M, DIST= 4.5KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.42E+00	3.88E-03	3.62E-04	2.01E-02	7.82E-03	2.37E+01
INFANT	GROUND	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03
INFANT	CLOUD	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.47E+00	5.22E-02	4.87E-02	6.84E-02	5.61E-02	2.37E+01
AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.42E+00	2.94E-03	1.69E-04	8.95E-03	3.68E-03	2.37E+01
CHILD	GROUND	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03
CHILD	CLOUD	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
CHILD	VEG. ING	2.57E-04	2.97E-03	8.82E-04	8.82E-04	7.19E-04	0.00E+00
CHILD	MEAT ING	3.97E-05	4.59E-04	1.37E-04	1.37E-04	1.11E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.47E+00	5.47E-02	4.95E-02	5.83E-02	5.28E-02	2.37E+01
AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.42E+00	7.24E-03	7.24E-05	3.83E-03	1.84E-03	2.37E+01
TEENAGE	GROUND	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03
TEENAGE	CLOUD	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
TEENAGE	VEG. ING	4.25E-04	4.91E-03	1.46E-03	1.46E-03	1.19E-03	0.00E+00
TEENAGE	MEAT ING	6.45E-05	7.45E-04	2.22E-04	2.22E-04	1.80E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.47E+00	6.12E-02	5.01E-02	5.38E-02	5.15E-02	2.37E+01
AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.42E+00	4.26E-03	6.04E-05	3.19E-03	1.53E-03	2.37E+01
ADULT	GROUND	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03	2.47E-03
ADULT	CLOUD	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02	4.58E-02
ADULT	VEG. ING	5.87E-04	6.79E-03	2.02E-03	2.02E-03	1.64E-03	0.00E+00
ADULT	MEAT ING	1.13E-04	1.30E-03	3.87E-04	3.87E-04	3.15E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.47E+00	6.06E-02	5.08E-02	5.39E-02	5.18E-02	2.37E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  73
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 22  NAME=SF SSE               X=  -3.5KM, Y=   0.2KM, Z=   0.0M, DIST=   3.6KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 22 NAME=SF SSE X= -3.5KM, Y= 0.2KM, Z= 0.0M, DIST= 3.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.15E+00	1.09E-02	1.02E-03	5.68E-02	2.21E-02	1.92E+01
INFANT	GROUND	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03
INFANT	CLOUD	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.25E+00	1.09E-01	9.92E-02	1.55E-01	1.20E-01	1.93E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.15E+00	8.30E-03	4.76E-04	2.53E-02	1.04E-02	1.92E+01
CHILD	GROUND	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03
CHILD	CLOUD	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02
CHILD	VEG. ING	7.25E-04	8.38E-03	2.49E-03	2.49E-03	2.03E-03	0.00E+00
CHILD	MEAT ING	1.12E-04	1.30E-03	3.85E-04	3.85E-04	3.14E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.25E+00	1.16E-01	1.02E-01	1.26E-01	1.11E-01	1.93E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.15E+00	2.04E-02	2.04E-04	1.08E-02	5.20E-03	1.92E+01
TEENAGE	GROUND	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03
TEENAGE	CLOUD	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02
TEENAGE	VEG. ING	1.20E-03	1.39E-02	4.12E-03	4.12E-03	3.36E-03	0.00E+00
TEENAGE	MEAT ING	1.82E-04	2.10E-03	6.26E-04	6.26E-04	5.09E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.25E+00	1.35E-01	1.03E-01	1.14E-01	1.07E-01	1.93E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.15E+00	1.20E-02	1.70E-04	9.02E-03	4.33E-03	1.92E+01
ADULT	GROUND	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03	2.16E-03
ADULT	CLOUD	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02	9.60E-02
ADULT	VEG. ING	1.66E-03	1.92E-02	5.69E-03	5.69E-03	4.64E-03	0.00E+00
ADULT	MEAT ING	3.18E-04	3.68E-03	1.09E-03	1.09E-03	8.90E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.25E+00	1.33E-01	1.05E-01	1.14E-01	1.08E-01	1.93E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 23 NAME=SF SE X= -2.8KM, Y= 1.3KM, Z= 0.0M, DIST= 3.1KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 23 NAME=SF SE X= -2.8KM, Y= 1.3KM, Z= 0.0M, DIST= 3.1KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.54E+00	8.02E-03	7.47E-04	4.16E-02	1.62E-02	2.57E+01
INFANT	GROUND	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03
INFANT	CLOUD	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.64E+00	1.05E-01	9.79E-02	1.39E-01	1.13E-01	2.58E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.54E+00	6.08E-03	3.49E-04	1.85E-02	7.62E-03	2.57E+01
CHILD	GROUND	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03
CHILD	CLOUD	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02
CHILD	VEG. ING	5.31E-04	6.14E-03	1.82E-03	1.82E-03	1.49E-03	0.00E+00
CHILD	MEAT ING	8.22E-05	9.50E-04	2.82E-04	2.82E-04	2.30E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.64E+00	1.10E-01	9.96E-02	1.18E-01	1.07E-01	2.58E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.54E+00	1.50E-02	1.49E-04	7.93E-03	3.81E-03	2.57E+01
TEENAGE	GROUND	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03
TEENAGE	CLOUD	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02
TEENAGE	VEG. ING	8.80E-04	1.02E-02	3.02E-03	3.02E-03	2.46E-03	0.00E+00
TEENAGE	MEAT ING	1.33E-04	1.54E-03	4.58E-04	4.58E-04	3.73E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.64E+00	1.24E-01	1.01E-01	1.09E-01	1.04E-01	2.58E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.54E+00	8.81E-03	1.25E-04	6.61E-03	3.17E-03	2.57E+01
ADULT	GROUND	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03	2.84E-03
ADULT	CLOUD	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02	9.43E-02
ADULT	VEG. ING	1.21E-03	1.40E-02	4.17E-03	4.17E-03	3.40E-03	0.00E+00
ADULT	MEAT ING	2.33E-04	2.70E-03	8.01E-04	8.01E-04	6.52E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.64E+00	1.23E-01	1.02E-01	1.09E-01	1.04E-01	2.58E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  77
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 24  NAME=SF S                 X=  -4.9KM, Y=  -0.3KM, Z=   0.0M, DIST=   4.9KM, IRTYPE=10

                               40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 24 NAME=SF S X= -4.9KM, Y= -0.3KM, Z= 0.0M, DIST= 4.9KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.29E-01	1.23E-02	1.15E-03	6.39E-02	2.48E-02	1.54E+01
INFANT	GROUND	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03
INFANT	CLOUD	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.02E+00	1.03E-01	9.14E-02	1.54E-01	1.15E-01	1.55E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	9.27E-01	9.33E-03	5.36E-04	2.84E-02	1.17E-02	1.54E+01
CHILD	GROUND	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03
CHILD	CLOUD	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02
CHILD	VEG. ING	8.15E-04	9.42E-03	2.80E-03	2.80E-03	2.28E-03	0.00E+00
CHILD	MEAT ING	1.26E-04	1.46E-03	4.33E-04	4.33E-04	3.53E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.02E+00	1.10E-01	9.40E-02	1.22E-01	1.05E-01	1.55E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.27E-01	2.30E-02	2.30E-04	1.22E-02	5.84E-03	1.54E+01
TEENAGE	GROUND	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03
TEENAGE	CLOUD	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02
TEENAGE	VEG. ING	1.35E-03	1.56E-02	4.64E-03	4.64E-03	3.78E-03	0.00E+00
TEENAGE	MEAT ING	2.05E-04	2.37E-03	7.03E-04	7.03E-04	5.73E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.02E+00	1.31E-01	9.58E-02	1.08E-01	1.00E-01	1.55E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.27E-01	1.35E-02	1.91E-04	1.01E-02	4.87E-03	1.54E+01
ADULT	GROUND	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03	1.75E-03
ADULT	CLOUD	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02	8.85E-02
ADULT	VEG. ING	1.86E-03	2.15E-02	6.40E-03	6.40E-03	5.21E-03	0.00E+00
ADULT	MEAT ING	3.58E-04	4.13E-03	1.23E-03	1.23E-03	1.00E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.02E+00	1.29E-01	9.81E-02	1.08E-01	1.01E-01	1.55E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  79
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 25  NAME=SF SSW               X=  -5.7KM, Y=   1.4KM, Z=   0.0M, DIST=   5.9KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  80
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 25  NAME=SF SSW               X=  -5.7KM, Y=   1.4KM, Z=   0.0M, DIST=   5.9KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.26E+00	8.42E-03	7.87E-04	4.37E-02	1.70E-02	2.10E+01
INFANT	GROUND	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03
INFANT	CLOUD	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.35E+00	1.00E-01	9.24E-02	1.35E-01	1.09E-01	2.11E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.26E+00	6.39E-03	3.67E-04	1.94E-02	8.00E-03	2.10E+01
CHILD	GROUND	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03
CHILD	CLOUD	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02
CHILD	VEG. ING	5.58E-04	6.45E-03	1.92E-03	1.92E-03	1.56E-03	0.00E+00
CHILD	MEAT ING	8.64E-05	9.98E-04	2.97E-04	2.97E-04	2.42E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.35E+00	1.05E-01	9.42E-02	1.13E-01	1.01E-01	2.11E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.26E+00	1.57E-02	1.57E-04	8.33E-03	4.00E-03	2.10E+01
TEENAGE	GROUND	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03
TEENAGE	CLOUD	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02
TEENAGE	VEG. ING	9.24E-04	1.07E-02	3.17E-03	3.17E-03	2.59E-03	0.00E+00
TEENAGE	MEAT ING	1.40E-04	1.62E-03	4.81E-04	4.81E-04	3.92E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.35E+00	1.20E-01	9.54E-02	1.04E-01	9.86E-02	2.11E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.26E+00	9.26E-03	1.31E-04	6.94E-03	3.33E-03	2.10E+01
ADULT	GROUND	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03	2.36E-03
ADULT	CLOUD	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02	8.92E-02
ADULT	VEG. ING	1.28E-03	1.47E-02	4.38E-03	4.38E-03	3.57E-03	0.00E+00
ADULT	MEAT ING	2.45E-04	2.83E-03	8.41E-04	8.41E-04	6.85E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.35E+00	1.18E-01	9.69E-02	1.04E-01	9.92E-02	2.11E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  81
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 26  NAME=SF SW                X=  -6.3KM, Y=   2.1KM, Z=   0.0M, DIST=   6.6KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  82
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 26  NAME=SF SW                X=  -6.3KM, Y=   2.1KM, Z=   0.0M, DIST=   6.6KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.01E+00	6.64E-03	6.22E-04	3.45E-02	1.34E-02	1.67E+01
INFANT	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
INFANT	CLOUD	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.07E+00	7.26E-02	6.65E-02	1.00E-01	7.93E-02	1.68E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.00E+00	5.04E-03	2.90E-04	1.53E-02	6.31E-03	1.67E+01
CHILD	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
CHILD	CLOUD	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02
CHILD	VEG. ING	4.40E-04	5.09E-03	1.51E-03	1.51E-03	1.23E-03	0.00E+00
CHILD	MEAT ING	6.81E-05	7.87E-04	2.34E-04	2.34E-04	1.91E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.07E+00	7.68E-02	6.80E-02	8.30E-02	7.37E-02	1.68E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.00E+00	1.24E-02	1.24E-04	6.57E-03	3.16E-03	1.67E+01
TEENAGE	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
TEENAGE	CLOUD	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02
TEENAGE	VEG. ING	7.29E-04	8.42E-03	2.50E-03	2.50E-03	2.04E-03	0.00E+00
TEENAGE	MEAT ING	1.11E-04	1.28E-03	3.80E-04	3.80E-04	3.09E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.07E+00	8.80E-02	6.89E-02	7.54E-02	7.14E-02	1.68E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.00E+00	7.30E-03	1.04E-04	5.48E-03	2.63E-03	1.67E+01
ADULT	GROUND	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03	1.87E-03
ADULT	CLOUD	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02	6.41E-02
ADULT	VEG. ING	1.01E-03	1.16E-02	3.46E-03	3.46E-03	2.82E-03	0.00E+00
ADULT	MEAT ING	1.93E-04	2.23E-03	6.64E-04	6.64E-04	5.41E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.07E+00	8.71E-02	7.02E-02	7.55E-02	7.19E-02	1.68E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 27 NAME=SF WSW X= -6.2KM, Y= 2.9KM, Z= 0.0M, DIST= 6.9KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 27 NAME=SF WSW X= -6.2KM, Y= 2.9KM, Z= 0.0M, DIST= 6.9KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.07E+00	5.21E-03	4.88E-04	2.70E-02	1.05E-02	1.78E+01
INFANT	GROUND	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03
INFANT	CLOUD	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.12E+00	5.32E-02	4.85E-02	7.51E-02	5.85E-02	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.07E+00	3.95E-03	2.28E-04	1.20E-02	4.94E-03	1.78E+01
CHILD	GROUND	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03
CHILD	CLOUD	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02
CHILD	VEG. ING	3.45E-04	3.99E-03	1.18E-03	1.18E-03	9.65E-04	0.00E+00
CHILD	MEAT ING	5.34E-05	6.17E-04	1.83E-04	1.83E-04	1.49E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.12E+00	5.66E-02	4.96E-02	6.14E-02	5.41E-02	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.07E+00	9.73E-03	9.77E-05	5.15E-03	2.47E-03	1.78E+01
TEENAGE	GROUND	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03
TEENAGE	CLOUD	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02
TEENAGE	VEG. ING	5.71E-04	6.60E-03	1.96E-03	1.96E-03	1.60E-03	0.00E+00
TEENAGE	MEAT ING	8.66E-05	1.00E-03	2.98E-04	2.98E-04	2.42E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.12E+00	6.54E-02	5.04E-02	5.54E-02	5.23E-02	1.78E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.07E+00	5.72E-03	8.14E-05	4.29E-03	2.06E-03	1.78E+01
ADULT	GROUND	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03	1.90E-03
ADULT	CLOUD	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02	4.61E-02
ADULT	VEG. ING	7.89E-04	9.11E-03	2.71E-03	2.71E-03	2.21E-03	0.00E+00
ADULT	MEAT ING	1.51E-04	1.75E-03	5.20E-04	5.20E-04	4.24E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.12E+00	6.46E-02	5.13E-02	5.55E-02	5.27E-02	1.78E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  85
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 28  NAME=SF W                 X=  -7.0KM, Y=   3.4KM, Z=   0.0M, DIST=   7.8KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 28 NAME=SF W X= -7.0KM, Y= 3.4KM, Z= 0.0M, DIST= 7.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	7.61E-01	5.69E-03	5.35E-04	2.96E-02	1.15E-02	1.27E+01
INFANT	GROUND	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03
INFANT	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	8.04E-01	4.79E-02	4.27E-02	7.18E-02	5.37E-02	1.27E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.60E-01	4.32E-03	2.50E-04	1.31E-02	5.41E-03	1.27E+01
CHILD	GROUND	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03
CHILD	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
CHILD	VEG. ING	3.77E-04	4.36E-03	1.30E-03	1.30E-03	1.06E-03	0.00E+00
CHILD	MEAT ING	5.84E-05	6.75E-04	2.01E-04	2.01E-04	1.63E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	8.03E-01	5.15E-02	4.39E-02	5.68E-02	4.88E-02	1.27E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	7.60E-01	1.06E-02	1.07E-04	5.63E-03	2.70E-03	1.27E+01
TEENAGE	GROUND	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03
TEENAGE	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
TEENAGE	VEG. ING	6.25E-04	7.22E-03	2.15E-03	2.15E-03	1.75E-03	0.00E+00
TEENAGE	MEAT ING	9.48E-05	1.10E-03	3.25E-04	3.25E-04	2.65E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	8.03E-01	6.11E-02	4.48E-02	5.03E-02	4.69E-02	1.27E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.60E-01	6.26E-03	8.91E-05	4.69E-03	2.25E-03	1.27E+01
ADULT	GROUND	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03	1.37E-03
ADULT	CLOUD	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02	4.08E-02
ADULT	VEG. ING	8.63E-04	9.97E-03	2.96E-03	2.96E-03	2.41E-03	0.00E+00
ADULT	MEAT ING	1.66E-04	1.91E-03	5.69E-04	5.69E-04	4.63E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	8.04E-01	6.03E-02	4.58E-02	5.04E-02	4.73E-02	1.27E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  87
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 29  NAME=SF WNW               X=  -7.0KM, Y=   4.2KM, Z=   0.0M, DIST=   8.2KM, IRTYPE=10

