APPENDIX 2.9-M

Statistical Analysis of Baseline Ra-226 Soil Sampling Results

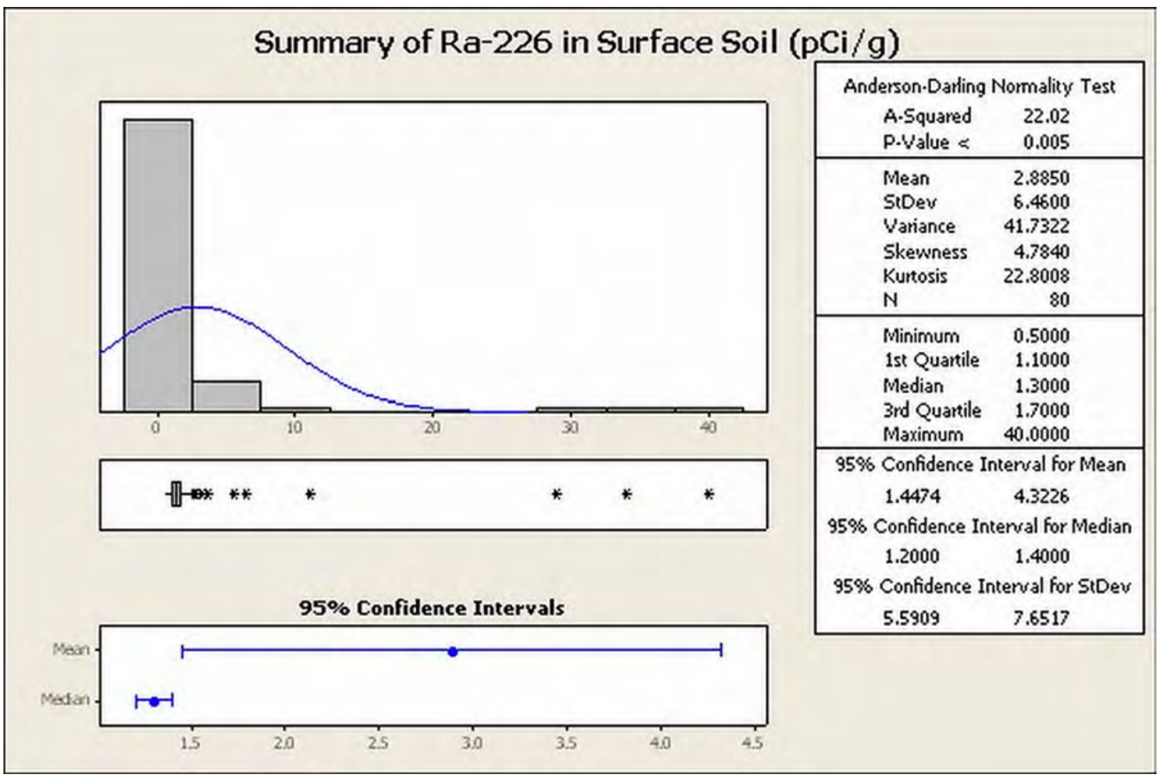
The Ra-226 soil sampling results were analyzed with the statistical software package Minitab, version 15.1.1.0. This appendix presents the output graphs from Minitab and presentation of statistical analyses.

<u>First Set of 80 Soil Sampling Locations</u>

The Ra-226 soil sampling results from the first set of 80 locations were first tested for a normal distribution. Figure 1 displays the results of the test as well as a histogram and statistical summary of the data.

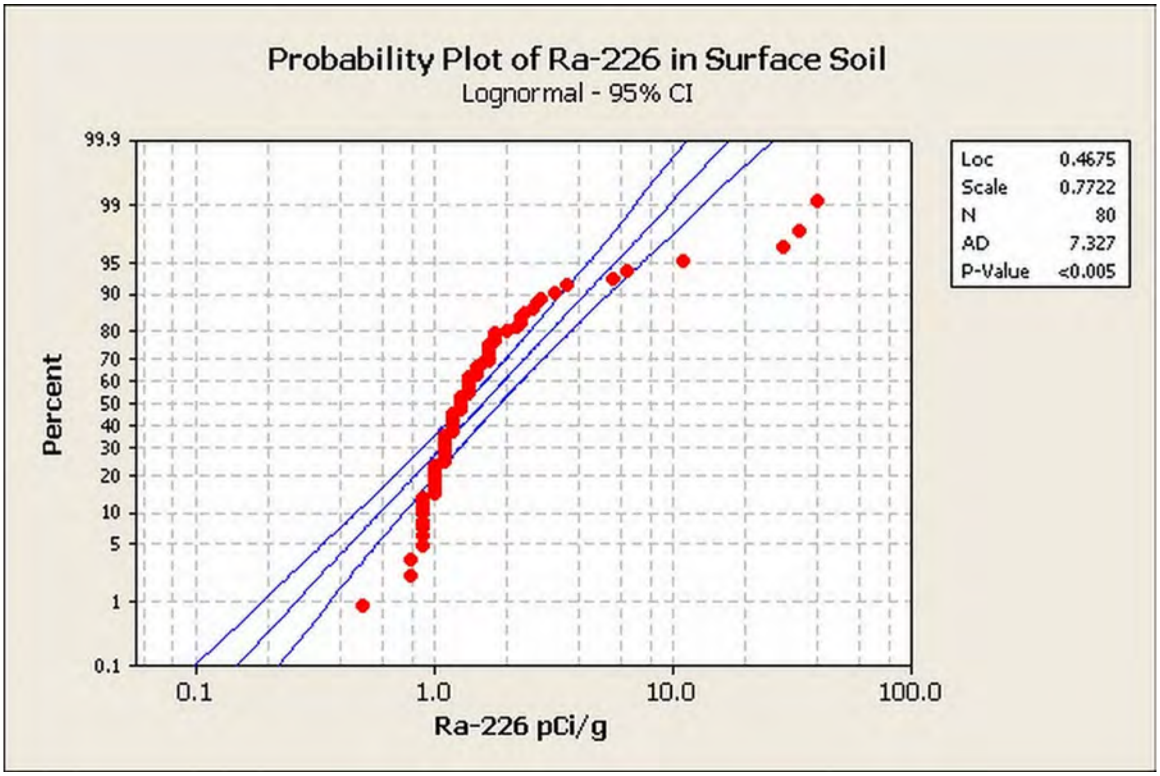
In order to test the Ra-226 sample results for a normal distribution, the Anderson-Darling normality test was performed in Minitab. Figure 1 presents the results of the Anderson-Darling normality test. The p-values from the normality test indicate the distribution is not normal.

Figure 1: Summary of Statistics and Normality Test of Ra-226 Soil Sampling Results in the First Set of 80 Locations (in cpm).



The data were then tested for a lognormal distribution. Figure 2 shows the statistical test results and probability plot. The p-values from the lognormal test indicate that the data are not lognormally distributed.

Figure 2: Statistical Results and Probability Plot of the Test for Lognormal Distribution of Ra-226 Soil Sampling Results in the First Set of 80 Locations.



Surface Mine Area

The Ra-226 soil sampling results from the Surface Mine Area were tested for normal and lognormal distributions. Figure 3 displays the results of the normality test as well as a histogram and statistical summary of the data. The p-values from the normality test indicate that the data are not normally distributed.

Figure 4 shows the statistical results and probability plot of the test for a lognormal distribution for the Surface Mine Area. The p-values from the lognormal test indicate that the data are not lognormally distributed.

Figure 3: Summary of Statistics and Normality Test of the Ra-226 Soil Sampling Results from the Surface Mine Area.

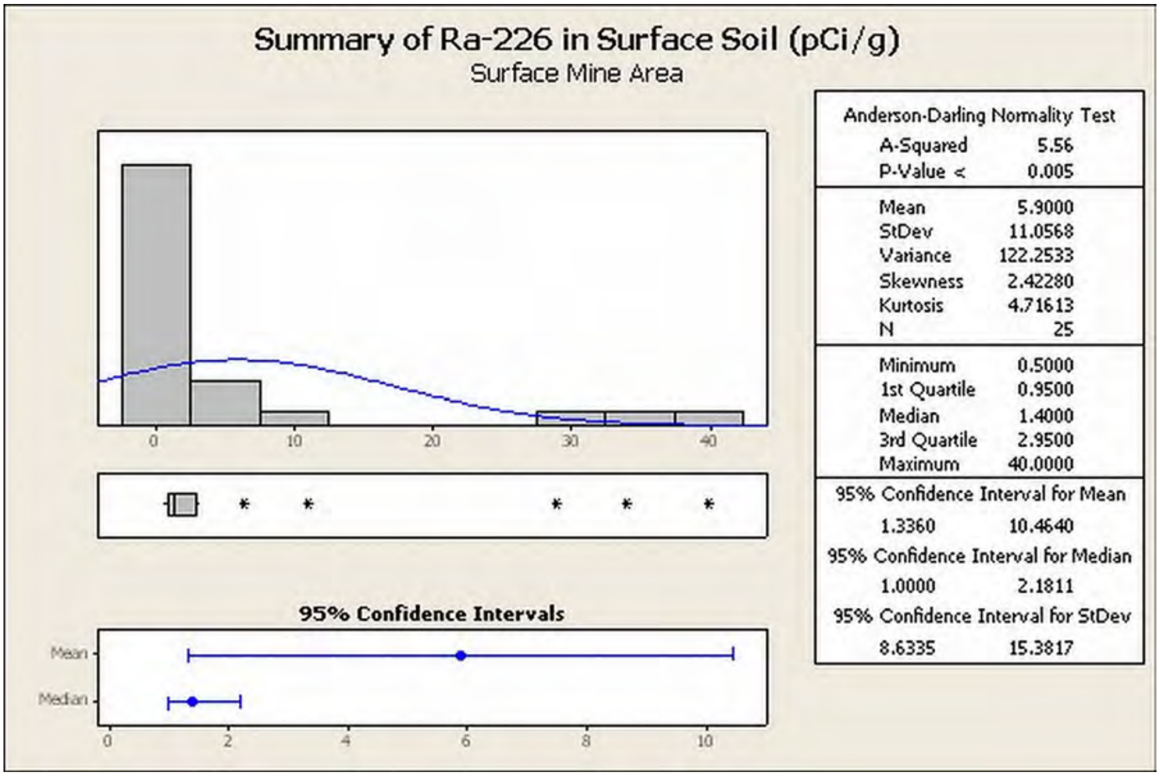
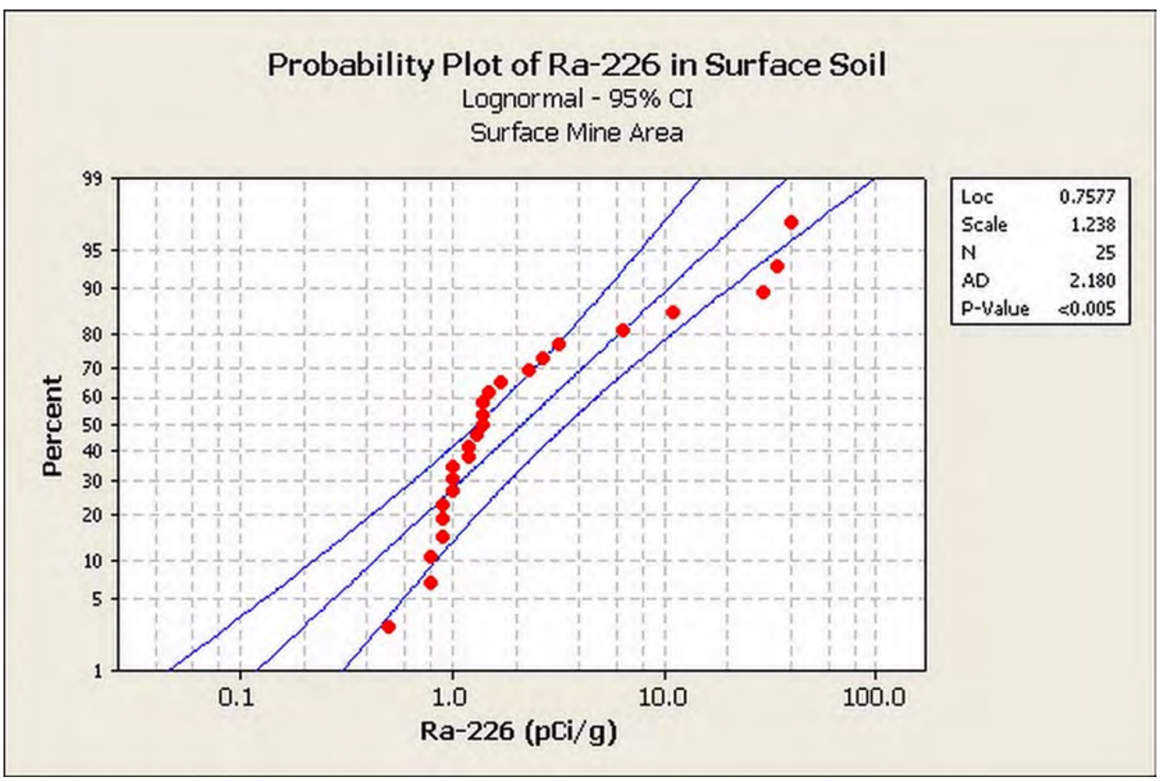