                              40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 29 NAME=SF WNW X= -7.0KM, Y= 4.2KM, Z= 0.0M, DIST= 8.2KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.24E-01	5.26E-03	4.94E-04	2.73E-02	1.06E-02	1.04E+01
INFANT	GROUND	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03
INFANT	CLOUD	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.60E-01	4.18E-02	3.70E-02	6.38E-02	4.72E-02	1.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.23E-01	3.99E-03	2.30E-04	1.21E-02	4.99E-03	1.04E+01
CHILD	GROUND	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03
CHILD	CLOUD	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02
CHILD	VEG. ING	3.48E-04	4.02E-03	1.20E-03	1.20E-03	9.74E-04	0.00E+00
CHILD	MEAT ING	5.39E-05	6.23E-04	1.85E-04	1.85E-04	1.51E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.60E-01	4.52E-02	3.82E-02	5.01E-02	4.27E-02	1.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.23E-01	9.82E-03	9.88E-05	5.20E-03	2.50E-03	1.04E+01
TEENAGE	GROUND	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03
TEENAGE	CLOUD	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02
TEENAGE	VEG. ING	5.77E-04	6.66E-03	1.98E-03	1.98E-03	1.61E-03	0.00E+00
TEENAGE	MEAT ING	8.75E-05	1.01E-03	3.00E-04	3.00E-04	2.45E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.60E-01	5.41E-02	3.89E-02	4.40E-02	4.09E-02	1.04E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.23E-01	5.78E-03	8.23E-05	4.33E-03	2.08E-03	1.04E+01
ADULT	GROUND	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03	1.14E-03
ADULT	CLOUD	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02	3.54E-02
ADULT	VEG. ING	7.96E-04	9.20E-03	2.74E-03	2.74E-03	2.23E-03	0.00E+00
ADULT	MEAT ING	1.53E-04	1.77E-03	5.25E-04	5.25E-04	4.28E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	6.60E-01	5.33E-02	3.99E-02	4.41E-02	4.13E-02	1.04E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  89
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 30  NAME=SF NW                X=  -6.2KM, Y=   4.7KM, Z=   0.0M, DIST=   7.8KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 30 NAME=SF NW X= -6.2KM, Y= 4.7KM, Z= 0.0M, DIST= 7.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	7.02E-01	4.67E-03	4.39E-04	2.42E-02	9.42E-03	1.17E+01
INFANT	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
INFANT	CLOUD	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.38E-01	4.02E-02	3.60E-02	5.98E-02	4.49E-02	1.17E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	7.02E-01	3.54E-03	2.05E-04	1.08E-02	4.43E-03	1.17E+01
CHILD	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
CHILD	CLOUD	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02
CHILD	VEG. ING	3.09E-04	3.57E-03	1.06E-03	1.06E-03	8.65E-04	0.00E+00
CHILD	MEAT ING	4.79E-05	5.53E-04	1.64E-04	1.64E-04	1.34E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.37E-01	4.32E-02	3.70E-02	4.75E-02	4.10E-02	1.17E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	7.02E-01	8.72E-03	8.77E-05	4.62E-03	2.22E-03	1.17E+01
TEENAGE	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
TEENAGE	CLOUD	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02
TEENAGE	VEG. ING	5.12E-04	5.92E-03	1.76E-03	1.76E-03	1.43E-03	0.00E+00
TEENAGE	MEAT ING	7.77E-05	8.98E-04	2.67E-04	2.67E-04	2.17E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	7.38E-01	5.11E-02	3.76E-02	4.22E-02	3.94E-02	1.17E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	7.01E-01	5.13E-03	7.31E-05	3.85E-03	1.85E-03	1.17E+01
ADULT	GROUND	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03	1.27E-03
ADULT	CLOUD	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02	3.42E-02
ADULT	VEG. ING	7.07E-04	8.17E-03	2.43E-03	2.43E-03	1.98E-03	0.00E+00
ADULT	MEAT ING	1.36E-04	1.57E-03	4.66E-04	4.66E-04	3.80E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.38E-01	5.04E-02	3.85E-02	4.23E-02	3.97E-02	1.17E+01

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE  91
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 31  NAME=SF NNW               X=  -5.4KM, Y=   4.7KM, Z=   0.0M, DIST=   7.1KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 31 NAME=SF NNW X= -5.4KM, Y= 4.7KM, Z= 0.0M, DIST= 7.1KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.08E+00	4.11E-03	3.86E-04	2.13E-02	8.29E-03	1.81E+01
INFANT	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
INFANT	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.12E+00	4.38E-02	4.01E-02	6.10E-02	4.80E-02	1.81E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.08E+00	3.12E-03	1.80E-04	9.48E-03	3.90E-03	1.81E+01
CHILD	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
CHILD	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
CHILD	VEG. ING	2.72E-04	3.15E-03	9.35E-04	9.35E-04	7.62E-04	0.00E+00
CHILD	MEAT ING	4.21E-05	4.87E-04	1.45E-04	1.45E-04	1.18E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.12E+00	4.64E-02	4.10E-02	5.03E-02	4.45E-02	1.81E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.08E+00	7.68E-03	7.72E-05	4.06E-03	1.95E-03	1.81E+01
TEENAGE	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
TEENAGE	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
TEENAGE	VEG. ING	4.51E-04	5.21E-03	1.55E-03	1.55E-03	1.26E-03	0.00E+00
TEENAGE	MEAT ING	6.84E-05	7.90E-04	2.35E-04	2.35E-04	1.91E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.12E+00	5.34E-02	4.16E-02	4.55E-02	4.31E-02	1.81E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.08E+00	4.51E-03	6.43E-05	3.39E-03	1.63E-03	1.81E+01
ADULT	GROUND	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03	1.93E-03
ADULT	CLOUD	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02	3.78E-02
ADULT	VEG. ING	6.22E-04	7.19E-03	2.14E-03	2.14E-03	1.74E-03	0.00E+00
ADULT	MEAT ING	1.20E-04	1.38E-03	4.10E-04	4.10E-04	3.34E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.12E+00	5.28E-02	4.23E-02	4.56E-02	4.34E-02	1.81E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 32 NAME=SF ESE X= -3.0KM, Y= 2.7KM, Z= 0.0M, DIST= 4.0KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

1REGION: Dewey Burdock CODE: MILDOS-AREA (02/97) PAGE 94
METSET: DATA: DB.MIL 10/06/11
TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 32 NAME=SF ESE X= -3.0KM, Y= 2.7KM, Z= 0.0M, DIST= 4.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.95E+00	4.37E-03	4.07E-04	2.27E-02	8.81E-03	3.25E+01
INFANT	GROUND	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03
INFANT	CLOUD	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	2.02E+00	7.43E-02	7.03E-02	9.26E-02	7.88E-02	3.26E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.95E+00	3.31E-03	1.90E-04	1.01E-02	4.15E-03	3.25E+01
CHILD	GROUND	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03
CHILD	CLOUD	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02
CHILD	VEG. ING	2.89E-04	3.34E-03	9.94E-04	9.94E-04	8.10E-04	0.00E+00
CHILD	MEAT ING	4.48E-05	5.17E-04	1.54E-04	1.54E-04	1.25E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	2.02E+00	7.71E-02	7.13E-02	8.12E-02	7.50E-02	3.26E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.95E+00	8.16E-03	8.15E-05	4.32E-03	2.07E-03	3.25E+01
TEENAGE	GROUND	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03
TEENAGE	CLOUD	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02
TEENAGE	VEG. ING	4.79E-04	5.54E-03	1.65E-03	1.65E-03	1.34E-03	0.00E+00
TEENAGE	MEAT ING	7.27E-05	8.40E-04	2.50E-04	2.50E-04	2.03E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	2.02E+00	8.45E-02	7.19E-02	7.62E-02	7.36E-02	3.26E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.95E+00	4.80E-03	6.79E-05	3.60E-03	1.73E-03	3.25E+01
ADULT	GROUND	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03	3.45E-03
ADULT	CLOUD	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02	6.65E-02
ADULT	VEG. ING	6.62E-04	7.65E-03	2.27E-03	2.27E-03	1.85E-03	0.00E+00
ADULT	MEAT ING	1.27E-04	1.47E-03	4.36E-04	4.36E-04	3.55E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	2.02E+00	8.39E-02	7.27E-02	7.62E-02	7.39E-02	3.26E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 33 NAME=Daniels Ranch X= 2.1KM, Y= 0.0KM, Z= 0.0M, DIST= 2.1KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 33 NAME=Daniels Ranch X= 2.1KM, Y= 0.0KM, Z= 0.0M, DIST= 2.1KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.21E+00	7.90E-03	7.42E-04	4.10E-02	1.59E-02	2.01E+01
INFANT	GROUND	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03
INFANT	CLOUD	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.26E+00	5.71E-02	5.00E-02	9.03E-02	6.52E-02	2.02E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.21E+00	5.99E-03	3.46E-04	1.82E-02	7.50E-03	2.01E+01
CHILD	GROUND	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03
CHILD	CLOUD	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02
CHILD	VEG. ING	5.24E-04	6.05E-03	1.80E-03	1.80E-03	1.46E-03	0.00E+00
CHILD	MEAT ING	8.10E-05	9.36E-04	2.78E-04	2.78E-04	2.27E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.26E+00	6.22E-02	5.17E-02	6.96E-02	5.84E-02	2.02E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.21E+00	1.48E-02	1.48E-04	7.81E-03	3.75E-03	2.01E+01
TEENAGE	GROUND	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03
TEENAGE	CLOUD	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02
TEENAGE	VEG. ING	8.67E-04	1.00E-02	2.98E-03	2.98E-03	2.42E-03	0.00E+00
TEENAGE	MEAT ING	1.31E-04	1.52E-03	4.52E-04	4.52E-04	3.68E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.26E+00	7.55E-02	5.28E-02	6.05E-02	5.58E-02	2.02E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.21E+00	8.68E-03	1.24E-04	6.51E-03	3.13E-03	2.01E+01
ADULT	GROUND	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03	2.17E-03
ADULT	CLOUD	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02	4.71E-02
ADULT	VEG. ING	1.20E-03	1.38E-02	4.11E-03	4.11E-03	3.35E-03	0.00E+00
ADULT	MEAT ING	2.30E-04	2.66E-03	7.89E-04	7.89E-04	6.43E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.26E+00	7.44E-02	5.43E-02	6.07E-02	5.64E-02	2.02E+01

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)         PAGE  97
 METSET:                            DATA: DB.MIL                      10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 34  NAME=Spencer Ranch         X=  -2.0KM, Y=   1.2KM, Z=   0.0M, DIST=   2.3KM, IRTYPE=10
```

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 34 NAME=Spencer Ranch X= -2.0KM, Y= 1.2KM, Z= 0.0M, DIST= 2.3KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.29E+00	7.87E-03	7.33E-04	4.09E-02	1.59E-02	2.14E+01
INFANT	GROUND	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03
INFANT	CLOUD	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.37E+00	9.30E-02	8.58E-02	1.26E-01	1.01E-01	2.15E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.29E+00	5.97E-03	3.42E-04	1.82E-02	7.47E-03	2.14E+01
CHILD	GROUND	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03
CHILD	CLOUD	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02
CHILD	VEG. ING	5.21E-04	6.02E-03	1.79E-03	1.79E-03	1.46E-03	0.00E+00
CHILD	MEAT ING	8.07E-05	9.32E-04	2.77E-04	2.77E-04	2.26E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.37E+00	9.80E-02	8.75E-02	1.05E-01	9.43E-02	2.15E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.29E+00	1.47E-02	1.47E-04	7.78E-03	3.74E-03	2.14E+01
TEENAGE	GROUND	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03
TEENAGE	CLOUD	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02
TEENAGE	VEG. ING	8.63E-04	9.97E-03	2.96E-03	2.96E-03	2.41E-03	0.00E+00
TEENAGE	MEAT ING	1.31E-04	1.51E-03	4.50E-04	4.50E-04	3.66E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.37E+00	1.11E-01	8.87E-02	9.63E-02	9.16E-02	2.15E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.29E+00	8.65E-03	1.22E-04	6.48E-03	3.11E-03	2.14E+01
ADULT	GROUND	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03	2.38E-03
ADULT	CLOUD	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02	8.27E-02
ADULT	VEG. ING	1.19E-03	1.38E-02	4.09E-03	4.09E-03	3.33E-03	0.00E+00
ADULT	MEAT ING	2.29E-04	2.64E-03	7.86E-04	7.86E-04	6.40E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.37E+00	1.10E-01	9.01E-02	9.65E-02	9.22E-02	2.15E+01

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)        PAGE  99
 METSET:                            DATA: DB.MIL                     10/06/11
                            TIME STEP NUMBER 1,                             DURATION IN YRS IS...  1.0

 NUMBER 35  NAME=BC Ranch             X=  -6.6KM, Y=   3.8KM, Z=   0.0M, DIST=   7.7KM, IRTYPE=10

                             40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 100
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 35  NAME=BC Ranch             X=  -6.6KM, Y=   3.8KM, Z=   0.0M, DIST=   7.7KM, IRTYPE=10
```

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.66E-01	5.01E-03	4.70E-04	2.60E-02	1.01E-02	1.44E+01
INFANT	GROUND	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03
INFANT	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.07E-01	4.53E-02	4.08E-02	6.63E-02	5.04E-02	1.45E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	8.66E-01	3.80E-03	2.19E-04	1.16E-02	4.76E-03	1.44E+01
CHILD	GROUND	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03
CHILD	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
CHILD	VEG. ING	3.32E-04	3.83E-03	1.14E-03	1.14E-03	9.28E-04	0.00E+00
CHILD	MEAT ING	5.13E-05	5.93E-04	1.76E-04	1.76E-04	1.44E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	9.06E-01	4.85E-02	4.18E-02	5.32E-02	4.61E-02	1.45E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.66E-01	9.35E-03	9.40E-05	4.95E-03	2.38E-03	1.44E+01
TEENAGE	GROUND	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03
TEENAGE	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
TEENAGE	VEG. ING	5.49E-04	6.35E-03	1.89E-03	1.89E-03	1.54E-03	0.00E+00
TEENAGE	MEAT ING	8.33E-05	9.63E-04	2.86E-04	2.86E-04	2.33E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	9.06E-01	5.69E-02	4.26E-02	4.74E-02	4.44E-02	1.45E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	8.65E-01	5.50E-03	7.83E-05	4.13E-03	1.98E-03	1.44E+01
ADULT	GROUND	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03	1.53E-03
ADULT	CLOUD	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02	3.87E-02
ADULT	VEG. ING	7.59E-04	8.76E-03	2.61E-03	2.61E-03	2.12E-03	0.00E+00
ADULT	MEAT ING	1.46E-04	1.68E-03	5.00E-04	5.00E-04	4.07E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.07E-01	5.62E-02	4.35E-02	4.75E-02	4.48E-02	1.45E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 101
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 36  NAME=Puttman Ranch         X=  -5.2KM, Y=   7.2KM, Z=   0.0M, DIST=   8.9KM, IRTYPE=10
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40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 102
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                               DURATION IN YRS IS...  1.0

 NUMBER 36  NAME=Puttman Ranch         X=  -5.2KM, Y=   7.2KM, Z=   0.0M, DIST=   8.9KM, IRTYPE=10
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TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	3.95E-01	7.25E-03	6.81E-04	3.76E-02	1.46E-02	6.54E+00
INFANT	GROUND	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04
INFANT	CLOUD	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	4.33E-01	4.54E-02	3.89E-02	7.58E-02	5.28E-02	6.58E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	3.94E-01	5.50E-03	3.18E-04	1.67E-02	6.88E-03	6.54E+00
CHILD	GROUND	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04
CHILD	CLOUD	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02
CHILD	VEG. ING	4.80E-04	5.55E-03	1.65E-03	1.65E-03	1.34E-03	0.00E+00
CHILD	MEAT ING	7.43E-05	8.59E-04	2.55E-04	2.55E-04	2.08E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	4.32E-01	5.01E-02	4.04E-02	5.68E-02	4.66E-02	6.58E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	3.94E-01	1.35E-02	1.36E-04	7.17E-03	3.44E-03	6.54E+00
TEENAGE	GROUND	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04
TEENAGE	CLOUD	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02
TEENAGE	VEG. ING	7.95E-04	9.19E-03	2.73E-03	2.73E-03	2.22E-03	0.00E+00
TEENAGE	MEAT ING	1.21E-04	1.39E-03	4.14E-04	4.14E-04	3.37E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	4.33E-01	6.23E-02	4.15E-02	4.85E-02	4.42E-02	6.58E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	3.93E-01	7.96E-03	1.13E-04	5.97E-03	2.87E-03	6.54E+00
ADULT	GROUND	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04	7.42E-04
ADULT	CLOUD	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02	3.74E-02
ADULT	VEG. ING	1.10E-03	1.27E-02	3.77E-03	3.77E-03	3.07E-03	0.00E+00
ADULT	MEAT ING	2.11E-04	2.44E-03	7.24E-04	7.24E-04	5.90E-04	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	4.33E-01	6.13E-02	4.28E-02	4.86E-02	4.47E-02	6.58E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 37 NAME=Englebert Ranch X= 0.3KM, Y= -4.8KM, Z= 0.0M, DIST= 4.8KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 37 NAME=Englebert Ranch X= 0.3KM, Y= -4.8KM, Z= 0.0M, DIST= 4.8KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	8.25E-01	2.22E-02	2.09E-03	1.15E-01	4.48E-02	1.36E+01
INFANT	GROUND	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
INFANT	CLOUD	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.18E-01	1.16E-01	9.58E-02	2.09E-01	1.39E-01	1.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	8.21E-01	1.68E-02	9.75E-04	5.13E-02	2.11E-02	1.36E+01
CHILD	GROUND	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
CHILD	CLOUD	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02
CHILD	VEG. ING	1.47E-03	1.70E-02	5.06E-03	5.06E-03	4.12E-03	0.00E+00
CHILD	MEAT ING	2.28E-04	2.63E-03	7.82E-04	7.82E-04	6.37E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	9.16E-01	1.30E-01	1.01E-01	1.51E-01	1.20E-01	1.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	8.21E-01	4.15E-02	4.18E-04	2.20E-02	1.06E-02	1.36E+01
TEENAGE	GROUND	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
TEENAGE	CLOUD	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02
TEENAGE	VEG. ING	2.44E-03	2.82E-02	8.37E-03	8.37E-03	6.82E-03	0.00E+00
TEENAGE	MEAT ING	3.70E-04	4.27E-03	1.27E-03	1.27E-03	1.03E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	9.18E-01	1.68E-01	1.04E-01	1.25E-01	1.12E-01	1.37E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	8.20E-01	2.44E-02	3.48E-04	1.83E-02	8.79E-03	1.36E+01
ADULT	GROUND	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03	1.55E-03
ADULT	CLOUD	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02	9.21E-02
ADULT	VEG. ING	3.37E-03	3.89E-02	1.16E-02	1.16E-02	9.42E-03	0.00E+00
ADULT	MEAT ING	6.46E-04	7.47E-03	2.22E-03	2.22E-03	1.81E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.18E-01	1.64E-01	1.08E-01	1.26E-01	1.14E-01	1.37E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 38 NAME=Burdock School X= -2.3KM, Y= -2.0KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 38 NAME=Burdock School X= -2.3KM, Y= -2.0KM, Z= 0.0M, DIST= 3.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	9.04E-01	1.53E-02	1.43E-03	7.95E-02	3.09E-02	1.50E+01
INFANT	GROUND	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03
INFANT	CLOUD	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	9.94E-01	1.05E-01	9.10E-02	1.69E-01	1.21E-01	1.51E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	9.02E-01	1.16E-02	6.68E-04	3.53E-02	1.45E-02	1.50E+01
CHILD	GROUND	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03
CHILD	CLOUD	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02
CHILD	VEG. ING	1.01E-03	1.17E-02	3.48E-03	3.48E-03	2.84E-03	0.00E+00
CHILD	MEAT ING	1.57E-04	1.81E-03	5.39E-04	5.39E-04	4.39E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	9.93E-01	1.15E-01	9.43E-02	1.29E-01	1.07E-01	1.51E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	9.02E-01	2.86E-02	2.86E-04	1.51E-02	7.27E-03	1.50E+01
TEENAGE	GROUND	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03
TEENAGE	CLOUD	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02
TEENAGE	VEG. ING	1.68E-03	1.94E-02	5.77E-03	5.77E-03	4.70E-03	0.00E+00
TEENAGE	MEAT ING	2.55E-04	2.94E-03	8.75E-04	8.75E-04	7.12E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	9.93E-01	1.41E-01	9.65E-02	1.11E-01	1.02E-01	1.51E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	9.01E-01	1.68E-02	2.39E-04	1.26E-02	6.06E-03	1.50E+01
ADULT	GROUND	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03	1.70E-03
ADULT	CLOUD	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02	8.79E-02
ADULT	VEG. ING	2.32E-03	2.68E-02	7.96E-03	7.96E-03	6.49E-03	0.00E+00
ADULT	MEAT ING	4.45E-04	5.14E-03	1.53E-03	1.53E-03	1.25E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	9.94E-01	1.38E-01	9.93E-02	1.12E-01	1.03E-01	1.51E+01

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1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 107
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                              DURATION IN YRS IS...  1.0