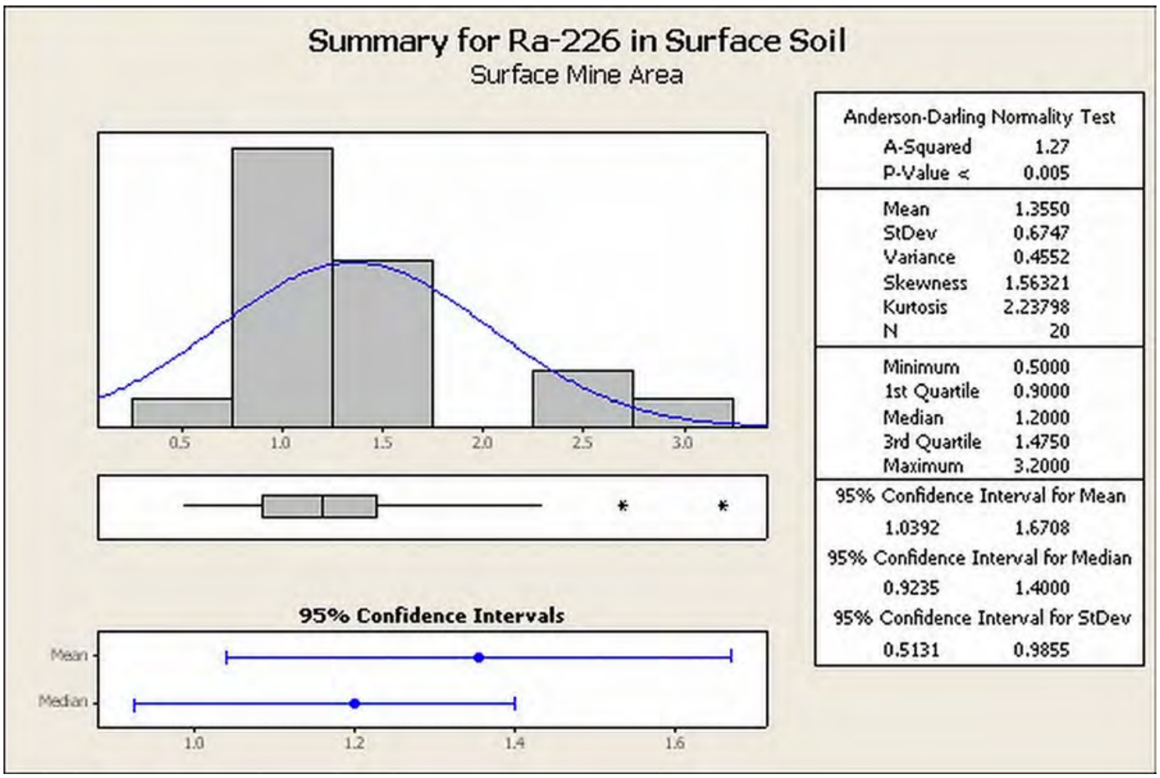
Figure 4: Statistical Results and Probability Plot of the Test for Lognormal Distribution of Ra-226 Soil Sampling Results from the Surface Mine Area.



The box plot in Figure 3 shows five potential outliers (identified with "*"). The box plot marks any data beyond the range (Q1 – 1.5*IQR, Q3 + 1.5*IQR) as potential outliers. IQR stands for the "interquartile range" and is calculated as the difference between the 3rd and 1st quartiles. The five potential outlier sample locations were biased, based on an evaluation of the gamma survey results, and intended to capture the upper limit of radium-226 soil concentrations.

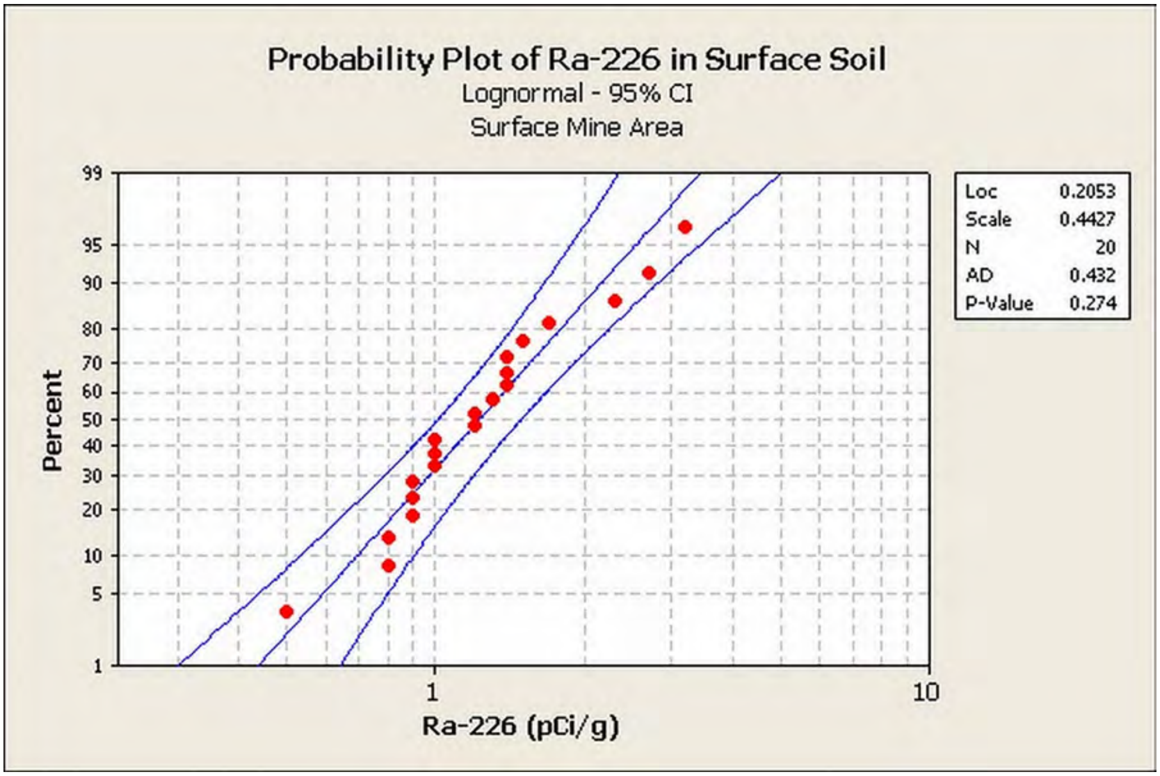
The test for a normal distribution was repeated with the potential outliers removed from the data set. Figure 5 displays the results of the test as well as a histogram and statistical summary of the data. Although the histogram more closely resembles a normally distributed data set, the p-values from the Anderson-Darling normality test indicate that the data without outliers are not normally distributed.

Figure 5: Summary of Statistics and Normality Test of the Ra-226 Soil Sampling Results from the Surface Mine Area, with Five Potential Outliers Removed.



The data without potential outliers were then tested for a lognormal distribution. Figure 6 shows the statistical results and probability plot of the test for a lognormal distribution. In this case, the p-value indicates that the data with the five potential outliers removed are adequately described by a lognormal distribution.

Figure 6: Statistical Results and Probability Plot of the Test for Lognormal Distribution of the Ra-226 Soil Sampling Results from the Surface Mine Area, with Five Potential Outliers Removed.



Main Permit Area

The Ra-226 soil sampling results from the Main Permit Area were tested for normal and lognormal distributions. Figure 7 displays the results of the normality test as well as a histogram and statistical summary of the data. The p-values from the Anderson-Darling normality test indicate that the data are not normally distributed.

The data were then tested for a lognormal distribution. Figure 8 shows the results of the statistical test and probability plot for a lognormal distribution. The p-values from the lognormal test indicate that the data are not lognormally distributed.

Figure 7: Summary of Statistics and Normality Test of the Ra-226 Soil Sampling Results from the Main Permit Area.