 NUMBER 39  NAME=Heck Ranch           X=   1.7KM, Y=  -6.4KM, Z=   0.0M, DIST=   6.6KM, IRTYPE=10

                                40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
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AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 39 NAME=Heck Ranch X= 1.7KM, Y= -6.4KM, Z= 0.0M, DIST= 6.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	6.54E-01	2.49E-02	2.35E-03	1.29E-01	5.03E-02	1.08E+01
INFANT	GROUND	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03
INFANT	CLOUD	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	7.33E-01	1.04E-01	8.11E-02	2.08E-01	1.29E-01	1.08E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	6.50E-01	1.89E-02	1.10E-03	5.75E-02	2.37E-02	1.08E+01
CHILD	GROUND	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03
CHILD	CLOUD	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02
CHILD	VEG. ING	1.65E-03	1.91E-02	5.67E-03	5.67E-03	4.62E-03	0.00E+00
CHILD	MEAT ING	2.56E-04	2.95E-03	8.78E-04	8.78E-04	7.15E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	7.31E-01	1.20E-01	8.64E-02	1.43E-01	1.08E-01	1.08E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	6.50E-01	4.66E-02	4.71E-04	2.47E-02	1.18E-02	1.08E+01
TEENAGE	GROUND	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03
TEENAGE	CLOUD	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02
TEENAGE	VEG. ING	2.74E-03	3.16E-02	9.39E-03	9.39E-03	7.65E-03	0.00E+00
TEENAGE	MEAT ING	4.15E-04	4.79E-03	1.43E-03	1.43E-03	1.16E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	7.32E-01	1.62E-01	9.01E-02	1.14E-01	9.94E-02	1.08E+01

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	6.49E-01	2.74E-02	3.92E-04	2.05E-02	9.87E-03	1.08E+01
ADULT	GROUND	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03	1.23E-03
ADULT	CLOUD	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02	7.75E-02
ADULT	VEG. ING	3.78E-03	4.36E-02	1.30E-02	1.30E-02	1.06E-02	0.00E+00
ADULT	MEAT ING	7.25E-04	8.38E-03	2.49E-03	2.49E-03	2.03E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	7.33E-01	1.58E-01	9.46E-02	1.15E-01	1.01E-01	1.08E+01

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 40 NAME=Edgemont X= 11.0KM, Y= -18.6KM, Z= 0.0M, DIST= 21.6KM, IRTYPE=10

40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 40 NAME=Edgemont X= 11.0KM, Y= -18.6KM, Z= 0.0M, DIST= 21.6KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	1.74E-01	2.50E-02	2.45E-03	1.30E-01	5.04E-02	2.77E+00
INFANT	GROUND	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04
INFANT	CLOUD	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	1.97E-01	4.80E-02	2.55E-02	1.53E-01	7.34E-02	2.79E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	1.70E-01	1.89E-02	1.14E-03	5.76E-02	2.37E-02	2.77E+00
CHILD	GROUND	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04
CHILD	CLOUD	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02
CHILD	VEG. ING	1.65E-03	1.91E-02	5.68E-03	5.68E-03	4.63E-03	0.00E+00
CHILD	MEAT ING	2.56E-04	2.96E-03	8.79E-04	8.79E-04	7.16E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	1.95E-01	6.40E-02	3.07E-02	8.72E-02	5.21E-02	2.79E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	1.70E-01	4.66E-02	4.89E-04	2.47E-02	1.19E-02	2.77E+00
TEENAGE	GROUND	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04
TEENAGE	CLOUD	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02
TEENAGE	VEG. ING	2.74E-03	3.16E-02	9.40E-03	9.40E-03	7.66E-03	0.00E+00
TEENAGE	MEAT ING	4.15E-04	4.80E-03	1.43E-03	1.43E-03	1.16E-03	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	1.96E-01	1.06E-01	3.44E-02	5.86E-02	4.37E-02	2.79E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	1.70E-01	2.74E-02	4.08E-04	2.06E-02	9.88E-03	2.77E+00
ADULT	GROUND	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04	3.22E-04
ADULT	CLOUD	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02	2.27E-02
ADULT	VEG. ING	3.78E-03	4.37E-02	1.30E-02	1.30E-02	1.06E-02	0.00E+00
ADULT	MEAT ING	7.26E-04	8.39E-03	2.49E-03	2.49E-03	2.03E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	1.97E-01	1.03E-01	3.89E-02	5.91E-02	4.55E-02	2.79E+00

POWERTECH (USA) INC.

```
1REGION: Dewey Burdock              CODE: MILDOS-AREA (02/97)          PAGE 111
 METSET:                            DATA: DB.MIL                       10/06/11
                            TIME STEP NUMBER 1,                                DURATION IN YRS IS...  1.0

 NUMBER 41  NAME=Background           X=  -5.3KM, Y=  -3.0KM, Z=   0.0M, DIST=   6.0KM, IRTYPE=10

                              40CFR190 ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR
```

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	GROUND	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	CLOUD	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TIME STEP NUMBER 1, DURATION IN YRS IS... 1.0

NUMBER 41 NAME=Background X= -5.3KM, Y= -3.0KM, Z= 0.0M, DIST= 6.0KM, IRTYPE=10

TOTAL ANNUAL DOSE COMMITMENTS COMPUTED FOR THIS LOCATION, MREM/YR

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
INFANT	INHAL.	5.42E-01	1.71E-02	1.60E-03	8.86E-02	3.44E-02	8.94E+00
INFANT	GROUND	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03
INFANT	CLOUD	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02
INFANT	VEG. ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MEAT ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INFANT	TOTALS	6.07E-01	8.27E-02	6.72E-02	1.54E-01	1.00E-01	9.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
CHILD	INHAL.	5.39E-01	1.29E-02	7.47E-04	3.94E-02	1.62E-02	8.94E+00
CHILD	GROUND	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03
CHILD	CLOUD	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02
CHILD	VEG. ING	1.13E-03	1.31E-02	3.88E-03	3.88E-03	3.16E-03	0.00E+00
CHILD	MEAT ING	1.75E-04	2.02E-03	6.01E-04	6.01E-04	4.89E-04	0.00E+00
CHILD	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHILD	TOTALS	6.06E-01	9.37E-02	7.09E-02	1.09E-01	8.55E-02	9.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
TEENAGE	INHAL.	5.39E-01	3.19E-02	3.20E-04	1.69E-02	8.10E-03	8.94E+00
TEENAGE	GROUND	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03
TEENAGE	CLOUD	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02
TEENAGE	VEG. ING	1.87E-03	2.16E-02	6.43E-03	6.43E-03	5.24E-03	0.00E+00
TEENAGE	MEAT ING	2.84E-04	3.28E-03	9.75E-04	9.75E-04	7.94E-04	0.00E+00
TEENAGE	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TEENAGE	TOTALS	6.07E-01	1.22E-01	7.34E-02	8.99E-02	7.98E-02	9.00E+00

AGE	PATHWAY	EFFECTIV	BONE	AVG.LUNG	LIVER	KIDNEY	BRONCHI
ADULT	INHAL.	5.38E-01	1.87E-02	2.67E-04	1.41E-02	6.75E-03	8.94E+00
ADULT	GROUND	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03	1.02E-03
ADULT	CLOUD	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02	6.46E-02
ADULT	VEG. ING	2.59E-03	2.99E-02	8.88E-03	8.88E-03	7.23E-03	0.00E+00
ADULT	MEAT ING	4.96E-04	5.73E-03	1.70E-03	1.70E-03	1.39E-03	0.00E+00
ADULT	MILK ING	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ADULT	TOTALS	6.07E-01	1.20E-01	7.65E-02	9.03E-02	8.10E-02	9.00E+00

0Program execution time = 1.87 seconds

APPENDIX 7.3-C

MILDOS-AREA Input Parameters

Table 7.3.1: Parameters used to estimate radionuclide releases from the Dewey-Burdock site

Parameter	Value	Unit	Variable Name	Source
Rate of land application - 1	1.27E-03	m d^{-1}	AR_1	Application
Rate of land application - 2	2.79E-3	m d^{-1}	AR_2	Application
Area of land application - Dewey	1.27E+06	m^2	LA_{Dewey}	Application
Area of land application - Burdock	1.27E+06	m^2	$LA_{Burdock}$	Application
Time of land application in a year - 1	80	d	t_{d1}	Application
Time of land application in a year - 2	137	d	t_{d2}	Application
Years of land application	15	y	t_y	Application
Concentration of natural uranium in water	300	pCi L^{-1}	$[U\text{-nat}]_{water}$	Application (NRC effluent values)
Concentration of thorium-230 in water	100	pCi L^{-1}	$[Th\text{-}230]_{water}$	Application (NRC effluent values)
Concentration of radium-226 in water	60	pCi L^{-1}	$[Ra\text{-}226]_{water}$	Application (NRC effluent values)
Concentration of lead-210 in water	10	pCi L^{-1}	$[Pb\text{-}210]_{water}$	Application (NRC effluent values)
Density of soil - Dewey	1.28	g cm^{-3}	ρ_{Dewey}	Application
Density of soil - Burdock	1.24	g cm^{-3}	$\rho_{Burdock}$	Application
Depth of contamination	0.15	m	x	Assumption
Distribution coefficient of natural uranium in loam soil	15	cm^3 g^{-1}	$K_{d,U\text{-nat}}$	"Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil" by Yu et al.
Distribution coefficient of thorium-230 in loam soil	3300	cm^3 g^{-1}	$K_{d,Th\text{-}230}$	"Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil" by Yu et al.
Distribution coefficient of radium-226 in loam soil	36000	cm^3 g^{-1}	$K_{d,Ra\text{-}226}$	"Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil" by Yu et al.
Distribution coefficient of lead-210 in loam soil	16000	cm^3 g^{-1}	$K_{d,Pb\text{-}210}$	"Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil" by Yu et al.
Soil volume water content - Dewey	0.91	unitless	w_{Dewey}	Application
Soil volume water content - Burdock	0.80	unitless	$w_{Burdock}$	Application
Rate of resuspension of radionuclides in surface soil	4E-06	h^{-1}	ARR	DOE Handbook "Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities" by the US Department of Energy
Respirable fraction of resuspended radionuclides in surface soil	1.0	unitless	RF	DOE Handbook "Airborne Release Fractions/Rates and Respirable Fractions for Nonreactor Nuclear Facilities" by the US Department of Energy

Parameter	Value	Unit	Variable Name	Source
Soil porosity - Dewey	0.5429	unitless	n_{Dewey}	Application
	0.5340	unitless	$n_{Burdock}$	Application
Lixiviant flow rate - production	1.49E+04	L min^{-1}	$M_{production}$	Application
Lixiviant flow rate - restoration	3.73E+03	L min^{-1}	$M_{restoration}$	Application
Lixiviant residence time	108	d	t	Application
Production days per year	360	d	D	Application
Formation porosity	0.34	unitless	n_{form}	"Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil" by Yu et al. (coefficient for sandstone)
Content of radium in ore	592	pCi g^{-1}	$[Ra]_{ore}$	Application
Formation density	1.9	g cm^{-3}	ρ_{form}	Application
Storage time in mud pits	7	d	T	Application
Number of mud pits per year	725	y^{-1}	N	Application
Resin porosity	0.38	unitless	n_{resin}	Application
Resin transfers per day	0.5	d^{-1}	N_i	Application
Volume of resin per transfer	1.42E+04	L	V_i	Application
Average mass of ore material in mud pit	185	g	m	Application
Radon emanation coefficient	0.22	unitless	E	"Data Collection Handbook to Support Modeling Impacts of Radioactive Material in Soil" by Yu et al.

Table 7.3-2: Estimated soil concentrations (pCi g^{-1}) and release rates (Ci y^{-1}) of natural uranium (U-Nat), thorium-230 (Th-230), radium-226 (Ra-226), and lead-210 (Pb-210) from the Dewey-Burdock Site.

Location	X (km)	Y (km)	U-Nat		Th-230		Ra-226		Pb-210	
			Soil Conc.	Rel. Rate	Soil Conc.	Rel. Rate	Soil Conc.	Rel. Rate	Soil Conc.	Rel. Rate
Land Application - Dewey	-6.02	3.80	10.8	0.0974	3.78	0.0325	2.27	0.0195	0.378	0.00325
Land Application - Burdock	-1.09	0.99	11.2	0.0974	3.91	0.0325	2.34	0.0195	0.391	0.00325

Table 7.3-3: Estimated releases (Ci y^{-1}) of radon-222 from the Dewey-Burdock site.

Location	X (km)	Y (km)	Production	Restoration	Drilling	Resin Transfer	Land Application	Total
Production Well Field(5)	-3.86	3.48	212	26.5	3.6E-05	0	0	238.5
Production Well Field (2)	1.83	-0.56	212	26.5	3.6E-05	0	0	238.5
SF	-5.00	3.54	134	16.7	0	0.523	0	151.2*
SF Deep Well	-5.00	3.54	57	7.1	0	0	0	64.1*
Total SF			191	23.8		0.523		215.3
CPP	0	0	134	16.7	0	0	0	150.7*
CPP Deep Well	0	0	57	7.1	0	0	0	64.1*
Total CPP			191	23.8	0	0	0	214.8
Land Application - Dewey	-6.02	3.80	0	0	0	0	6.08	6.08
Land Application - Burdock	-1.09	0.99	0	0	0	0	7.49	7.49
Total			806	100.6	7.2E-05	0.523	14.0	921

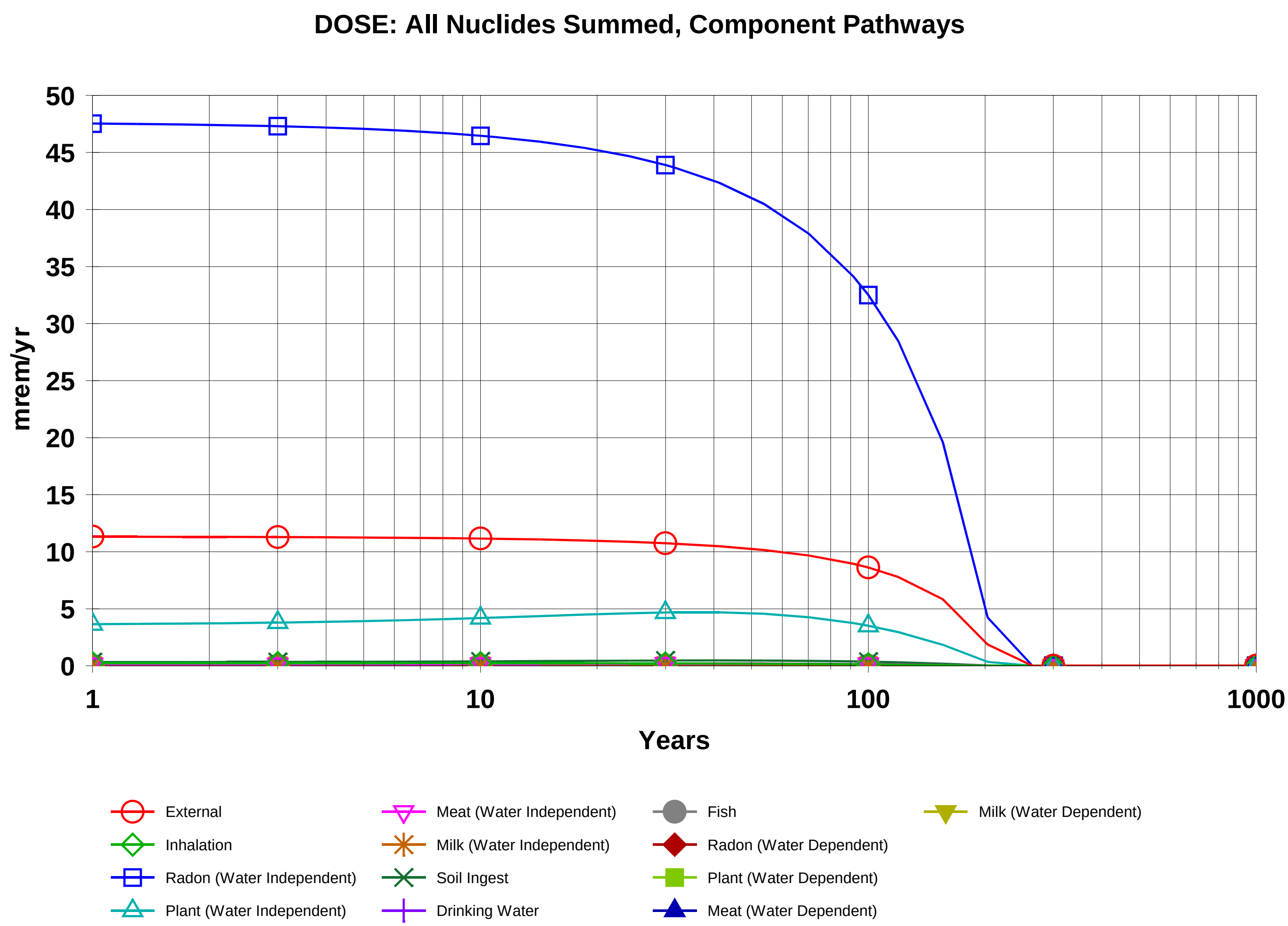
*These estimated releases are included in the total SF and CPP estimated releases and are not added again in the Total of 921 Ci/y.

APPENDIX 7.3-D

Land Application
RESRAD Modeling Results

RESRAD Dose Figures

Land Application



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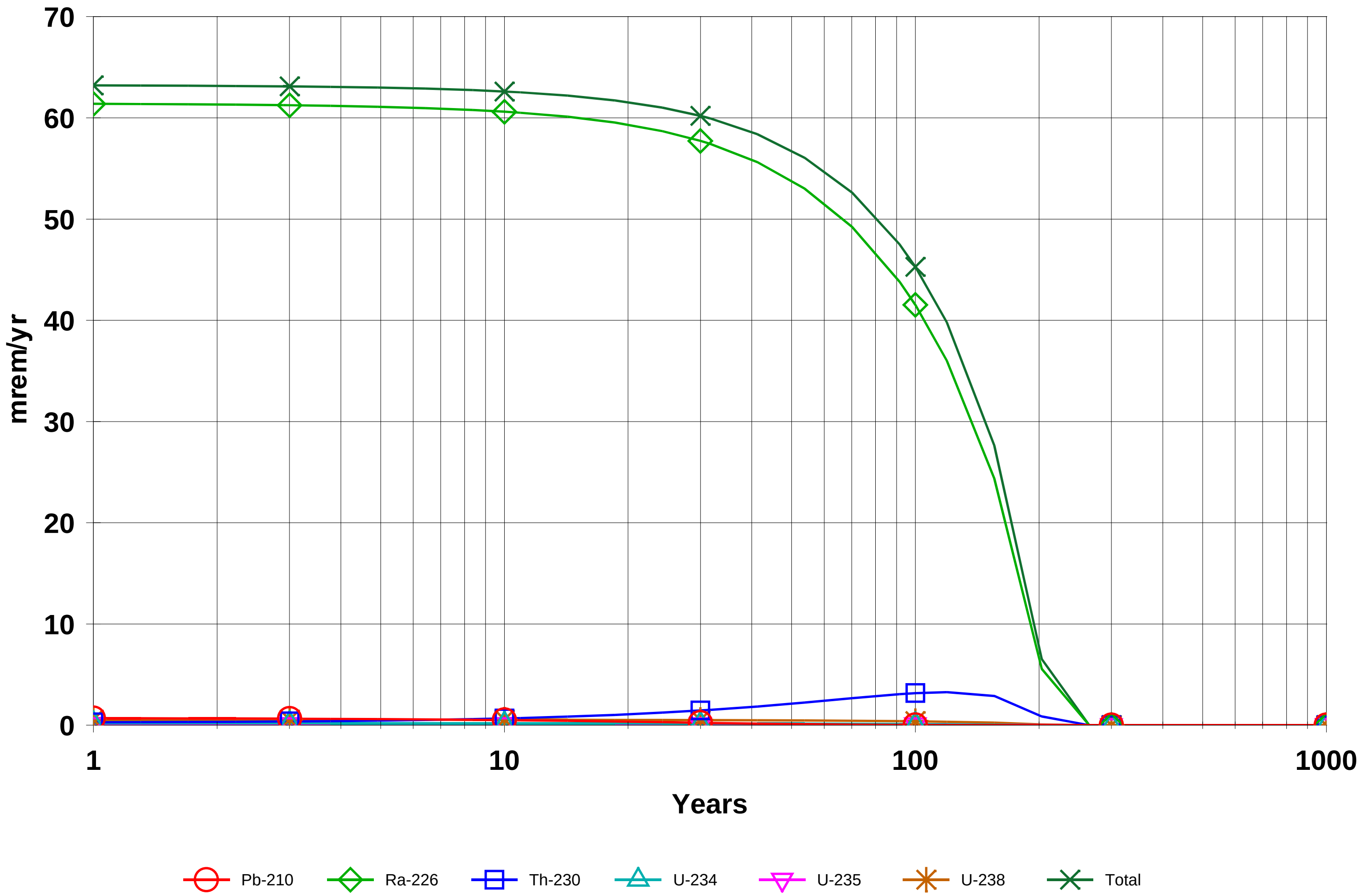
DOSE: All Nuclides Summed, All Pathways Summed



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RESRAD Output

Land Application

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	Ac-227 (Source: FGR 12)	4.951E-04	4.951E-04	DCF1(1)
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(2)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(3)
A-1	Bi-211 (Source: FGR 12)	2.559E-01	2.559E-01	DCF1(4)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(5)
A-1	Fr-223 (Source: FGR 12)	1.980E-01	1.980E-01	DCF1(6)
A-1	Pa-231 (Source: FGR 12)	1.906E-01	1.906E-01	DCF1(7)
A-1	Pa-234 (Source: FGR 12)	1.155E+01	1.155E+01	DCF1(8)
A-1	Pa-234m (Source: FGR 12)	8.967E-02	8.967E-02	DCF1(9)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(10)
A-1	Pb-211 (Source: FGR 12)	3.064E-01	3.064E-01	DCF1(11)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(12)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(13)
A-1	Po-211 (Source: FGR 12)	4.764E-02	4.764E-02	DCF1(14)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(15)
A-1	Po-215 (Source: FGR 12)	1.016E-03	1.016E-03	DCF1(16)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(17)
A-1	Ra-223 (Source: FGR 12)	6.034E-01	6.034E-01	DCF1(18)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(19)
A-1	Rn-219 (Source: FGR 12)	3.083E-01	3.083E-01	DCF1(20)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(21)
A-1	Th-227 (Source: FGR 12)	5.212E-01	5.212E-01	DCF1(22)
A-1	Th-230 (Source: FGR 12)	1.209E-03	1.209E-03	DCF1(23)
A-1	Th-231 (Source: FGR 12)	3.643E-02	3.643E-02	DCF1(24)
A-1	Th-234 (Source: FGR 12)	2.410E-02	2.410E-02	DCF1(25)
A-1	Tl-207 (Source: FGR 12)	1.980E-02	1.980E-02	DCF1(26)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(27)
A-1	U-234 (Source: FGR 12)	4.017E-04	4.017E-04	DCF1(28)
A-1	U-235 (Source: FGR 12)	7.211E-01	7.211E-01	DCF1(29)
A-1	U-238 (Source: FGR 12)	1.031E-04	1.031E-04	DCF1(30)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ac-227+D	6.724E+00	6.700E+00	DCF2(1)
B-1	Pa-231	1.280E+00	1.280E+00	DCF2(2)
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(3)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(4)
B-1	Th-230	3.260E-01	3.260E-01	DCF2(5)
B-1	U-234	1.320E-01	1.320E-01	DCF2(6)
B-1	U-235+D	1.230E-01	1.230E-01	DCF2(7)
B-1	U-238	1.180E-01	1.180E-01	DCF2(8)
B-1	U-238+D	1.180E-01	1.180E-01	DCF2(9)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ac-227+D	1.480E-02	1.410E-02	DCF3(1)
D-1	Pa-231	1.060E-02	1.060E-02	DCF3(2)
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(3)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(4)
D-1	Th-230	5.480E-04	5.480E-04	DCF3(5)
D-1	U-234	2.830E-04	2.830E-04	DCF3(6)

Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 11

0

Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-1	U-235+D	2.673E-04	2.660E-04	DCF3(7)
D-1	U-238	2.550E-04	2.550E-04	DCF3(8)
D-1	U-238+D	2.687E-04	2.550E-04	DCF3(9)
D-34	Food transfer factors:			
D-34	Ac-227+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(1,1)
D-34	Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,2)
D-34	Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	2.000E-05	2.000E-05	RTF(1,3)
D-34				
D-34	Pa-231 , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(2,1)
D-34	Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	5.000E-03	5.000E-03	RTF(2,2)
D-34	Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(2,3)
D-34				
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(3,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(3,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(3,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(4,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(4,3)
D-34				
D-34	Th-230 , plant/soil concentration ratio, dimensionless	1.000E-03	1.000E-03	RTF(5,1)
D-34	Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-04	1.000E-04	RTF(5,2)
D-34	Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	5.000E-06	5.000E-06	RTF(5,3)
D-34				
D-34	U-234 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(6,1)
D-34	U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(6,2)
D-34	U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(6,3)
D-34				
D-34	U-235+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(7,1)
D-34	U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(7,2)
D-34	U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(7,3)
D-34				
D-34	U-238 , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(8,1)
D-34	U-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(8,2)
D-34	U-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(8,3)
D-34				
D-34	U-238+D , plant/soil concentration ratio, dimensionless	2.500E-03	2.500E-03	RTF(9,1)
D-34	U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	3.400E-04	3.400E-04	RTF(9,2)
D-34	U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	6.000E-04	6.000E-04	RTF(9,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Ac-227+D , fish	1.500E+01	1.500E+01	BIOFAC(1,1)
D-5	Ac-227+D , crustacea and mollusks	1.000E+03	1.000E+03	BIOFAC(1,2)
D-5				
D-5	Pa-231 , fish	1.000E+01	1.000E+01	BIOFAC(2,1)
D-5	Pa-231 , crustacea and mollusks	1.100E+02	1.100E+02	BIOFAC(2,2)
D-5				
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(3,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(3,2)

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Summary : Dewey Burdock
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Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: FGR 11

0 Menu	Parameter	Current Value#	Base Case*	Parameter Name
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(4,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(4,2)
D-5				
D-5	Th-230 , fish	1.000E+02	1.000E+02	BIOFAC(5,1)
D-5	Th-230 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(5,2)
D-5				
D-5	U-234 , fish	1.000E+01	1.000E+01	BIOFAC(6,1)
D-5	U-234 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(6,2)
D-5				
D-5	U-235+D , fish	1.000E+01	1.000E+01	BIOFAC(7,1)
D-5	U-235+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(7,2)
D-5				
D-5	U-238 , fish	1.000E+01	1.000E+01	BIOFAC(8,1)
D-5	U-238 , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(8,2)
D-5				
D-5	U-238+D , fish	1.000E+01	1.000E+01	BIOFAC(9,1)
D-5	U-238+D , crustacea and mollusks	6.000E+01	6.000E+01	BIOFAC(9,2)

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.
*Base Case means Default.Lib w/o Associate Nuclide contributions.