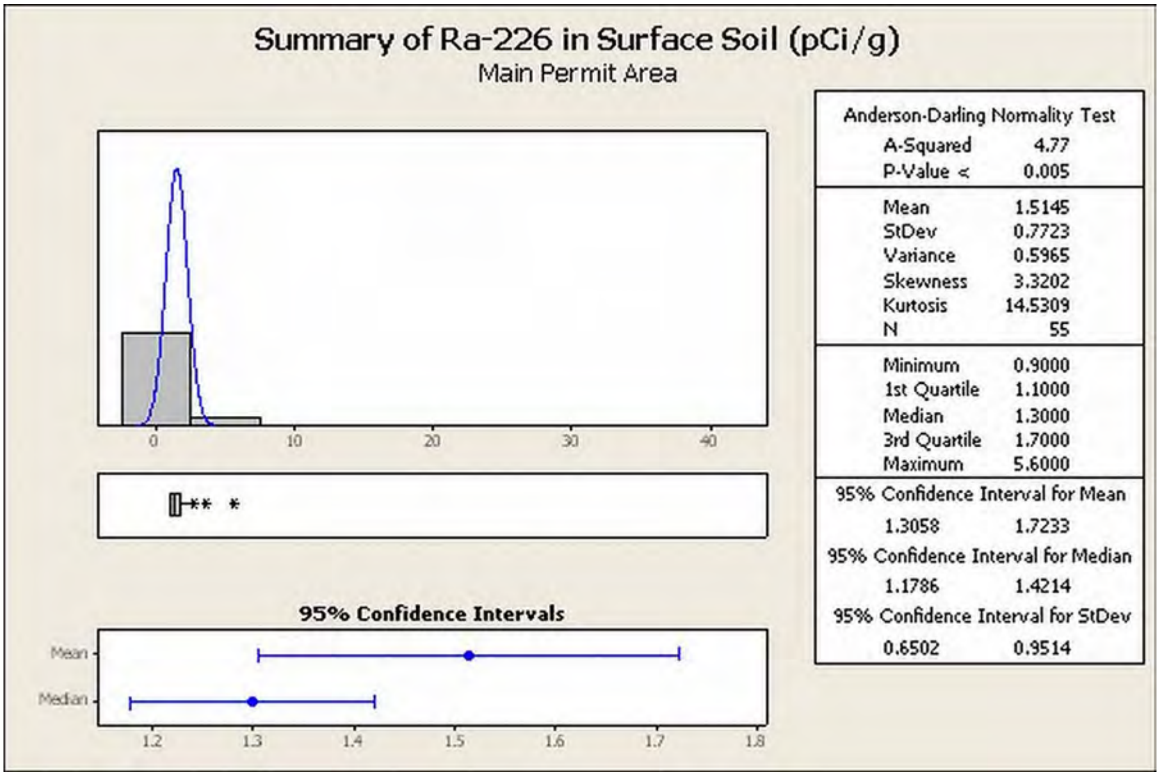
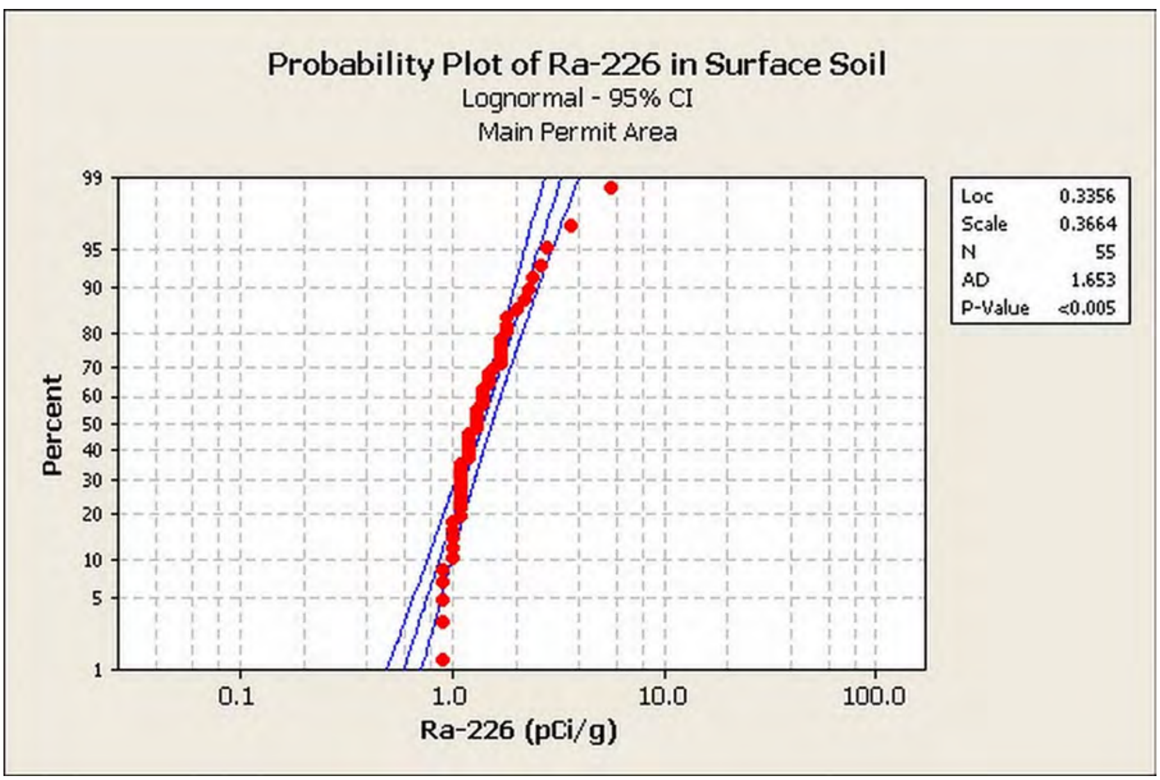


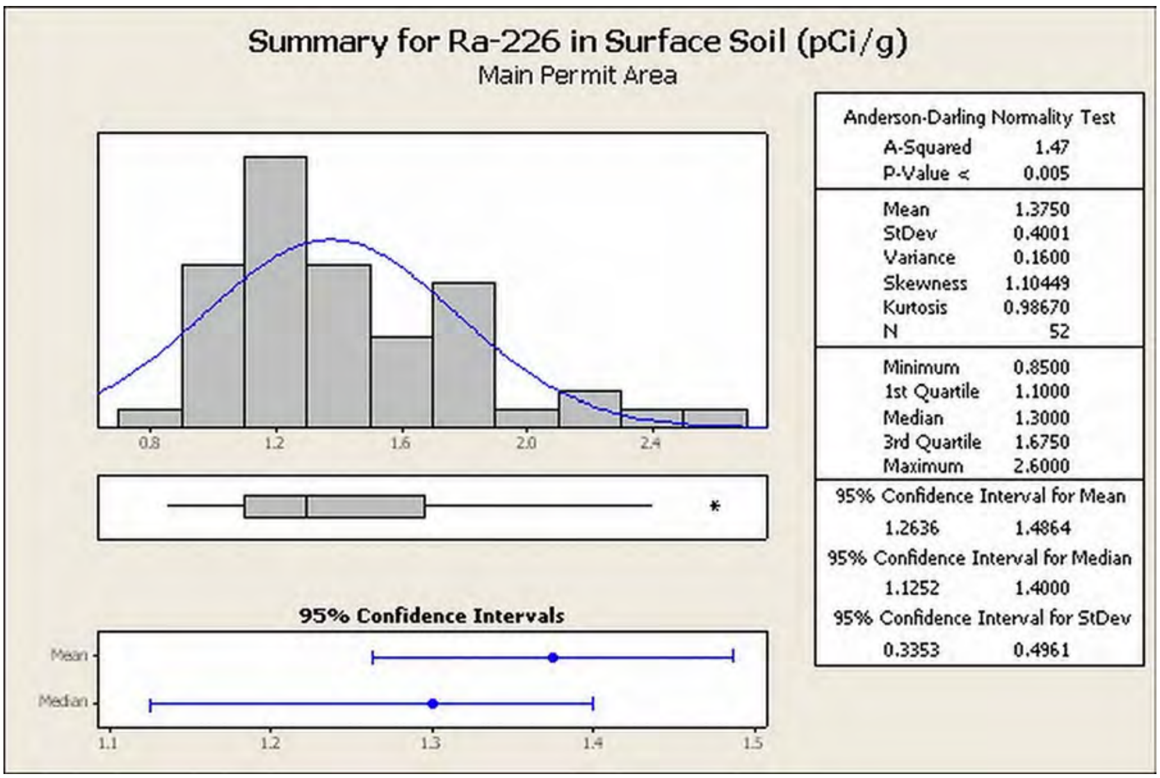
Figure 8: Statistical Results and Probability Plot of the Test for Lognormal Distribution of the Ra-226 Soil Sampling Results from the Main Permit Area.



The box plot in Figure 7 shows three potential outliers (defined with *). The box plot marks any data beyond the range (Q1 – 1.5*IQR, Q3 + 1.5*IQR) as potential outliers. No errors were found associated with these potential outliers. The three potential outliers make up about 5 percent of the entire data set, therefore it was determined that the relatively high values of the potential outliers were due to random measurement variability.

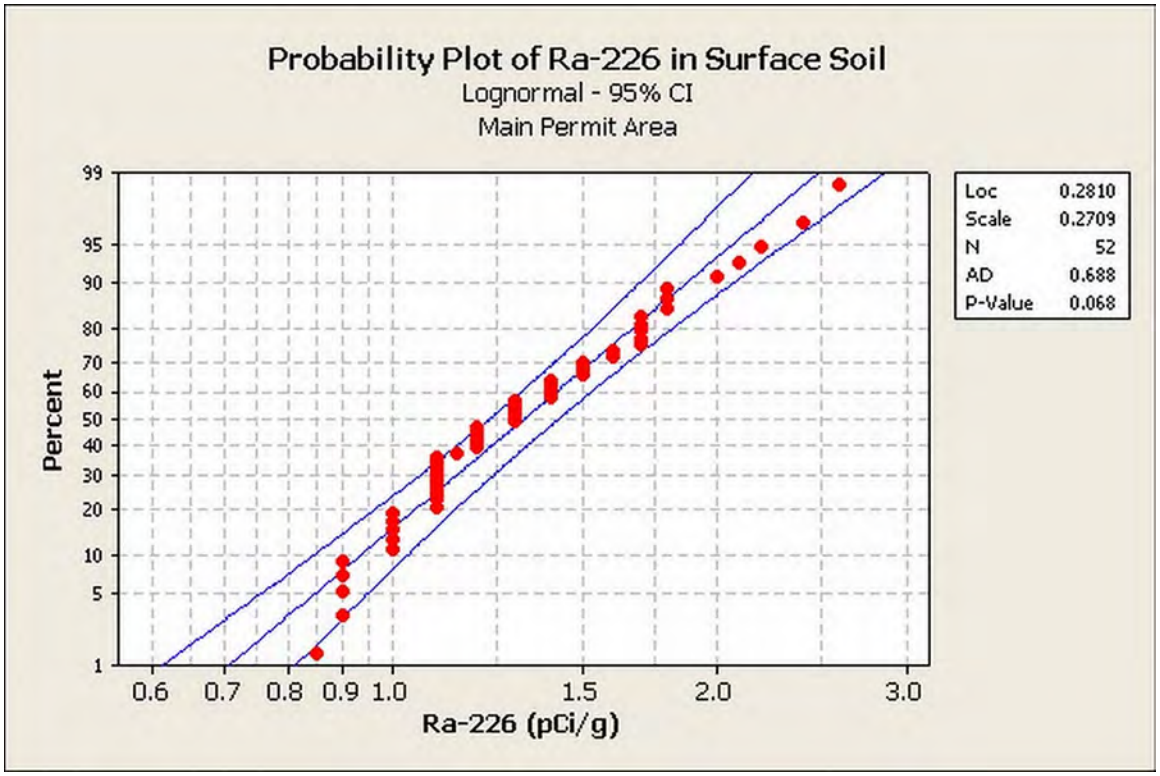
The test for a normal distribution was repeated with the outliers removed from the data set. Figure 9 displays the results of the test as well as a histogram and statistical summary of the data. The p-value from the normality test indicates that the Ra-226 soil sampling results from the Main Permit Area with potential outliers removed is not normally distributed.

Figure 9: Summary of Statistics and Normality Test of the Ra-226 Soil Sampling Results from the Main Permit Area, with Three Potential Outliers Removed.



The data were then tested for a lognormal distribution. Figure 10 shows the statistical results and probability plot of the test for a lognormal distribution. The p-value from the lognormal test indicates that the data are adequately described by a lognormal distribution.

Figure 10: Statistical Results and Probability Plot of the Test for Lognormal Distribution of the Ra-226 Soil Sampling Results from the Main Permit Area.



<u>North Section of Main Permit Area and Land Application Areas</u>

The Ra-226 soil sampling results from the north section of the Main Permit Area and the Land Application Areas were not analyzed statistically.

APPENDIX 3.1-A

POND DESIGN REPORT

Knight Piésold
CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project

Pond Design Report

August 2009

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KP Project No. DV102.00279.01

Rev. No.	Date	Description	Knight Piésold	Client
0	August 2009	Issued as Final	Paul Bergstrom	John Mays

Knight Piésold
CONSULTING

Powertech (USA) Inc.
Dewey-Burdock Project
Pond Design Report

Executive Summary

This report provides the preliminary pond design for the land application option and for the deep well disposal option at the Dewey-Burdock project. These designs have been completed following United States Nuclear Regulatory Commission (USNRC) Regulatory Guide 3.11, NUREG 1569, 10 CFR Part 40, Appendix A, Criterion 5 and State of South Dakota Administrative Rule 74:29:11:23.