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 Summary : Dewey Burdock
 File    : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBLANDAPPLICATION.RAD
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Site-Specific Parameter Summary

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R011	Area of contaminated zone (m**2)	1.270E+06	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	1.500E-01	2.000E+00	---	THICK0
R011	Length parallel to aquifer flow (m)	1.650E+03	1.000E+02	---	LCZPAQ
R011	Basic radiation dose limit (mrem/yr)	2.500E+01	3.000E+01	---	BRDL
R011	Time since placement of material (yr)	0.000E+00	0.000E+00	---	TI
R011	Times for calculations (yr)	1.000E+00	1.000E+00	---	T(2)
R011	Times for calculations (yr)	3.000E+00	3.000E+00	---	T(3)
R011	Times for calculations (yr)	1.000E+01	1.000E+01	---	T(4)
R011	Times for calculations (yr)	3.000E+01	3.000E+01	---	T(5)
R011	Times for calculations (yr)	1.000E+02	1.000E+02	---	T(6)
R011	Times for calculations (yr)	3.000E+02	3.000E+02	---	T(7)
R011	Times for calculations (yr)	1.000E+03	1.000E+03	---	T(8)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(9)
R011	Times for calculations (yr)	not used	0.000E+00	---	T(10)
R012	Initial principal radionuclide (pCi/g): Pb-210	3.910E-01	0.000E+00	---	S1(3)
R012	Initial principal radionuclide (pCi/g): Ra-226	2.340E+00	0.000E+00	---	S1(4)
R012	Initial principal radionuclide (pCi/g): Th-230	3.910E+00	0.000E+00	---	S1(5)
R012	Initial principal radionuclide (pCi/g): U-234	5.510E+00	0.000E+00	---	S1(6)
R012	Initial principal radionuclide (pCi/g): U-235	2.460E-01	0.000E+00	---	S1(7)
R012	Initial principal radionuclide (pCi/g): U-238	5.440E+00	0.000E+00	---	S1(8)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(3)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(4)
R012	Concentration in groundwater (pCi/L): Th-230	not used	0.000E+00	---	W1(5)
R012	Concentration in groundwater (pCi/L): U-234	not used	0.000E+00	---	W1(6)
R012	Concentration in groundwater (pCi/L): U-235	not used	0.000E+00	---	W1(7)
R012	Concentration in groundwater (pCi/L): U-238	not used	0.000E+00	---	W1(8)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.260E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	7.000E-04	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	5.384E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	1.000E-34	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.990E+02	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	7.120E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	3.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	9.990E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	3.200E-01	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	3.600E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	5.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.300E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	2.640E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	3.400E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.974E-01	2.000E-01	---	EPSZ

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Saturated zone field capacity	4.260E-02	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	7.030E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	1.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	4.050E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	1.322E+03	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	1.520E+01	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	2.610E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.200E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	9.200E-02	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	3.280E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	1.140E+01	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.030E-02	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.746E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(4)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(4,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.919E-05	ALEACH(4)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(4)
R016	Distribution coefficients for Th-230				
R016	Contaminated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCC(5)
R016	Unsaturated zone 1 (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCU(5,1)
R016	Saturated zone (cm**3/g)	6.000E+04	6.000E+04	---	DCNUCS(5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	4.585E-08	ALEACH(5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(5)
R016	Distribution coefficients for U-234				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(6)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(6,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(6)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(6)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(7)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(7,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(7)
R016	Distribution coefficients for U-238				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(8)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(8,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(8)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(8)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(8)
R016	Distribution coefficients for daughter Ac-227				
R016	Contaminated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	2.000E+01	2.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.362E-04	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for daughter Pa-231				
R016	Contaminated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	5.000E+01	5.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.480E-05	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	5.500E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	5.400E+00	---	DIET(5)
R018	Other seafood consumption (kg/yr)	9.000E-01	9.000E-01	---	DIET(6)
R018	Soil ingestion rate (g/yr)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+02	5.100E+02	---	DWI
R018	Contamination fraction of drinking water	1.000E+00	1.000E+00	---	FDW
R018	Contamination fraction of household water	1.000E+00	1.000E+00	---	FHHW
R018	Contamination fraction of livestock water	1.000E+00	1.000E+00	---	FLW
R018	Contamination fraction of irrigation water	1.000E+00	1.000E+00	---	FIRW
R018	Contamination fraction of aquatic food	0.000E+00	5.000E-01	---	FR9
R018	Contamination fraction of plant food	2.500E-01	-1	---	FPLANT
R018	Contamination fraction of meat	2.500E-01	-1	---	FMEAT
R018	Contamination fraction of milk	0.000E+00	-1	---	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	3.000E-01	9.000E-01	---	DROOT
R019	Drinking water fraction from ground water	0.000E+00	1.000E+00	---	FGWDW
R019	Household water fraction from ground water	1.000E+00	1.000E+00	---	FGWHH
R019	Livestock water fraction from ground water	4.020E-01	1.000E+00	---	FGWLW
R019	Irrigation fraction from ground water	3.660E-01	1.000E+00	---	FGWIR
R19B	Wet weight crop yield for Non-Leafy (kg/m**2)	7.000E-01	7.000E-01	---	YV(1)
R19B	Wet weight crop yield for Leafy (kg/m**2)	1.500E+00	1.500E+00	---	YV(2)
R19B	Wet weight crop yield for Fodder (kg/m**2)	1.100E+00	1.100E+00	---	YV(3)
R19B	Growing Season for Non-Leafy (years)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

0 Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RDRY(1)
R19B	Dry Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RDRY(2)
R19B	Dry Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RDRY(3)
R19B	Wet Foliar Interception Fraction for Non-Leafy	2.500E-01	2.500E-01	---	RWET(1)
R19B	Wet Foliar Interception Fraction for Leafy	2.500E-01	2.500E-01	---	RWET(2)
R19B	Wet Foliar Interception Fraction for Fodder	2.500E-01	2.500E-01	---	RWET(3)
R19B	Weathering Removal Constant for Vegetation	2.000E+01	2.000E+01	---	WLAM
C14	C-12 concentration in water (g/cm**3)	not used	2.000E-05	---	C12WTR
C14	C-12 concentration in contaminated soil (g/g)	not used	3.000E-02	---	C12CZ
C14	Fraction of vegetation carbon from soil	not used	2.000E-02	---	CSOIL
C14	Fraction of vegetation carbon from air	not used	9.800E-01	---	CAIR
C14	C-14 evasion layer thickness in soil (m)	not used	3.000E-01	---	DMC
C14	C-14 evasion flux rate from soil (1/sec)	not used	7.000E-07	---	EVSN
C14	C-12 evasion flux rate from soil (1/sec)	not used	1.000E-10	---	REVSN
C14	Fraction of grain in beef cattle feed	not used	8.000E-01	---	AVFG4
C14	Fraction of grain in milk cow feed	not used	2.000E-01	---	AVFG5
STOR	Storage times of contaminated foodstuffs (days):				
STOR	Fruits, non-leafy vegetables, and grain	1.400E+01	1.400E+01	---	STOR_T(1)
STOR	Leafy vegetables	1.000E+00	1.000E+00	---	STOR_T(2)
STOR	Milk	1.000E+00	1.000E+00	---	STOR_T(3)
STOR	Meat and poultry	2.000E+01	2.000E+01	---	STOR_T(4)
STOR	Fish	7.000E+00	7.000E+00	---	STOR_T(5)
STOR	Crustacea and mollusks	7.000E+00	7.000E+00	---	STOR_T(6)
STOR	Well water	1.000E+00	1.000E+00	---	STOR_T(7)
STOR	Surface water	1.000E+00	1.000E+00	---	STOR_T(8)
STOR	Livestock fodder	4.500E+01	4.500E+01	---	STOR_T(9)
R021	Thickness of building foundation (m)	1.500E-01	1.500E-01	---	FLOOR1
R021	Bulk density of building foundation (g/cm**3)	2.400E+00	2.400E+00	---	DENSFL
R021	Total porosity of the cover material	not used	4.000E-01	---	TPCV
R021	Total porosity of the building foundation	1.000E-01	1.000E-01	---	TPFL
R021	Volumetric water content of the cover material	not used	5.000E-02	---	PH2OCV
R021	Volumetric water content of the foundation	3.000E-02	3.000E-02	---	PH2OFL
R021	Diffusion coefficient for radon gas (m/sec):				
R021	in cover material	not used	2.000E-06	---	DIFCV
R021	in foundation material	3.000E-07	3.000E-07	---	DIFFL
R021	in contaminated zone soil	2.000E-06	2.000E-06	---	DIFCZ
R021	Radon vertical dimension of mixing (m)	2.000E+00	2.000E+00	---	HMIX
R021	Average building air exchange rate (1/hr)	5.000E-01	5.000E-01	---	REXG
R021	Height of the building (room) (m)	2.500E+00	2.500E+00	---	HRM
R021	Building interior area factor	0.000E+00	0.000E+00	code computed (time dependent)	FAI
R021	Building depth below ground surface (m)	-1.000E+00	-1.000E+00	code computed (time dependent)	DMFL
R021	Emanating power of Rn-222 gas	2.500E-01	2.500E-01	---	EMANA(1)
R021	Emanating power of Rn-220 gas	not used	1.500E-01	---	EMANA(2)
TITL	Number of graphical time points	32	---	---	NPTS

Site-Specific Parameter Summary (continued)

0

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	KYMAX

Summary of Pathway Selections

Pathway	User Selection
1 -- external gamma	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	active
Find peak pathway doses	active

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Contaminated Zone Dimensions

Area: 1270000.00 square meters
Thickness: 0.15 meters
Cover Depth: 0.00 meters

Initial Soil Concentrations, pCi/g

Pb-210	3.910E-01
Ra-226	2.340E+00
Th-230	3.910E+00
U-234	5.510E+00
U-235	2.460E-01
U-238	5.440E+00

0

Total Dose TDOSE(t), mrem/yr
Basic Radiation Dose Limit = 2.500E+01 mrem/yr
Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

t (years):	0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	6.325E+01	6.321E+01	6.311E+01	6.260E+01	6.020E+01	4.529E+01	0.000E+00	0.000E+00
M(t):	2.530E+00	2.528E+00	2.524E+00	2.504E+00	2.408E+00	1.811E+00	0.000E+00	0.000E+00

0Maximum TDOSE(t): 6.325E+01 mrem/yr   at t = 0.000E+00 years

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	1.181E-03	0.0000	8.029E-04	0.0000	0.000E+00	0.0000	6.082E-01	0.0096	2.961E-02	0.0005	0.000E+00	0.0000	7.651E-02	0.0012
Ra-226	1.087E+01	0.1718	1.883E-03	0.0000	4.764E+01	0.7531	2.750E+00	0.0435	9.433E-02	0.0015	0.000E+00	0.0000	9.154E-02	0.0014
Th-230	6.351E-03	0.0001	1.146E-01	0.0018	1.723E-02	0.0003	4.759E-02	0.0008	1.826E-03	0.0000	0.000E+00	0.0000	5.855E-02	0.0009
U-234	1.140E-03	0.0000	6.539E-02	0.0010	7.286E-08	0.0000	8.472E-02	0.0013	4.879E-03	0.0001	0.000E+00	0.0000	4.259E-02	0.0007
U-235	9.129E-02	0.0014	2.721E-03	0.0000	0.000E+00	0.0000	3.579E-03	0.0001	2.073E-04	0.0000	0.000E+00	0.0000	1.797E-03	0.0000
U-238	3.712E-01	0.0059	5.773E-02	0.0009	5.098E-14	0.0000	7.941E-02	0.0013	4.573E-03	0.0001	0.000E+00	0.0000	3.992E-02	0.0006
Total	1.134E+01	0.1792	2.431E-01	0.0038	4.765E+01	0.7534	3.573E+00	0.0565	1.354E-01	0.0021	0.000E+00	0.0000	3.109E-01	0.0049

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

0 Water Dependent Pathways

0 Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.163E-01	0.0113
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.144E+01	0.9713
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.462E-01	0.0039
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.987E-01	0.0031
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.959E-02	0.0016
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.529E-01	0.0087
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.325E+01	1.0000

0*Sum of all water independent and dependent pathways.

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-Nuclide	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	1.144E-03	0.0000	7.747E-04	0.0000	0.000E+00	0.0000	5.868E-01	0.0093	2.857E-02	0.0005	0.000E+00	0.0000	7.382E-02	0.0012
Ra-226	1.084E+01	0.1715	2.019E-03	0.0000	4.749E+01	0.7512	2.849E+00	0.0451	9.945E-02	0.0016	0.000E+00	0.0000	1.050E-01	0.0017
Th-230	1.419E-02	0.0002	1.141E-01	0.0018	5.157E-02	0.0008	4.938E-02	0.0008	1.886E-03	0.0000	0.000E+00	0.0000	5.835E-02	0.0009
U-234	1.140E-03	0.0000	6.508E-02	0.0010	5.088E-07	0.0000	8.432E-02	0.0013	4.856E-03	0.0001	0.000E+00	0.0000	4.239E-02	0.0007
U-235	9.120E-02	0.0014	2.709E-03	0.0000	0.000E+00	0.0000	3.574E-03	0.0001	2.099E-04	0.0000	0.000E+00	0.0000	1.790E-03	0.0000
U-238	3.707E-01	0.0059	5.746E-02	0.0009	7.628E-13	0.0000	7.904E-02	0.0013	4.552E-03	0.0001	0.000E+00	0.0000	3.973E-02	0.0006
Total	1.132E+01	0.1791	2.421E-01	0.0038	4.754E+01	0.7520	3.652E+00	0.0578	1.395E-01	0.0022	0.000E+00	0.0000	3.211E-01	0.0051

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

0 Water Dependent Pathways

0 Radio-Nuclide	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.911E-01	0.0109
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.138E+01	0.9711
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.894E-01	0.0046
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.978E-01	0.0031
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.949E-02	0.0016
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.515E-01	0.0087
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.321E+01	1.0000

0*Sum of all water independent and dependent pathways.

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	1.074E-03	0.0000	7.211E-04	0.0000	0.000E+00	0.0000	5.462E-01	0.0087	2.659E-02	0.0004	0.000E+00	0.0000	6.871E-02	0.0011
Ra-226	1.079E+01	0.1710	2.275E-03	0.0000	4.718E+01	0.7477	3.029E+00	0.0480	1.086E-01	0.0017	0.000E+00	0.0000	1.303E-01	0.0021
Th-230	2.978E-02	0.0005	1.130E-01	0.0018	1.196E-01	0.0019	5.315E-02	0.0008	2.018E-03	0.0000	0.000E+00	0.0000	5.797E-02	0.0009
U-234	1.140E-03	0.0000	6.447E-02	0.0010	2.674E-06	0.0000	8.352E-02	0.0013	4.810E-03	0.0001	0.000E+00	0.0000	4.198E-02	0.0007
U-235	9.103E-02	0.0014	2.684E-03	0.0000	0.000E+00	0.0000	3.564E-03	0.0001	2.151E-04	0.0000	0.000E+00	0.0000	1.776E-03	0.0000
U-238	3.696E-01	0.0059	5.691E-02	0.0009	8.851E-12	0.0000	7.829E-02	0.0012	4.509E-03	0.0001	0.000E+00	0.0000	3.936E-02	0.0006
Total	1.129E+01	0.1788	2.401E-01	0.0038	4.730E+01	0.7495	3.793E+00	0.0601	1.468E-01	0.0023	0.000E+00	0.0000	3.401E-01	0.0054

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

0 Water Dependent Pathways

0 Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.433E-01	0.0102
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.125E+01	0.9705
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.756E-01	0.0060
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.959E-01	0.0031
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.927E-02	0.0016
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.487E-01	0.0087
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.311E+01	1.0000

0*Sum of all water independent and dependent pathways.

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	8.601E-04	0.0000	5.607E-04	0.0000	0.000E+00	0.0000	4.247E-01	0.0068	2.068E-02	0.0003	0.000E+00	0.0000	5.343E-02	0.0009
Ra-226	1.062E+01	0.1696	3.007E-03	0.0000	4.611E+01	0.7366	3.535E+00	0.0565	1.347E-01	0.0022	0.000E+00	0.0000	2.031E-01	0.0032
Th-230	8.329E-02	0.0013	1.093E-01	0.0017	3.513E-01	0.0056	6.782E-02	0.0011	2.561E-03	0.0000	0.000E+00	0.0000	5.688E-02	0.0009
U-234	1.141E-03	0.0000	6.231E-02	0.0010	2.343E-05	0.0000	8.072E-02	0.0013	4.648E-03	0.0001	0.000E+00	0.0000	4.058E-02	0.0006
U-235	9.040E-02	0.0014	2.602E-03	0.0000	0.000E+00	0.0000	3.530E-03	0.0001	2.323E-04	0.0000	0.000E+00	0.0000	1.729E-03	0.0000
U-238	3.657E-01	0.0058	5.500E-02	0.0009	2.299E-10	0.0000	7.566E-02	0.0012	4.358E-03	0.0001	0.000E+00	0.0000	3.803E-02	0.0006
Total	1.116E+01	0.1782	2.327E-01	0.0037	4.646E+01	0.7422	4.188E+00	0.0669	1.672E-01	0.0027	0.000E+00	0.0000	3.938E-01	0.0063

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.003E-01	0.0080
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.061E+01	0.9681
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.711E-01	0.0107
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.894E-01	0.0030
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.849E-02	0.0016
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.388E-01	0.0086
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.260E+01	1.0000

0*Sum of all water independent and dependent pathways.

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Summary : Dewey Burdock
File   : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBLANDAPPLICATION.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years
0 Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	4.555E-04	0.0000	2.714E-04	0.0000	0.000E+00	0.0000	2.056E-01	0.0034	1.001E-02	0.0002	0.000E+00	0.0000	2.586E-02	0.0004
Ra-226	1.008E+01	0.1674	4.080E-03	0.0001	4.295E+01	0.7134	4.214E+00	0.0700	1.717E-01	0.0029	0.000E+00	0.0000	3.143E-01	0.0052
Th-230	2.264E-01	0.0038	9.856E-02	0.0016	9.549E-01	0.0159	1.155E-01	0.0019	4.471E-03	0.0001	0.000E+00	0.0000	5.499E-02	0.0009
U-234	1.168E-03	0.0000	5.616E-02	0.0009	1.851E-04	0.0000	7.273E-02	0.0012	4.188E-03	0.0001	0.000E+00	0.0000	3.657E-02	0.0006
U-235	8.830E-02	0.0015	2.380E-03	0.0000	0.000E+00	0.0000	3.420E-03	0.0001	2.721E-04	0.0000	0.000E+00	0.0000	1.601E-03	0.0000
U-238	3.533E-01	0.0059	4.955E-02	0.0008	5.273E-09	0.0000	6.817E-02	0.0011	3.926E-03	0.0001	0.000E+00	0.0000	3.427E-02	0.0006
Total	1.075E+01	0.1785	2.110E-01	0.0035	4.390E+01	0.7293	4.679E+00	0.0777	1.946E-01	0.0032	0.000E+00	0.0000	4.676E-01	0.0078

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years
0 Water Dependent Pathways

Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.422E-01	0.0040
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.773E+01	0.9589
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.455E+00	0.0242
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.710E-01	0.0028
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.597E-02	0.0016
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.092E-01	0.0085
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.020E+01	1.0000

0*Sum of all water independent and dependent pathways.

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Summary : Dewey Burdock
File : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBLANDAPPLICATION.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	4.726E-05	0.0000	1.904E-05	0.0000	0.000E+00	0.0000	1.442E-02	0.0003	7.025E-04	0.0000	0.000E+00	0.0000	1.814E-03	0.0000
Ra-226	7.678E+00	0.1695	3.315E-03	0.0001	3.025E+01	0.6681	3.185E+00	0.0703	1.351E-01	0.0030	0.000E+00	0.0000	2.713E-01	0.0060
Th-230	5.738E-01	0.0127	6.114E-02	0.0014	2.253E+00	0.0498	2.241E-01	0.0049	9.167E-03	0.0002	0.000E+00	0.0000	4.656E-02	0.0010
U-234	1.405E-03	0.0000	3.468E-02	0.0008	1.445E-03	0.0000	4.498E-02	0.0010	2.588E-03	0.0001	0.000E+00	0.0000	2.258E-02	0.0005
U-235	7.540E-02	0.0017	1.589E-03	0.0000	0.000E+00	0.0000	2.684E-03	0.0001	3.036E-04	0.0000	0.000E+00	0.0000	1.109E-03	0.0000
U-238	2.892E-01	0.0064	3.057E-02	0.0007	1.359E-07	0.0000	4.206E-02	0.0009	2.422E-03	0.0001	0.000E+00	0.0000	2.114E-02	0.0005
Total	8.618E+00	0.1903	1.313E-01	0.0029	3.251E+01	0.7179	3.513E+00	0.0776	1.503E-01	0.0033	0.000E+00	0.0000	3.645E-01	0.0080

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

0 Water Dependent Pathways

0	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Radio-Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.701E-02	0.0004
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.153E+01	0.9170
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.168E+00	0.0700
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.077E-01	0.0024
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.109E-02	0.0018
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.854E-01	0.0085
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.529E+01	1.0000

0*Sum of all water independent and dependent pathways.

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Summary : Dewey Burdock
File   : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBLANDAPPLICATION.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-Nuclide	Ground mrem/yr	Ground fract.	Inhalation mrem/yr	Inhalation fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	Soil mrem/yr	Soil fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

0 Water Dependent Pathways

0 Radio-Nuclide	Water mrem/yr	Water fract.	Fish mrem/yr	Fish fract.	Radon mrem/yr	Radon fract.	Plant mrem/yr	Plant fract.	Meat mrem/yr	Meat fract.	Milk mrem/yr	Milk fract.	All Pathways* mrem/yr	All Pathways* fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0*Sum of all water independent and dependent pathways.

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Independent Pathways (Inhalation excludes radon)

0 Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

0 Water Dependent Pathways

0 Radio-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-230	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-234	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-235	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
U-238	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Total	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000

0*Sum of all water independent and dependent pathways.

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

0 Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210+D	Pb-210+D	1.000E+00	1.832E+00	1.767E+00	1.645E+00	1.279E+00	6.195E-01	4.350E-02	0.000E+00	0.000E+00
0Ra-226+D	Ra-226+D	1.000E+00	2.622E+01	2.614E+01	2.598E+01	2.540E+01	2.369E+01	1.683E+01	0.000E+00	0.000E+00
Ra-226+D	Pb-210+D	1.000E+00	3.355E-02	9.001E-02	1.946E-01	4.980E-01	9.763E-01	9.181E-01	0.000E+00	0.000E+00
Ra-226+D	ΣDSR(j)		2.626E+01	2.623E+01	2.617E+01	2.590E+01	2.467E+01	1.775E+01	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	5.729E-02	5.702E-02	5.649E-02	5.463E-02	4.931E-02	3.069E-02	0.000E+00	0.000E+00
Th-230	Ra-226+D	1.000E+00	5.661E-03	1.697E-02	3.940E-02	1.158E-01	3.153E-01	7.500E-01	0.000E+00	0.000E+00
Th-230	Pb-210+D	1.000E+00	5.242E-06	3.220E-05	1.553E-04	1.208E-03	7.506E-03	2.950E-02	0.000E+00	0.000E+00
Th-230	ΣDSR(j)		6.296E-02	7.403E-02	9.605E-02	1.716E-01	3.721E-01	8.102E-01	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	3.606E-02	3.589E-02	3.555E-02	3.437E-02	3.098E-02	1.916E-02	0.000E+00	0.000E+00
U-234	Th-230	1.000E+00	2.631E-07	7.761E-07	1.786E-06	5.168E-06	1.353E-05	2.770E-05	0.000E+00	0.000E+00
U-234	Ra-226+D	1.000E+00	1.695E-08	1.187E-07	6.247E-07	5.480E-06	4.336E-05	3.413E-04	0.000E+00	0.000E+00
U-234	Pb-210+D	1.000E+00	1.249E-11	1.627E-10	1.709E-09	3.950E-08	7.410E-07	1.074E-05	0.000E+00	0.000E+00
U-234	ΣDSR(j)		3.606E-02	3.590E-02	3.556E-02	3.438E-02	3.103E-02	1.954E-02	0.000E+00	0.000E+00
0U-235+D	U-235+D	1.000E+00	4.048E-01	4.043E-01	4.033E-01	3.996E-01	3.876E-01	3.231E-01	0.000E+00	0.000E+00
U-235+D	Pa-231	1.000E+00	3.471E-05	1.078E-04	2.526E-04	7.380E-04	1.939E-03	3.979E-03	0.000E+00	0.000E+00
U-235+D	Ac-227+D	1.000E+00	3.485E-07	2.260E-06	1.125E-05	8.972E-05	5.748E-04	2.547E-03	0.000E+00	0.000E+00
U-235+D	ΣDSR(j)		4.048E-01	4.044E-01	4.035E-01	4.004E-01	3.901E-01	3.296E-01	0.000E+00	0.000E+00
0U-238	U-238	5.400E-05	1.743E-06	1.735E-06	1.718E-06	1.661E-06	1.496E-06	9.241E-07	0.000E+00	0.000E+00
0U-238+D	U-238+D	9.999E-01	1.016E-01	1.014E-01	1.009E-01	9.904E-02	9.361E-02	7.084E-02	0.000E+00	0.000E+00
U-238+D	U-234	9.999E-01	5.108E-08	1.526E-07	3.527E-07	1.023E-06	2.678E-06	5.461E-06	0.000E+00	0.000E+00
U-238+D	Th-230	9.999E-01	2.519E-13	1.723E-12	8.949E-12	7.706E-11	5.853E-10	3.943E-09	0.000E+00	0.000E+00
U-238+D	Ra-226+D	9.999E-01	1.200E-14	1.801E-13	2.093E-12	5.446E-11	1.251E-09	3.252E-08	0.000E+00	0.000E+00
U-238+D	Pb-210+D	9.999E-01	7.417E-18	1.983E-16	4.448E-15	3.020E-13	1.679E-11	8.591E-10	0.000E+00	0.000E+00
U-238+D	ΣDSR(j)		1.016E-01	1.014E-01	1.009E-01	9.904E-02	9.361E-02	7.084E-02	0.000E+00	0.000E+00