Land Application Option

The land application option includes six categories of ponds:

- Radium settling ponds containing bleed and restoration water and used to settle radium out of solution
- Outlet ponds used to intercept treated water from the radium settling ponds and to store stormwater falling on the radium settling ponds
- Storage ponds used to store treated water during the non-irrigation season
- A central plant pond containing brine produced at the Burdock Plant site
- Spare ponds used for emergency containment should the radium settling or central plant ponds fail
- Spare storage ponds used for emergency containment should any of the storage ponds fail, or portions of the land application system become temporarily inoperable

The design makes allowance for the following:

- Two radium settling ponds, one each at the Dewey and Burdock having a storage capacity of 39.4-acre-ft each
- Two outlet ponds, one each at the Dewey and Burdock sites having a storage capacity of 4.9-acre-ft each
- Two sets of storage ponds:
  - A system of four ponds constructed at the Dewey Site each having a storage capacity of 63.8-acre-ft

- A system of four ponds constructed at the Burdock Site each having a capacity of 63.8-acre-ft

- Two spare storage ponds, one each at the Dewey and Burdock Sites having a storage capacity of 63.8-acre-ft each
- A central plant pond at the Burdock site having a capacity of 36.2-acre-ft
- Two spare ponds, one each at the Dewey and Burdock Sites having a capacity of 39.4-acre-ft each

Deep Well Disposal Option

The deep well disposal option includes five categories of ponds:

- Radium settling ponds, containing bleed water and restoration water and used to settle radium out of solution
- Outlet ponds used to intercept treated water from the radium settling ponds and to store stormwater falling on the radium settling ponds
- Surge ponds, containing water that has been treated and which is to be pumped to the disposal wells
- Spare ponds, used for emergency containment should any of the ponds fail
- A central plant pond containing brine produced at the Burdock Plant site

The design makes allowance for the following:

- Two radium settling ponds, one each at the Dewey and Burdock having a storage capacity of 15.9-acre-ft each
- Two outlet ponds, one each at the Dewey and Burdock sites having a storage capacity of 5.1-acre-ft each
- Two surge ponds, one each at the Dewey and Burdock sites having a storage capacity of 8.4-acre-ft each
- A central plant pond at the Burdock site having a capacity of 15.9-acre-ft
- Two spare ponds, one each at the Dewey and Burdock sites having a capacity of 15.9-acre-ft each

The ponds have been designed to store water reporting to them while maintaining 3 feet (ft) of freeboard. The geometry and storage characteristics of the radium settling ponds have also been checked to verify that they will allow the efficient removal of radium from solution.

The radium settling, spare and central plant ponds will be provided with the following lining system:

- An 80-milli-inch (mil) high density polyethylene (HDPE) primary liner
- A 60-mil-HDPE secondary liner
- A 1-ft-thick clay liner below the secondary liner
- A geonet drainage layer sandwiched between the primary and secondary HDPE liners
- A leak detection sump and access port system

All other ponds will contain treated water that is either to be used for land application or deep well disposal. These ponds will include a single 40-mil-HDPE liner underlain by a 1-ft-thick clay liner.

The results of the stability analyses calculated for the embankments using three different methods of analysis; Bishop Method, Janbu Method, and Morgenstern-Prices Method indicate that the slopes are stable under both static and MCE seismic loading conditions.

Precipitation falling in the land application areas will be contained within those areas and in evaporation pans located adjacent to them, from where it will evaporate. The Soil Plant Air Water (SPAW) modeling indicates that there will be no percolation beyond the base of the soil profile from the land application system and therefore no potential impact to groundwater. Also the underlying Graneros Group provides a low permeability barrier to any potential seepage from land application.

The ponds provided for the land application design all have larger storage volumes than the ponds provided for the deep well disposal option, which is discussed in Section 4.0. Therefore, the land application ponds would also operate satisfactorily for deep well disposal.

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Powertech (USA) Inc.
Dewey-Burdock Project
Pond Design Report

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List of Acronyms and Abbreviations

acre-ft	unit of volume (1 acre-foot = 43,560.2 cubic feet)
Client	Powertech (USA) Inc.
cm/sec	centimeters per second
CPP	central processing plant
ft	feet
ft^3/year	cubic feet per year
gpm	gallons per minute
HDPE	high density polyethylene
H:V	horizontal to vertical
Knight Piésold	Knight Piésold and Co.
MCE	maximum credible earthquake
mil	milli-inch (one thousandth of an inch)
SAR	sodium adsorption ratio
SOC	soil organic carbon
SPAW	Soil Plant Air Water
USNRC	United States Nuclear Regulatory Commission

Knight Piésold
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Powertech (USA) Inc.
Dewey-Burdock Project
Pond Design Report

1.0 Introduction

1.1 Background

Knight Piésold was retained by Powertech (USA) Inc. to design the water containment storage ponds associated with land application and deep well disposal at the proposed Dewey-Burdock Project. The project is located in the Fall River and Custer Counties in South Dakota, on the southwest flank of the Black Hills uplift. It will involve in situ leaching to recover uranium from the Fall River and Lakota Formations.

This report describes the results of the pond design and stability, seepage and seismic analysis in accordance with NRC Regulatory Guide 3.11, NUREG 1569, 10 CFR Part 40 Appendix A, Criterion 5 and South Dakota Administrative Rule 74:29:11:23. These regulatory requirements are provided in Appendix A. The ponds have been sized to store and treat water resulting from the in situ leach process, stormwater runoff from the land application areas, and the 100-year, 24-hour design storm event.

1.2 Limitations and Disclaimer

This report titled Dewey-Burdock Project Pond Design Report 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 report 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 report shall be at the sole risk of the user regardless of any fault or negligence of the Client or Knight Piésold.

The information and analyses 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 report and its supporting documentation have been reviewed and/or checked for conformance with industry-accepted norms and applicable government regulations. Calculations and computer simulations have been checked and verified for reasonableness, and the content of the report has been reviewed for completeness, accuracy, and appropriateness of conclusions. To the best of the information and belief of Knight Piésold, the information presented in this report is accurate to within the limitations specified herein.

This report is Knight Piésold pdf file: Dewey-Burdock Project Pond Design Report Rev 0.pdf. Any reproductions or modifications of this report are uncontrolled and may not be the most recent revision.

1.3 Contributors and Approvals

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

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Senior Executive Project Manager

Approved by: James R. Kunkel, Ph.D., P.E.
Senior Executive Project Manager

2.0 Site Investigation

2.1 General

Knight Piésold carried out a site investigation at the Dewey-Burdock site during July 2008. The investigation was limited to excavating test pits and was targeted at obtaining the following:

- Parameters required for land application modeling
- Engineering characteristics of the soils for pond design

Eleven test pits were excavated as part of the investigation, ranging in depth form 6 to 13 ft. Five of the test pits were excavated at the Dewey Site, with the remainder being excavated at the Burdock Site. The locations of the test pits in relation to land application and irrigation, and to deep well disposal options are illustrated in Figures 2.1-1 and 2.1-2, respectively. Test pit logs are included in Appendix B. Samples obtained from the test pits were tested at Knight Piésold's geotechnical laboratory in Denver for the following properties:

- Visual classification
- Particle size distribution
- Specific gravity
- Natural moisture content
- Dry bulk density
- Atterberg limits
- Compaction testing
- Triaxial testing
- Flexible wall permeability

Samples were also sent to an outside laboratory where they were evaluated for sodium absorption ratio (SAR) and soil organic carbon (SOC).

2.2 Subsurface Conditions

The soils underlying the site consist primarily of lean clays, lean clays with sand, fat clays, and fat clays with sand. Clayey gravel was encountered in test pit TP03 and sandy lean clay was encountered in test pits TP04 and TP08. Bedrock, where encountered, consisted of either claystone or shale. Results from the laboratory tests indicate that the materials are suitable for the construction of the proposed ponds. Stability analysis results that are presented in Sections 3.11 and 4.9 confirm this.

Test pit logs are provided in Appendix B, and geotechnical laboratory test results are provided in Appendix C.

3.0 Land Application Pond Design

3.1 SPAW Modeling Assumptions

The design of the land application system was developed based on modeling using the SPAW model, as described further in Appendix D. Two land application areas, one at the Dewey site and one at the Burdock site will be used. The total irrigated area at any given time at the Dewey site would be 315 acres, consisting of four 50-acre pivots, four 25-acre pivots, plus one 15-acre pivot. In addition, there would be one 50-acre pivot and one 15-acre pivot on standby (total pivots at Dewey is five 50-acre pivots, four 25-acre pivots, and two 15-acre pivots). Pumping at Dewey would occur for 24 hours every day from March 29 to May 10 at a rate of 297 gallons per minute (gpm); from May 11 to September 24 at a rate of 653 gpm; and from September 25 to October 31 at a rate of 297 gpm.

The total irrigated area at any given time at the Burdock site would also be 315 acres (six 50-acre pivots plus one 15-acre pivot). In addition, there would be two 25-acre pivots and one 15-acre pivot on standby. The total pivots at Burdock would be six 50-acre pivots, two 25-acre pivots, and two 15-acre pivots. Pumping at Burdock would also occur for 24 hours on every day from March 29 to May 10 at 297 gpm, from May 11 to September 24 at a rate of 653 gpm, and from September 25 to October 31 at a rate of 297 gpm.

Precipitation falling in the land application areas will be contained within those areas and in evaporation pans located adjacent to them, from where it will evaporate. The SPAW modeling indicates that there will be no percolation beyond the base of the soil profile from the land application system and therefore no potential impact to groundwater. Also the underlying Graneros Group provides a low permeability barrier to any potential seepage from land application (reference Plates 315, 335, 337 and 338).

Four single-lined impoundments (ponds) would be constructed at the Dewey site for the temporary storage of the irrigation water. Each pond will be 465 ft wide x 465 ft long x 30 ft deep including 3 ft of freeboard, with an operating capacity of 61.8-acre-ft. In addition to the storage ponds, double-lined radium settling and spare ponds with leak detection, and single-lined spare storage and outlet ponds will also be constructed at Dewey. The radium settling pond and spare ponds will be 880 ft long x 200 ft wide x 25.5 ft deep, including 3 ft of freeboard, and will have an operational storage of 39.4-acre-ft. The outlet pond will be 280 ft wide x 162 ft long x 14 ft deep including 3 ft of freeboard, and will have an operational storage of 4.9-acre-ft. The spare storage pond will be geometrically identical to the storage ponds.

Four single-lined impoundments (ponds) would be constructed at the Burdock site for the temporary storage of the irrigation water. Each pond will be 465 ft wide x 465 ft long x 30 ft deep including 3 ft of freeboard, with an operating capacity of 61.8-acre-ft. In addition to the storage ponds, double-lined radium settling, spare, and central plant ponds with leak detection, and single-lined spare storage and outlet ponds will also be constructed at Burdock. The radium settling and spare ponds will be 880 ft wide x 200 ft long x 25.5 ft deep, including 3 ft of freeboard, and will have an operational storage of 39.4-acre-ft. The central plant pond will be 362 ft wide x 362 ft long x 25 ft deep including 3 ft of freeboard, and will have an operational storage of 36.2-acre-ft. The outlet pond will be 280 ft wide x 162 ft long x 14 ft deep including 3 ft of freeboard, and will have an operational storage of 4.9-acre-ft. The spare storage pond will geometrically identical to the storage ponds

The ponds provided for the land application design all have larger storage volumes than the ponds provided for the deep well disposal option, which is discussed in Section 4.0. Therefore, the land application ponds would also operate satisfactorily for deep well disposal.

3.2 Design Flows

Three water streams resulting from mining activities report to the ponds:

- Bleed water from the production wells
- Restoration water from the restoration wells
- Process water from the plant

Bleed and restoration water is pumped to the radium settling ponds where it is treated before overflowing into the outlet pond and pumped to the storage ponds where it is used for land application. Process water from the central processing plant (CPP) is pumped to the central plant pond, where it is stored. Allowance has been made for all ponds to store water resulting from the 100-year, 24-hour storm event while maintaining 3 ft of freeboard.

3.2.1 Production Well Bleed Water

The in situ leach process includes for up to 3 percent of the water pumped from the production wells to be bled from the system. Total production water is approximately 4,000 gpm, resulting in a bleed flow of approximately 120 gpm. This water will be pumped to the radium settling ponds.

3.2.2 Wellfield Restoration Water

This water, having a flow rate of approximately 500 gpm, will be used to flush the mineralized target zone following uranium recovery. Once it returns to the surface, the water will be pumped to the radium settling ponds.

3.2.3 Process Water

The uranium recovery process will result in a brine stream of approximately 12 gpm. Allowance has been made for some of this water to be stored in a central plant pond.

3.2.4 Precipitation

All precipitation falling on the land application areas will be stored within those areas where it will either evaporate or infiltrate into the soil. Water falling directly on the pond surfaces will be stored in the ponds and used for land application.

3.3 Pond Design Requirements

Active storage requirements for the radium settling, outlet, storage, and central plant ponds are provided below. In addition to the active storage requirements and the design storm event, all ponds will be provided with 3 ft of freeboard. The catchment areas of the ponds will be minimized by grading all roads away from them, and by providing stormwater diversions to prevent water from upstream catchments from reporting to them.

Figure 3.3-1 provides the Burdock Plant Site Plan and Figures 3.3-2 and 3.3-3 includes the pond cross sections.

Figure 3.3-4 provides the Dewey Plant Site Plan and Figures 3.3-5 and 3.3-6 include the pond cross sections.

3.3.1 Radium Settling Ponds

Radium is settled out of solution by adding barium chloride to the water. Co-precipitation of radium occurs when natural sulfate (SO_4) in the water combines with radium (Ra) and barium (Ba) to form $RaBaSO_4$. The requirements for efficient settlement of solids out of a solution have been incorporated into the design of the ponds and include the following:

- Sufficient retention time for the settlement of radium out of solution
- Providing adequate surface area to prevent the development of large surface currents
- Providing a pond geometry or arrangement that will prevent short circuiting of flows through the pond

Radium is settled out of solution by adding barium chloride to the water. Co-precipitation of radium occurs when natural sulfate (SO_4) in the water combines with radium (Ra) and barium (Ba) to form $RaBaSO_4$. All discussions in the following sections, therefore, refer to the settlement of radium barium sulfate.

3.3.1.1 Retention Time and Storage

Water in the ponds must be retained for sufficient length of time to allow radium barium sulfate to settle out of solution. A literature survey of radium settling ponds indicated that typical retention times range from eight to 14 days. A retention time of 14 days has been adopted for this project. This requires that the ponds have a minimum storage volume of 38.4-acre-ft. In addition, the ponds are expected to accumulate 790-cubic-ft per year (ft^3/year) of radium barium sulfate sludge. For a 10-year project life, this will amount to 0.18-acre-ft of storage. The design allows identical radium settling ponds to be constructed at Dewey and Burdock Sites, capable of storing 39.4-acre-ft each, allocated as follows:

- 39.2-acre-ft for bleed and restoration water
- 0.2-acre-ft for sludge accumulation

Stormwater will overflow into the outlet pond, which has been sized to accommodate the 100-year, 24-hour storm event from both itself and the radium settling pond.

3.3.1.2 Surface Area

To promote settling, the pond surface area should be large enough to prevent significant surface currents from developing. Should these develop, they could keep the radium barium sulfate in suspension. They could also result in short circuiting, with water flowing directly from the pond inlet to the outlet.

The literature survey indicated that a minimum area of 0.6 acres should be allowed for every 100 gpm of flow. For a flow of 620 gpm, this results in area of 3.72 acres with the designed ponds having a water surface area of 3.85 acres.

3.3.1.3 Pond Geometry

Unless baffles are provided, the length of a settling pond should ideally be at least four times its width. The radium settling ponds have a crest length of 880 ft and a width of 220 ft, satisfying this requirement.

3.3.2 Outlet Ponds

Identical outlet ponds have been designed for the Dewey and Burdock Sites. They have been sized to accommodate one day's production water, equating to 2.7-acre-ft, and precipitation from the 100-year, 24-hour storm event falling on both the radium settling and outlet pond.

The ponds have been designed to store the following:

- 2.7-acre-ft for treated irrigation water
- 1.7-acre-ft for the 100-year, 24-hour design storm event falling on the radium settling pond
- 0.4-acre-ft for the 100-year, 24-hour design storm event falling on the radium settling pond

3.3.3 Storage Ponds

Outflow from the storage ponds to land application areas exceeds water inflow during the period of land application (March 29 to October 31). However, water generated during the remainder of the year needs to be stored until it can be used for land application. Total storage requirements were modeled using the SPAW Model, and were calculated to be 216.4-acre-ft at both the Dewey satellite plant site and the Burdock central processing plant site. Allowance has been made for an additional 27.5-acre-ft of storage at each site to allow for the possibility that the start of the land application may be delayed.

The design allows four storage ponds to be constructed at both the Dewey and Burdock Sites, for a total of eight ponds, each capable of storing 63.8-acre-ft, allocated as follows:

- 61.8-acre-ft for treated irrigation water
- 2-acre-ft for the 100-year, 24-hour design storm event

3.3.4 Central Plant Pond

The central plant pond is located at the Burdock Site, and has been sized to accommodate a discharge of 10.81 gpm over a period of two years, equating to 34.9-acre-ft.

The pond has been designed to store the following:

- 35-acre-ft for brine from the CPP
- 1.2-acre-ft for the 100-year, 24-hour design storm event

3.3.5 Spare Ponds

The spare ponds have been designed to be identical to the radium settling ponds, which are the largest double-lined ponds in the system. The spare ponds are located adjacent to the radium settling pond. They have been designed to accommodate water from any of the radium settling or central plant ponds, should the ponds fail.

A spare storage pond has been designed at both the Dewey and Burdock sites to provide emergency containment for the single-lined storage and outlet ponds.

3.4 Water Flow Configurations

Water will be routed through the storage ponds to maximize retention time. Figure 3.4-1 provides the Burdock Plant Site Flow Diagram and Figure 3.4-2 provides the Dewey Plant Site Flow Diagram.

3.5 Pond Lining Systems

The lining system for the radium settling, spare and central plant ponds will consist of the following:

- An 80-mil-textured primary HDPE liner.
- A 60-mil-smooth secondary HDPE liner.
- A 12-inch-thick compacted clay liner, having a maximum permeability of $1x10^{-7}$ cm/sec. This liner will be constructed below the secondary HDPE liner.
- A geonet sandwiched between the primary and secondary HDPE liners.

The outlet and storage ponds will contain treated water that will be used for land application. The liner requirement on these ponds is therefore less stringent, and will consist of the following:

- An 40-mil-textured HDPE liner.
- A 12-inch-thick compacted clay liner, having a maximum permeability of $1x10^{-7}$ cm/sec. This liner will be constructed below the HDPE liner.

3.6 Leak Detection Systems

The radium settling, spare and central plant ponds will include a geonet drainage layer installed between the primary and secondary HDPE liners. The geonet will drain into a leak detection sump. A minimum grade of 2 percent will be maintained across the bottom of the ponds to facilitate the drainage of water into the leak detection sump should a leak develop. A leak detection access port and pump will be provided at the sump to allow any water collecting there to be pumped out and monitored. Pipes feeding into the double-lined ponds will be dual contained, with the carrier and containment pipes being connected to the primary and secondary HDPE liners, respectively. The leak detection system is shown on Figure 3.6-1.

3.7 Foundation Preparation

Foundation preparation on the ponds will include the following:

- Removing vegetation, existing structures and unsuitable foundation materials
- Subgrade preparation
- Site grading

More detail on the items listed above is provided in Table 3.7-1.

Table 3.7-1 – Foundation Preparation Requirements

Item	Description
Vegetation	Clear and grub vegetation
Structures	Remove any existing structures
Surface soils	- Strip organic soil matter for a minimum of 10 ft beyond the pond embankment limits. - Place the stripped soil in temporary stockpiles for final reclamation. - Stockpiles should be located as close to the stripped areas as possible. - Proposed stockpile locations are indicated on Figures 3.7-1, 3.3-1, and 3.3-3.
	Scarify, moisture condition and compact the top 6-inches of the stripped ground surface in fill areas to a minimum of 90 percent of the maximum Modified Proctor Dry Density (ASTM D 1557).
Site Grading	Undertake site grading cut and fill. Compact graded materials to a minimum of 90 percent of the maximum dry density (ASTM D 1557) within ± 2 percent of the optimum moisture content.

3.8 Embankment Drainage

An embankment drainage system will be installed in the outer face of all embankments to prevent the outer toe of the embankment from becoming saturated should a HDPE liner system fail. Water collected by the drain system will be conveyed to a sump from where it will be pumped back to the ponds.

3.9 Pond Connectivity

All storage ponds will be connected via spillways. The radium settling and spare ponds will also be connected to the outlet pond via a spillway. The proposed flow of water through the ponds system is shown on Figures 3.4-1 and 3.4-2.

3.10 Pond Seepage Analysis

Seepage analyses were undertaken for the outer embankments of the ponds to model the phreatic surface through the outer embankments of the ponds should the HDPE liners fail. The phreatic surface determined from the seepage analysis was then used to model embankment slope stability for that condition.

All ponds will be HDPE lined, with the HDPE liner being underlain by a 1-ft-thick clay liner. Negligible seepage is expected from them under normal operating conditions.

3.10.1 Material Properties

Flexible wall permeability tests were undertaken on both undisturbed and remolded samples collected from site. The results were further subdivided depending on which site the samples were collected at, and are summarized in Table 3.10-1.

Table 3.10-1 – Permeability Test Results

Site	Test Type*	No. of Samples	Permeability (cm/sec)			
			Min	Max	Average	Median
Dewey	Undisturbed	12	2.30×10^{-7}	4.90×10^{-4}	7.63×10^{-5}	2.80×10^{-5}
	Remolded	11	3.70×10^{-9}	2.90×10^{-6}	5.45×10^{-7}	8.70×10^{-8}
Burdock	Undisturbed	10	4.20×10^{-8}	5.70×10^{-4}	8.03×10^{-5}	7.20×10^{-6}
	Remolded	8	7.90×10^{-9}	9.30×10^{-5}	1.87×10^{-5}	7.55×10^{-6}

*Undisturbed samples were collected using Shelby tubes; remolded samples were compacted to 95 percent of maximum dry density.

The median undisturbed permeabilities have been assumed for the in situ soils, while the median remolded permeabilities have been assumed for the embankments. In addition, regulatory requirements specify that a 1-ft-thick clay liner having a maximum permeability of 1×10^{-7} be used below the HDPE liners in the ponds. Material from the pond excavation will be selected to meet this criterion. If necessary, borrow areas will be developed to source this material.

Sand used in the embankment drainage system was assumed to have a permeability of 5×10^{-4} cm/sec.

3.10.2 Analysis

For the seepage analysis, it was assumed that the HDPE liners in the ponds fail completely, with the 1-ft-thick clay liner providing the only barrier to seepage through the embankment. The seepage analysis was completed using the GeoStudio 2007 software package.

3.11 Pond Stability Analyses

Stability analyses on the pond embankments were completed using the GeoStudio 2007 software package. The sections selected for the analysis are located at the highest points of the embankments.

3.11.1 Analyses

The following analyses were conducted on each of the ponds:

- A static stability analysis, assuming that the liners are intact (no phreatic surface in the embankment)

- A pseudostatic analysis, assuming the liners are intact and modeling the Maximum Credible Earthquake (MCE) acceleration
- A static analysis, assuming that the liners have completely failed, allowing a phreatic surface to develop in the embankment
- A pseudostatic analysis, assuming that the liners have completely failed, allowing a phreatic surface to develop in the embankment, and modeling the MCE acceleration

3.11.2 Soil Strengths

Soil strengths were obtained from three tri-axial tests that were conducted on material samples collected during the site investigation. The results from these tests are provided in Table 3.11-1.

Table 3.11-1 – Material Strength Characteristics

Site	Sample Number	Angle of Friction (°)	Cohesion (ksi)	Description
Dewey	TP 02-7	25.0	0.10	Lean clay with sand
Burdock	TP 08-6	28.5	0.06	Sandy lean clay
	TP 09-4	27.0	0.15	Lean clay with sand

Test pits TP 08-6 and TP 09-4 are located close to the Burdock Site, with test pit TP 02-7 being located close to the Dewey Site. As the material strength values obtained from test pit TP 09-4 are lower than those obtained from test pit TP 08-6, those values were used for the analyses undertaken at the Burdock Site. The material strength values obtained from test pit TP 02-7 were used for the analyses undertaken on the ponds at the Dewey Site.