The DSR includes contributions from associated (half-life ≤ 180 days) daughters.
0

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

0Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210	1.365E+01	1.414E+01	1.519E+01	1.954E+01	4.036E+01	5.747E+02	*7.634E+13	*7.634E+13
Ra-226	9.521E-01	9.530E-01	9.551E-01	9.653E-01	1.013E+00	1.409E+00	*9.885E+11	*9.885E+11
Th-230	3.971E+02	3.377E+02	2.603E+02	1.456E+02	6.719E+01	3.086E+01	*2.018E+10	*2.018E+10
U-234	6.932E+02	6.965E+02	7.031E+02	7.272E+02	8.056E+02	1.279E+03	*6.247E+09	*6.247E+09
U-235	6.175E+01	6.182E+01	6.195E+01	6.244E+01	6.408E+01	7.584E+01	*2.161E+06	*2.161E+06
U-238	2.460E+02	2.466E+02	2.479E+02	2.524E+02	2.671E+02	3.529E+02	*3.361E+05	*3.361E+05

*At specific activity limit

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Summary : Dewey Burdock
File   : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBLANDAPPLICATION.RAD

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
at tmin = time of minimum single radionuclide soil guideline
and at tmax = time of maximum total dose = 0.000E+00 years

0Nuclide (i)	Initial (pCi/g)	tmin (years)	DSR(i,tmin)	G(i,tmin) (pCi/g)	DSR(i,tmax)	G(i,tmax) (pCi/g)
Pb-210	3.910E-01	0.000E+00	1.832E+00	1.365E+01	1.832E+00	1.365E+01
Ra-226	2.340E+00	0.000E+00	2.626E+01	9.521E-01	2.626E+01	9.521E-01
Th-230	3.910E+00	119.0 ± 0.2	8.366E-01	2.988E+01	6.296E-02	3.971E+02
U-234	5.510E+00	0.000E+00	3.606E-02	6.932E+02	3.606E-02	6.932E+02
U-235	2.460E-01	0.000E+00	4.048E-01	6.175E+01	4.048E-01	6.175E+01
U-238	5.440E+00	0.000E+00	1.016E-01	2.460E+02	1.016E-01	2.460E+02

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	DOSE(j,t), mrem/yr t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210	Pb-210	1.000E+00	7.163E-01	6.911E-01	6.433E-01	5.003E-01	2.422E-01	1.701E-02	0.000E+00	0.000E+00
Pb-210	Ra-226	1.000E+00	7.850E-02	2.106E-01	4.553E-01	1.165E+00	2.285E+00	2.148E+00	0.000E+00	0.000E+00
Pb-210	Th-230	1.000E+00	2.050E-05	1.259E-04	6.072E-04	4.722E-03	2.935E-02	1.153E-01	0.000E+00	0.000E+00
Pb-210	U-234	1.000E+00	6.881E-11	8.967E-10	9.417E-09	2.176E-07	4.083E-06	5.920E-05	0.000E+00	0.000E+00
Pb-210	U-238	9.999E-01	4.035E-17	1.079E-15	2.420E-14	1.643E-12	9.132E-11	4.673E-09	0.000E+00	0.000E+00
Pb-210	ΣDOSE(j)		7.948E-01	9.018E-01	1.099E+00	1.670E+00	2.556E+00	2.281E+00	0.000E+00	0.000E+00
0Ra-226	Ra-226	1.000E+00	6.136E+01	6.117E+01	6.079E+01	5.944E+01	5.544E+01	3.938E+01	0.000E+00	0.000E+00
Ra-226	Th-230	1.000E+00	2.214E-02	6.636E-02	1.541E-01	4.528E-01	1.233E+00	2.932E+00	0.000E+00	0.000E+00
Ra-226	U-234	1.000E+00	9.341E-08	6.540E-07	3.442E-06	3.019E-05	2.389E-04	1.881E-03	0.000E+00	0.000E+00
Ra-226	U-238	9.999E-01	6.526E-14	9.796E-13	1.139E-11	2.963E-10	6.805E-09	1.769E-07	0.000E+00	0.000E+00
Ra-226	ΣDOSE(j)		6.138E+01	6.124E+01	6.095E+01	5.989E+01	5.667E+01	4.231E+01	0.000E+00	0.000E+00
0Th-230	Th-230	1.000E+00	2.240E-01	2.230E-01	2.209E-01	2.136E-01	1.928E-01	1.200E-01	0.000E+00	0.000E+00
Th-230	U-234	1.000E+00	1.450E-06	4.276E-06	9.840E-06	2.848E-05	7.458E-05	1.526E-04	0.000E+00	0.000E+00
Th-230	U-238	9.999E-01	1.370E-12	9.375E-12	4.868E-11	4.192E-10	3.184E-09	2.145E-08	0.000E+00	0.000E+00
Th-230	ΣDOSE(j)		2.240E-01	2.230E-01	2.209E-01	2.136E-01	1.929E-01	1.201E-01	0.000E+00	0.000E+00
0U-234	U-234	1.000E+00	1.987E-01	1.978E-01	1.959E-01	1.894E-01	1.707E-01	1.056E-01	0.000E+00	0.000E+00
U-234	U-238	9.999E-01	2.779E-07	8.301E-07	1.919E-06	5.565E-06	1.457E-05	2.971E-05	0.000E+00	0.000E+00
U-234	ΣDOSE(j)		1.987E-01	1.978E-01	1.959E-01	1.894E-01	1.707E-01	1.056E-01	0.000E+00	0.000E+00
0U-235	U-235	1.000E+00	9.958E-02	9.946E-02	9.921E-02	9.829E-02	9.536E-02	7.948E-02	0.000E+00	0.000E+00
0Pa-231	U-235	1.000E+00	8.540E-06	2.652E-05	6.215E-05	1.815E-04	4.770E-04	9.788E-04	0.000E+00	0.000E+00
0Ac-227	U-235	1.000E+00	8.573E-08	5.560E-07	2.768E-06	2.207E-05	1.414E-04	6.267E-04	0.000E+00	0.000E+00
0U-238	U-238	5.400E-05	9.482E-06	9.438E-06	9.348E-06	9.035E-06	8.141E-06	5.027E-06	0.000E+00	0.000E+00
U-238	U-238	9.999E-01	5.529E-01	5.515E-01	5.487E-01	5.388E-01	5.092E-01	3.854E-01	0.000E+00	0.000E+00
U-238	ΣDOSE(j)		5.529E-01	5.515E-01	5.487E-01	5.388E-01	5.092E-01	3.854E-01	0.000E+00	0.000E+00

THF(i) is the thread fraction of the parent nuclide.

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 Summary : Dewey Burdock
 File    : C:\RESRAD_FAMILY\RESRAD\USERFILES\DBLANDAPPLICATION.RAD
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Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

0Nuclide (j)	Parent (i)	THF(i)	S(j,t), pCi/g t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210	Pb-210	1.000E+00	3.910E-01	3.790E-01	3.562E-01	2.865E-01	1.538E-01	1.742E-02	3.458E-05	1.205E-14
Pb-210	Ra-226	1.000E+00	0.000E+00	7.160E-02	2.082E-01	6.235E-01	1.407E+00	2.159E+00	2.060E+00	1.480E+00
Pb-210	Th-230	1.000E+00	0.000E+00	2.605E-05	2.296E-04	2.376E-03	1.767E-02	1.150E-01	4.249E-01	1.308E+00
Pb-210	U-234	1.000E+00	0.000E+00	1.104E-10	2.936E-09	1.030E-07	2.407E-06	5.864E-05	7.440E-04	8.499E-03
Pb-210	U-238	9.999E-01	0.000E+00	7.740E-17	6.191E-15	7.319E-13	5.273E-11	4.600E-09	1.921E-07	7.912E-06
Pb-210	ΣS(j):		3.910E-01	4.506E-01	5.646E-01	9.124E-01	1.578E+00	2.291E+00	2.486E+00	2.797E+00
0Ra-226	Ra-226	1.000E+00	2.340E+00	2.339E+00	2.337E+00	2.329E+00	2.307E+00	2.232E+00	2.031E+00	1.459E+00
Ra-226	Th-230	1.000E+00	0.000E+00	1.693E-03	5.078E-03	1.690E-02	5.045E-02	1.654E-01	4.731E-01	1.343E+00
Ra-226	U-234	1.000E+00	0.000E+00	1.074E-08	9.664E-08	1.072E-06	9.618E-06	1.055E-04	9.166E-04	9.024E-03
Ra-226	U-238	9.999E-01	0.000E+00	1.002E-14	2.705E-13	1.001E-11	2.694E-10	9.876E-09	2.589E-07	8.670E-06
Ra-226	ΣS(j):		2.340E+00	2.341E+00	2.342E+00	2.346E+00	2.358E+00	2.398E+00	2.505E+00	2.811E+00
0Th-230	Th-230	1.000E+00	3.910E+00	3.910E+00	3.910E+00	3.910E+00	3.909E+00	3.906E+00	3.899E+00	3.875E+00
Th-230	U-234	1.000E+00	0.000E+00	4.960E-05	1.488E-04	4.958E-04	1.487E-03	4.944E-03	1.473E-02	4.798E-02
Th-230	U-238	9.999E-01	0.000E+00	6.941E-11	6.246E-10	6.938E-09	6.239E-08	6.913E-07	6.172E-06	6.666E-05
Th-230	ΣS(j):		3.910E+00	3.910E+00	3.910E+00	3.910E+00	3.910E+00	3.911E+00	3.914E+00	3.923E+00
0U-234	U-234	1.000E+00	5.510E+00	5.510E+00	5.509E+00	5.507E+00	5.500E+00	5.478E+00	5.416E+00	5.201E+00
U-234	U-238	9.999E-01	0.000E+00	1.542E-05	4.626E-05	1.541E-04	4.619E-04	1.533E-03	4.549E-03	1.458E-02
U-234	ΣS(j):		5.510E+00	5.510E+00	5.509E+00	5.507E+00	5.501E+00	5.480E+00	5.420E+00	5.216E+00
0U-235	U-235	1.000E+00	2.460E-01	2.460E-01	2.460E-01	2.459E-01	2.456E-01	2.447E-01	2.420E-01	2.329E-01
0Pa-231	U-235	1.000E+00	0.000E+00	5.205E-06	1.561E-05	5.202E-05	1.558E-04	5.171E-04	1.531E-03	4.876E-03
0Ac-227	U-235	1.000E+00	0.000E+00	8.197E-08	7.223E-07	7.465E-06	5.542E-05	3.609E-04	1.368E-03	4.712E-03
0U-238	U-238	5.400E-05	2.938E-04	2.937E-04	2.937E-04	2.936E-04	2.933E-04	2.922E-04	2.890E-04	2.781E-04
U-238	U-238	9.999E-01	5.440E+00	5.439E+00	5.439E+00	5.437E+00	5.431E+00	5.410E+00	5.351E+00	5.150E+00
U-238	ΣS(j):		5.440E+00	5.440E+00	5.439E+00	5.437E+00	5.431E+00	5.410E+00	5.351E+00	5.150E+00

THF(i) is the thread fraction of the parent nuclide.
0RESCALC.EXE execution time =   1.45 seconds