3.11.3 Material Densities

In situ material densities were obtained from undisturbed samples collected during the site investigation. The densities of embankment materials were obtained from compaction tests undertaken on samples collected from site. Results for the Dewey and Burdock Sites are summarized separately in Table 3.11-2.

Table 3.11-2 – Soil Densities

Site	Test Type	No. of Samples	Moist Soil Density (pcf)			
			Min	Max	Average	Median
Dewey	Undisturbed	12	86.3	113.3	98.3	97.6
	Compaction test	7	120.4	124.2	123.0	124.0
Burdock	Undisturbed	11	92.4	101.0	97.9	98.3
	Compaction test	6	123.7	130.7	127.4	126.7

Median undisturbed densities have been assumed for in situ soils, while the median densities from the compaction tests have been assumed for the embankments and clay liners.

3.11.4 Seismic Ground Acceleration Values

MCE ground accelerations were obtained from the document "Dewey-Burdock Project, Application for NRC Uranium Recovery License, Fall River and Custer Counties, South Dakota, Technical Report," dated February 2009. The MCE was determined in Section 2.6.6 of the report to have a maximum ground acceleration of 0.09 g.

3.11.5 Stability Analysis Results

The factors of safety for the embankments are provided in Table 3.11-3. The table provides results for three methods of analysis, namely:

- Bishop method
- Janbu method
- Morgenstern-Price method

The analyses shown in Table 3.11-3 below indicate that the outer slopes of the ponds have a minimum factor of safety of approximately 2.51 under normal static loading conditions assuming that the HDPE liners remain intact, preventing a phreatic surface from developing in the embankment. The minimum factor of safety reduces to approximately 1.79 during the MCE seismic event.

Should the HDPE liner fail, a drain installed in the embankment will help to lower the phreatic surface and prevent the downstream toe from becoming saturated. The factors of safety do reduce, with the minimum factor of safety under normal static loading conditions reducing to approximately 1.67. Under MCE seismic loading conditions the minimum factor of safety reduces to approximately 1.15.

The inner slope is less critical in terms of preventing a breach of the embankment, but was evaluated for stability assuming the HDPE liners remain intact. The minimum factor of safety under normal static loading conditions was calculated to be 1.90, while under MCE seismic loading conditions this reduces to approximately 1.47.

The factors of safety indicate that both the inner and outer the slopes are stable under both static and MCE seismic loading conditions.

Table 3.11-3 – Stability Analysis Factors of Safety

Pond	Description	Analysis	Factor of Safety		
			Bishop	Janbu	Morgenstern-Price
Dewey Radium Settling Pond	Outer slope – assuming intact HDPE liner	Static	2.87	2.63	2.87
		Seismic (MCE)	2.04	1.89	2.04
	Outer slope – assuming HDPE liner has failed	Static	2.10	1.87	2.11
		Seismic (MCE)	1.44	1.29	1.45
	Inner slope – assuming intact HDPE liner	Static	2.03	1.91	2.03
		Seismic (MCE)	1.56	1.47	1.56
Dewey Outlet Pond	Outer slope – assuming intact HDPE liner	Static	3.00	2.76	3.00
		Seismic (MCE)	2.14	1.98	2.14
	Outer slope – assuming HDPE liner has failed	Static	2.23	1.95	2.23
		Seismic (MCE)	1.51	1.35	1.52
	Inner slope – assuming intact HDPE liner	Static	2.99	2.79	2.99
		Seismic (MCE)	2.13	1.99	2.13
Dewey Storage Ponds	Outer slope – assuming intact HDPE liner	Static	2.68	2.51	2.68
		Seismic (MCE)	1.91	1.79	1.91
	Outer slope – assuming HDPE liner has failed	Static	1.97	1.74	1.98
		Seismic (MCE)	1.36	1.22	1.37
	Inner slope – assuming intact HDPE liner	Static	2.58	2.43	2.58
		Seismic (MCE)	1.83	1.73	1.83
Burdock Radium Settling/Spare Ponds	Outer slope – assuming intact HDPE liner	Static	2.93	2.74	2.93
		Seismic (MCE)	2.08	1.96	2.09
	Outer slope – assuming HDPE liner has failed	Static	2.03	1.80	2.04
		Seismic (MCE)	1.40	1.25	1.41
	Inner slope – assuming intact HDPE liner	Static	2.12	1.98	2.12
		Seismic (MCE)	1.63	1.53	1.63
Burdock Outlet Pond	Outer slope – assuming intact HDPE liner	Static	2.93	2.76	2.93
		Seismic (MCE)	2.09	1.97	2.10
	Outer slope – assuming HDPE liner has failed	Static	2.01	1.80	2.02
		Seismic (MCE)	1.38	1.24	1.40
	Inner slope – assuming intact HDPE liner	Static	3.14	2.92	3.14
		Seismic (MCE)	2.24	2.09	2.24
Burdock Storage Ponds	Outer slope – assuming intact HDPE liner	Static	2.75	2.60	2.75
		Seismic (MCE)	1.94	1.84	1.95
	Outer slope – assuming HDPE liner has failed	Static	1.87	1.67	1.87
		Seismic (MCE)	1.28	1.15	1.29
	Inner slope – assuming intact HDPE liner	Static	2.46	2.33	2.46
		Seismic (MCE)	1.81	1.72	1.82

Table 3.11-3 – Stability Analysis Factors of Safety

Pond	Description	Analysis	Factor of Safety		
			Bishop	Janbu	Morgenstern-Price
Central Plant Pond (Burdock)	Outer slope – assuming intact HDPE liner	Static	3.04	2.86	3.04
		Seismic (MCE)	2.16	2.02	2.16
	Outer slope – assuming HDPE liner has failed	Static	2.09	1.86	2.10
		Seismic (MCE)	1.45	1.29	1.46
	Inner slope – assuming intact HDPE liner	Static	2.03	1.90	2.03
		Seismic (MCE)	1.59	1.48	1.59

3.12 Embankment Settlement

Elastic theory was used to obtain an estimate of embankment settlements using material characteristics derived from the triaxial test results. Assuming a maximum embankment height of 30 ft, elastic theory predicts that the elastic settlement of an embankment having a crest width of 40 ft and 1(v):4.5(h) side slopes is likely to be less than 1 ft. This settlement will occur during construction, and will be accommodated by placing fill to ensure that final design crest elevations are achieved. Due to the relatively low embankments that are being constructed, settlement due to consolidation is not expected to be significant.

3.13 Summary of Pond Characteristics

Table 3.13-1 summarizes the pond characteristics at the Dewey-Burdock Uranium Project.

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Table 3.13-1 – Pond Characteristics and Design Features

Parameter	Radium Settling/Spare Ponds	Central Plant Pond	Outlet Ponds	Storage and Spare Storage Ponds
Number of Ponds:				
Dewey	1 Radium Settling 1 Spare	-	1	4 Storage 1 Spare Storage
Burdock	1 Radium Settling 1 Spare	1	1	4 Storage 1 Spare Storage
Active Storage (per pond):				
Process water and stormwater from land application areas	39.4*	35.0	2.8	61.8
Stormwater falling on ponds	0**	1.2	2.1	2.0
Total	**39.4**	**36.2**	**4.9**	**63.8**
Crest width	220 ft	465 ft	162 ft	362 ft
Crest length	880 ft	465 ft	280 ft	362 ft
Depth	Varies 10.0 to 25.5 ft	Varies: 18.4 to 25.0 ft	Varies 12.3 to 14.0 ft	Varies 27.1 to 30.0 ft
Freeboard	3 ft	3 ft	3 ft	3 ft
Upstream embankment slope	3H:1V	3H:1V	4.5H:1V	4.5H:1V
Downstream embankment slope	4.5H:1V	4.5H:1V	4.5H:1V	4.5H:1V
Exterior embankment crest width	40 ft	40 ft	40 ft	40 ft
Interior embankment crest width	30 ft	N/A	30 ft	30 ft
Bottom grade	2 percent - graded towards leak detection sump		1 percent - graded towards a corner	
Lining system	Prepared subgrade or compacted random fill 1-ft-thick soil liner compacted to 95 percent standard proctor density 60-mil-smooth HDPE bottom (secondary) geomembrane 80-mil-textured HDPE top (primary) geomembrane Leak detection system consisting of geonet placed between primary and secondary geomembranes Leak detection sump and access port system 3-ft-deep by 3-ft-wide geomembrane anchor trench		Prepared subgrade or compacted random fill 1-foot-thick soil liner compacted to 95 percent standard proctor density 40-mil-textured HDPE geomembrane 3-ft-deep by 3-ft-wide geomembrane anchor trench	

*Includes 0.2-acre-ft storage for sludge

**Stormwater from the radium settling pond overflows into the outlet pond where it is stored

4.0 Deep Well Disposal Pond Design

4.1 Design Flows

Three water streams resulting from mining activities report to the ponds:

- Bleed water from the production wells
- Restoration water from the restoration wells
- Brine from the CPP

Bleed and restoration water is pumped to the radium settling ponds, where it is treated and used for deep well disposal. Some water from the CPP will be pumped to the CENTRAL PLANT pond where it will be stored. Allowance has been made for all ponds to store water resulting from the 100-year, 24-hour storm event while maintaining 3 ft of freeboard.

4.1.1 Production Well Bleed Water

The in situ leach process includes for up to 3 percent of the water pumped from the production wells to be bled from the system. Total production water is approximately 4,000 gpm, resulting in a bleed flow of approximately 120 gpm.

4.1.2 Wellfield Restoration Water

This water, having a flow rate of approximately 500 gpm, will be used to flush the mineralized target zone following uranium recovery. Once it returns to the surface, 120 gpm of this will be pumped to the radium settling ponds for treatment and deep well disposal, with the remainder being recycled as restoration water.

4.1.3 Brine from the Central Processing (Burdock) Plant Site

This water, having a flow rate of approximately 12 gpm, will be produced as part of the uranium extraction process.

4.1.4 Precipitation

Water falling directly on the pond surfaces will be stored in the ponds and either used for restoration water or deep well disposal.

4.2 Pond Design Requirements

Active storage requirements for the radium settling, outlet, surge and central plant ponds are provided below. In addition to active storage requirements, all ponds will be provided with 3 ft of freeboard. The catchment areas of the ponds will be minimized by grading all roads away from them, and by providing stormwater diversions to prevent water from upstream catchments from reporting to them.

Figure 4.2-1 provides the Dewey Plant Site Plan, and Figure 4.2-2 includes the pond cross sections.

Figure 4.2-3 provides the Burdock Plant Site Plan, and Figure 4.2-4 includes the pond cross sections.

4.2.1 Radium Settling Ponds

Radium is settled out of solution by adding barium chloride to the water. Co-precipitation of radium occurs when natural sulfate (SO_4) in the water combines with radium (Ra) and barium (Ba) to form $RaBaSO_4$. The requirements for efficient settlement of solids out of a solution include have been incorporated into the design of the ponds and include the following:

- Sufficient retention time for the settlement of radium out of solution
- Providing adequate surface area to prevent the development of large surface currents
- Providing a pond geometry or arrangement that will prevent short circuiting of flows through the pond

Radium is settled out of solution by adding barium chloride to the water. Co-precipitation of radium occurs when natural sulfate (SO_4) in the water combines with radium (Ra) and barium (Ba) to form $RaBaSO_4$. All discussions in the following sections, therefore, refer to the settlement of radium barium sulfate.

4.2.1.1 Retention Time and Storage

Water in the ponds must be retained for sufficient length of time to allow barium radium sulfate to settle out of solution. A literature survey of radium settling ponds indicated that typical retention times range from eight to 14 days. A retention time of 14 days has been adopted for this project. For a flow rate of 252 gpm, this requires that the pond have a minimum storage volume of 15.6-acre-ft. In addition, the ponds are expected to accumulate 321 ft^3/year of radium barium sulfate sludge. For a 10-year project life, this will amount to 0.074-acre-ft of storage. The design allows identical radium settling ponds to be constructed at the Dewey and Burdock Sites, capable of storing 15.9-acre-ft each, allocated as follows:

- 15.8-acre-ft for bleed and restoration water
- 0.1-acre-ft for sludge accumulation

Stormwater will overflow into the outlet pond, which has been designed to accommodate the 100-year, 24-hour storm event for both itself and the radium settling pond.

4.2.1.2 Surface Area

To promote settling, the pond surface area should be large enough to prevent significant surface currents from developing. Should these develop, they could keep the radium barium sulfate in suspension. They could also result in short circuiting, with water flowing directly from the pond inlet to the outlet.

The literature survey indicated that a minimum area of approximately 0.6 acre should be allowed for every 100 gpm of flow. For a flow of 252 gpm, this results in area of 1.51 acres. The radium settling pond has been designed to have a water surface area of 2.20 acres.

4.2.1.3 Pond Geometry

Unless baffles are provided, the length of a settling pond should ideally be at least 4 times its width. To meet this criterion, the radium settling pond has been designed to have a crest length of 680 ft and a crest width of 170 ft.

4.2.2 Outlet Ponds

Identical outlet ponds have been designed for the Dewey and Burdock Sites. They have been designed to accommodate approximately three day's production water, equating to 3.3-acre-ft, and precipitation from the 100-year, 24-hour storm event falling on both the radium settling and outlet ponds. The ponds have been designed to store the following:

- 3.4-acre-ft for treated water for deep well injection
- 1.2-acre-ft for the 100-year, 24-hour design storm event falling on the radium settling pond
- 0.5-acre-ft for the 100-year, 24-hour design storm event falling on the outlet pond

4.2.3 Surge Ponds

Identical surge ponds have been designed for the Dewey and Burdock Sites. They serve as a volume buffer for water flowing out of the radium settling ponds and have been sized to accommodate seven day's production water. They have been designed to have a total storage of 8.4-acre-ft, allocated as follows:

- 7.8-acre-ft for treated water for deep well injection
- 0.6-acre-ft for the 100-year, 24-hour design storm event falling on the pond surface

4.2.4 Central Plant Pond

The central plant pond is located at the Burdock Site, and is provided to store brine from the plant. The central plant pond has been designed to have the same active storage as the spare pond, and has a total storage of 15.9-acre-ft, allocated as follows:

- 15.2-acre-ft brine
- 0.7-acre-ft for the 100-year, 24-hour design storm event falling on the pond surface

4.2.5 Spare Pond

The spare ponds have been designed to be identical to the radium settling ponds, which are the largest ponds in the system. The spare ponds are located adjacent to the radium settling ponds, and have been designed to accommodate water from any of the other ponds should their liners fail.

4.3 Water Flow Configurations

Water will be routed through the radium settling ponds to maximize retention time and facilitate the settlement of barium sulfate. Figure 4.3-1 provides the Dewey Plant Site Flow Diagram and Figure 4.3-2 provides the Burdock Plant Site Flow Diagram.

4.4 Pond Lining Systems

The lining system for the radium settling, spare and central plant ponds will consist of the following:

- An 80-mil-textured primary HDPE liner.
- A 60-mil-smooth secondary HDPE liner.

- A 12-inch-thick compacted clay liner, having a maximum permeability of $1x10^{-7}$ cm/sec. This liner will be constructed below the secondary HDPE liner.
- A geonet sandwiched between the primary and secondary HDPE liners.

The outlet and surge ponds will contain treated water that will be used for deep well injection. The liner requirement on those ponds is therefore less stringent, and will consist of the following:

- An 40-mil-textured HDPE liner.
- A 12-inch-thick compacted clay liner, having a maximum permeability of $1x10^{-7}$ cm/sec. This liner will be constructed below the HDPE liner.

4.5 Leak Detection Systems

The radium settling, spare and central plant ponds will include a geonet drainage layer installed between the primary and secondary HDPE liners. The geonet will drain into a leak detection sump. A minimum grade of 2 percent will be maintained across the bottom of the ponds to facilitate the drainage of water into the leak detection sump should a leak develop. A leak detection access port and pump will be provided at the sump to allow any water collecting there to be pumped out and monitored. Pipes feeding into the double-lined ponds will be dual contained, with the carrier and containment pipes being connected to the primary and secondary HDPE liners, respectively. The leak detection system is shown on Figure 4.5-1.

4.6 Foundation Preparation

Foundation preparation on all ponds will include the following:

- Removing vegetation, existing structures and unsuitable foundation materials
- Subgrade preparation
- Site grading

More detail on the items listed above is provided in Table 4.6-1.

Table 4.6-1 – Foundation Preparation Requirements

Item	**Description**
Vegetation	Clear and grub vegetation
Structures	Remove any existing structures
Surface soils	- Strip organic soil matter for a minimum of 10 ft beyond the pond embankment limits - Place the stripped soil in temporary stockpiles for final reclamation - Stockpiles should be located as close to the stripped areas as possible - Proposed stockpile locations are indicated on Figures 4.6-1, 4.2-1, and 4.2-3
	Scarify, moisture condition and compact the top 6 inches of the stripped ground surface in fill areas to a minimum of 90 percent of the maximum Modified Proctor Dry Density (ASTM D 1557)
Site Grading	Undertake site grading cut and fill. Compact graded materials to a minimum of 90 percent of the maximum dry density (ASTM D 1557) within ± 2 percent of the optimum moisture content

4.7 Embankment Drainage

An embankment drainage system will be installed in the outer face of all embankments to prevent the outer toe of the embankment from becoming saturated should a HDPE liner system fail. Water collected by the drain system will be conveyed to a sump, from where it will be pumped back to the ponds.

4.8 Pond Seepage Analyses

Seepage analyses were undertaken for the outer embankments of the ponds to model the phreatic surface through the outer embankments of the ponds should the HDPE liners fail. The phreatic surface determined from the seepage analysis was then used to model embankment slope stability for that condition.

All ponds will be HDPE lined, with the HDPE liner being underlain by a 1-ft-thick clay liner. Negligible seepage is expected from them under normal operating conditions.

4.8.1 Material Properties

Flexible wall permeability tests are summarized in Table 3.10-1. The median undisturbed permeabilities have been assumed for the in situ soils, while the median remolded permeabilities have been assumed for the embankments. In addition, regulatory requirements specify that a 1-ft-thick clay liner having a maximum permeability of $1\text{x}10^{-7}$ be used below the HDPE liners in the ponds. Material from the pond excavation will be selected to meet this criterion. If necessary, borrow areas will be developed to source this material.

Sand used in the embankment drainage system was assumed to have a permeability of $5x10^{-4}$ cm/sec.

4.8.2 Analysis

For the seepage analysis, it was assumed that the HDPE liners in the ponds fail completely, with the 1-ft-thick clay liner providing the only barrier to seepage through the embankment. The seepage analysis was completed using the GeoStudio 2007 software package.

4.9 Pond Stability Analyses

Stability analyses on the pond embankments were completed using the GeoStudio 2007 software package. The sections selected for the analysis are located at the highest points of the embankments.

4.9.1 Analyses

The following analyses were conducted on each of the ponds:

- A static stability analysis, assuming that the liners are intact (no phreatic surface in the embankment)
- A pseudostatic analysis, assuming the liners are intact and modeling the MCE acceleration
- A static analysis assuming that the liners have completely failed, allowing a phreatic surface to develop in the embankment
- A pseudostatic analysis assuming that the liners have completely failed, allowing a phreatic surface to develop in the embankment, and modeling the MCE acceleration

4.9.2 Soil Strengths

Soil strengths were obtained from three tri-axial tests that were conducted on material samples collected during the site investigation, and are presented in Table 3.11-1.

The material strength values obtained from test pit TP 02-7 were used for the analyses undertaken on the ponds at the Dewey Site.

4.9.3 Material Densities

In situ material densities were obtained from undisturbed samples collected during the site investigation. The densities of embankment materials were obtained from compaction tests undertaken on samples collected from site, and are summarized in Table 3.11-2.

Median undisturbed densities have been assumed for in situ soils, while the median densities from the compaction tests have been assumed for the embankments and clay liners.

4.9.4 Seismic Ground Acceleration Values

MCE ground accelerations were obtained from the document "Dewey-Burdock Project, Application for NRC Uranium Recovery License, Fall River and Custer Counties, South Dakota, Technical Report" dated February 2009. The MCE was determined in Section 2.6.6 of the report to have a maximum ground acceleration of 0.09 g.

4.9.5 Stability Analysis Results

The factors of safety for the embankments are provided in Table 4.9-1. The table provides results for three methods of analysis, namely:

- Bishop method
- Janbu method
- Morgenstern-Price method

Table 4.9-1 – Stability Analysis Factors of Safety

Pond	Description	Analysis	Factor of Safety		
			Bishop	**Janbu**	**Morgenstern-Price**
Dewey Radium Settling/Spare Ponds	Outer slope – assuming intact HDPE liner	Static	3.00	2.76	3.00
		Seismic (MCE)	2.14	1.97	2.14
	Outer slope – assuming HDPE liner has failed	Static	2.22	1.97	2.23
		Seismic (MCE)	1.52	1.36	1.53
	Inner slope – assuming intact HDPE liner	Static	2.19	2.04	2.19
		Seismic (MCE)	1.69	1.57	1.69
Dewey Outlet Pond	Outer slope – assuming intact HDPE liner	Static	2.88	2.66	2.87
		Seismic (MCE)	2.05	1.90	2.05
	Outer slope – assuming HDPE liner has failed	Static	2.10	1.86	2.11
		Seismic (MCE)	1.44	1.29	1.46
	Inner slope – assuming intact HDPE liner	Static	3.09	2.86	3.08
		Seismic (MCE)	2.17	2.02	2.18
Dewey Surge Pond	Outer slope – assuming intact HDPE liner	Static	3.57	3.20	3.56
		Seismic (MCE)	2.52	2.28	2.52
	Outer slope – assuming HDPE liner has failed	Static	2.64	2.35	2.65
		Seismic (MCE)	1.78	1.59	1.79
	Inner slope – assuming intact HDPE liner	Static	2.97	2.77	2.97
		Seismic (MCE)	2.09	1.96	2.09
Burdock Radium Settling Pond	Outer slope – assuming intact HDPE liner	Static	3.02	2.81	3.02
		Seismic (MCE)	2.15	2.01	2.15
	Outer slope – assuming HDPE liner has failed	Static	2.16	1.92	2.17
		Seismic (MCE)	1.49	1.33	1.50
	Inner slope – assuming intact HDPE liner	Static	2.33	2.18	2.33
		Seismic (MCE)	1.79	1.68	1.79
Burdock Outlet Pond	Outer slope – assuming intact HDPE liner	Static	2.93	2.74	2.93
		Seismic (MCE)	2.09	1.96	2.09
	Outer slope – assuming HDPE liner has failed	Static	2.07	1.84	2.07
		Seismic (MCE)	1.42	1.28	1.43
	Inner slope – assuming intact HDPE liner	Static	3.35	3.11	3.35
		Seismic (MCE)	2.35	2.19	2.35
Burdock Surge Pond	Outer slope – assuming intact HDPE liner	Static	3.17	2.93	3.17
		Seismic (MCE)	2.26	2.10	2.26
	Outer slope – assuming HDPE liner has failed	Static	2.30	2.03	2.30
		Seismic (MCE)	1.57	1.41	1.59
	Inner slope – assuming intact HDPE liner	Static	3.07	2.85	3.06
		Seismic (MCE)	2.18	2.04	2.19

Table 4.9-1 – Stability Analysis Factors of Safety

Pond	Description	Analysis	Factor of Safety		
			Bishop	**Janbu**	**Morgenstern-Price**
Central Plant Pond (Burdock)	Outer slope – assuming intact HDPE liner	Static	3.10	2.88	3.10
		Seismic (MCE)	2.21	2.06	2.21
	Outer slope – assuming HDPE liner has failed	Static	2.22	1.96	2.22
		Seismic (MCE)	1.52	1.36	1.53
	Inner slope – assuming intact HDPE liner	Static	2.19	2.03	2.19
		Seismic (MCE)	1.70	1.58	1.70

The above analyses indicate that the outer slopes of the ponds have a minimum factor of safety of approximately 2.66 under normal static loading conditions assuming that the HDPE liners remain intact, preventing a phreatic surface from developing in the embankment. The minimum factor of safety reduces to approximately 1.90 during the MCE seismic event.

Should the HDPE liner fail, a drain installed in the embankment will help to lower the phreatic surface and prevent the downstream toe from becoming saturated. The factors of safety do reduce, with the minimum factor of safety under normal static loading conditions reducing to approximately 1.84. Under MCE seismic loading conditions the minimum factor of safety reduces to approximately 1.28.

The inner slope is less critical in terms of preventing a breach of the embankment, but was evaluated for stability assuming the HDPE liners remain intact. The minimum factor of safety under normal static loading conditions was calculated to be 2.03, while under MCE seismic loading conditions this reduces to approximately 1.58.

The above factors of safety indicate that the slopes are stable under both static and MCE seismic loading conditions.

4.9.6 Embankment Settlement

Elastic theory was used to obtain an estimate of embankment settlements using material characteristics derived from the triaxial test results. Assuming a maximum embankment height of 30 ft, elastic theory predicts that the elastic settlement of an embankment having a crest width of 40 feet and 1(v):4.5(h) side slopes is likely to be less than 1 ft. This settlement will occur during construction, and will be accommodated by placing fill to ensure that final design crest elevations are achieved. Due to the relatively low embankments that are being constructed, settlement due to consolidation is not expected to be significant.

4.9.7 Summary of Pond Characteristics

Table 4.9-2 summarizes the pond characteristics at the Dewey-Burdock Project.

Table 4.9-2 – Pond Characteristics and Design Features

Parameter	Radium Settling/Spare Ponds	Central Plant Pond	Outlet Ponds	Surge Ponds
Number of Ponds:				
Dewey	1 Radium Settling 1 Spare	-	1	1
Burdock	1 Radium Settling 1 Spare	1	1	1
Active Storage (per pond):				
Process water and stormwater from land application areas	15.9*	15.2	3.4	7.8
Stormwater falling on ponds	0**	0.7	1.7	0.6
Total	**15.9**	**15.9**	**5.1**	**8.4**
Crest width	170	275	160	250
Crest length	680	275	370	250
Depth	Varies 7.5 to 19.5 ft	Varies: 15.8 to 20.5 ft	Varies 11.4 to 14.0 ft	Varies 15.0 to 16.5 ft
Freeboard	3 ft	3 ft	3 ft	3 ft
Upstream embankment slope	3H:1V	3H:1V	4.5H:1V	4.5H:1V
Downstream embankment slope	4.5H:1V	4.5H:1V	4.5H:1V	4.5H:1V
Exterior embankment crest width	40 ft	40 ft	40 ft	40 ft
Interior embankment crest width	30 ft	N/A	30 ft	N/A
Bottom grade	2 percent - graded towards leak detection sump		1 percent - graded towards a corner	
Lining system	Prepared subgrade or compacted random fill 1-foot-thick soil liner compacted to 95 percent standard proctor density 60-mil-smooth HDPE bottom (secondary) geomembrane 80-mil-textured HDPE top (primary) geomembrane Leak detection system consisting of geonet placed between primary and secondary geomembranes Leak detection sump and access port system 3-ft-deep by 3-ft-wide geomembrane anchor trench		Prepared subgrade or compacted random fill 1-foot-thick soil liner compacted to 95 percent standard proctor density 40-mil-textured HDPE geomembrane 3-ft-deep by 3-ft-wide geomembrane anchor trench	

*Includes 0.1 acre-ft storage for sludge

**Stormwater from the radium settling pond overflows into the outlet pond where it is stored

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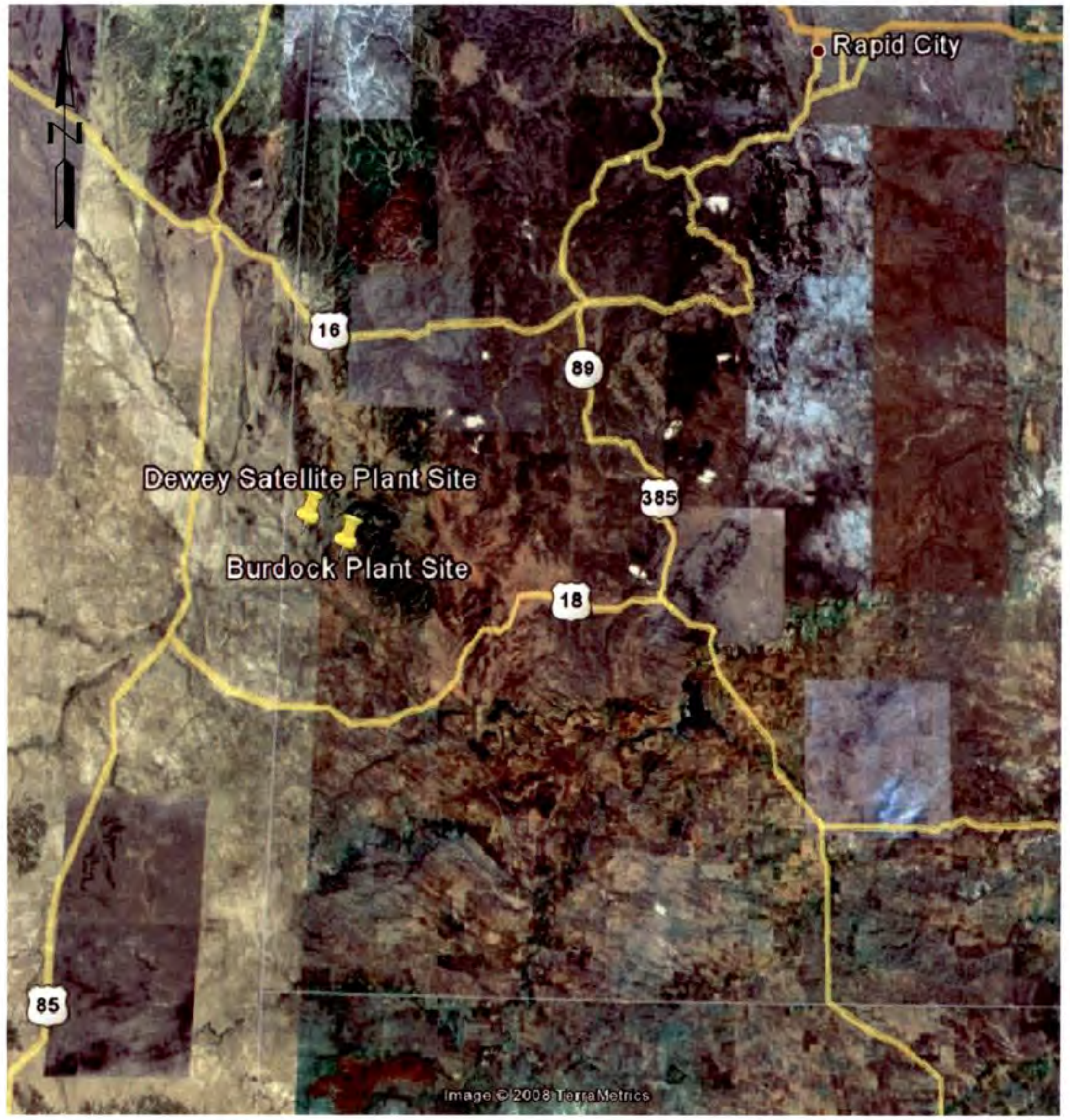

LOCATION MAP

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	INDEX, GENERAL SITE LOCATION MAP AND SYMBOLS

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
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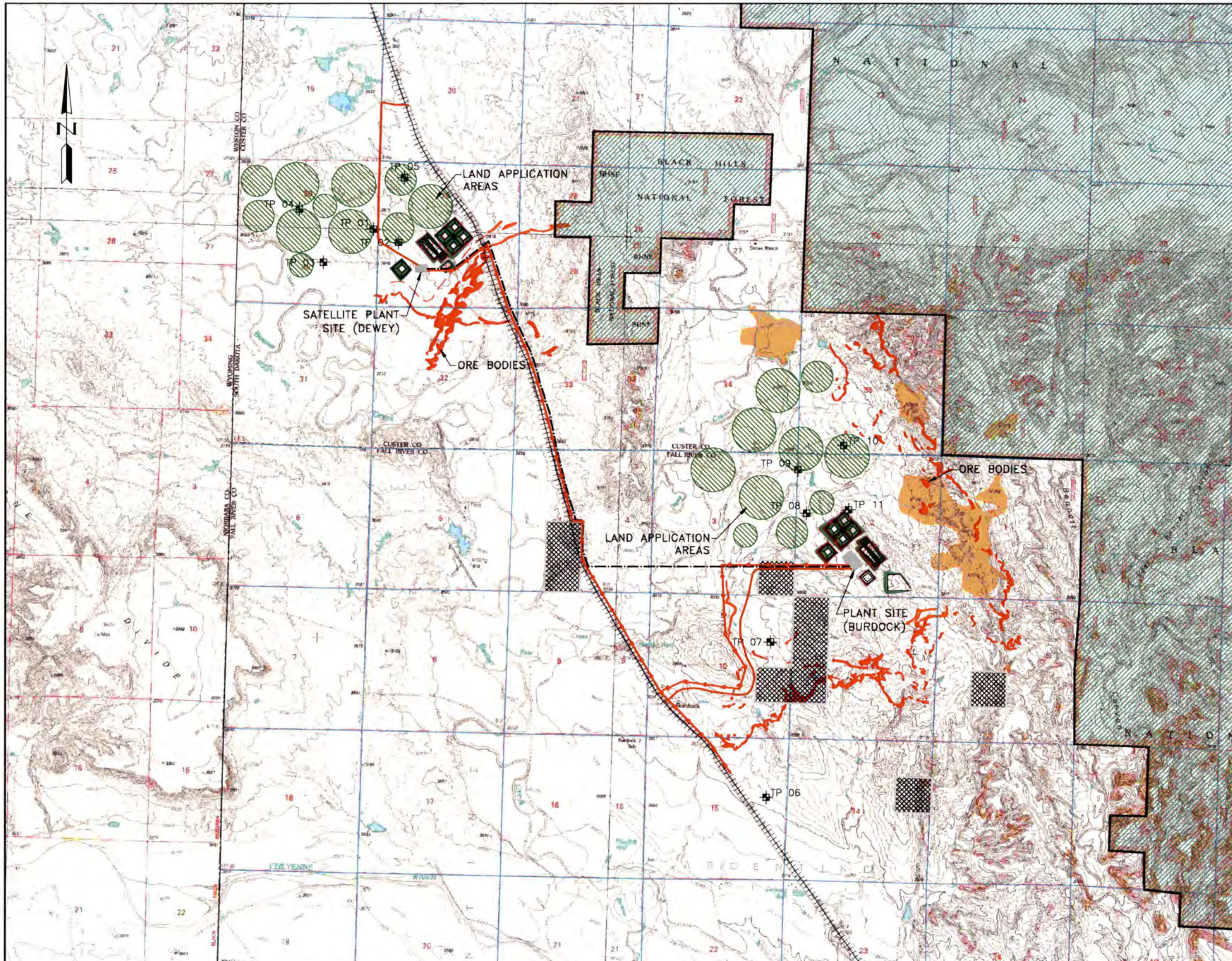

LEGEND:

- 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)

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION SITE INVESTIGATION – TEST PIT LOCATIONS

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
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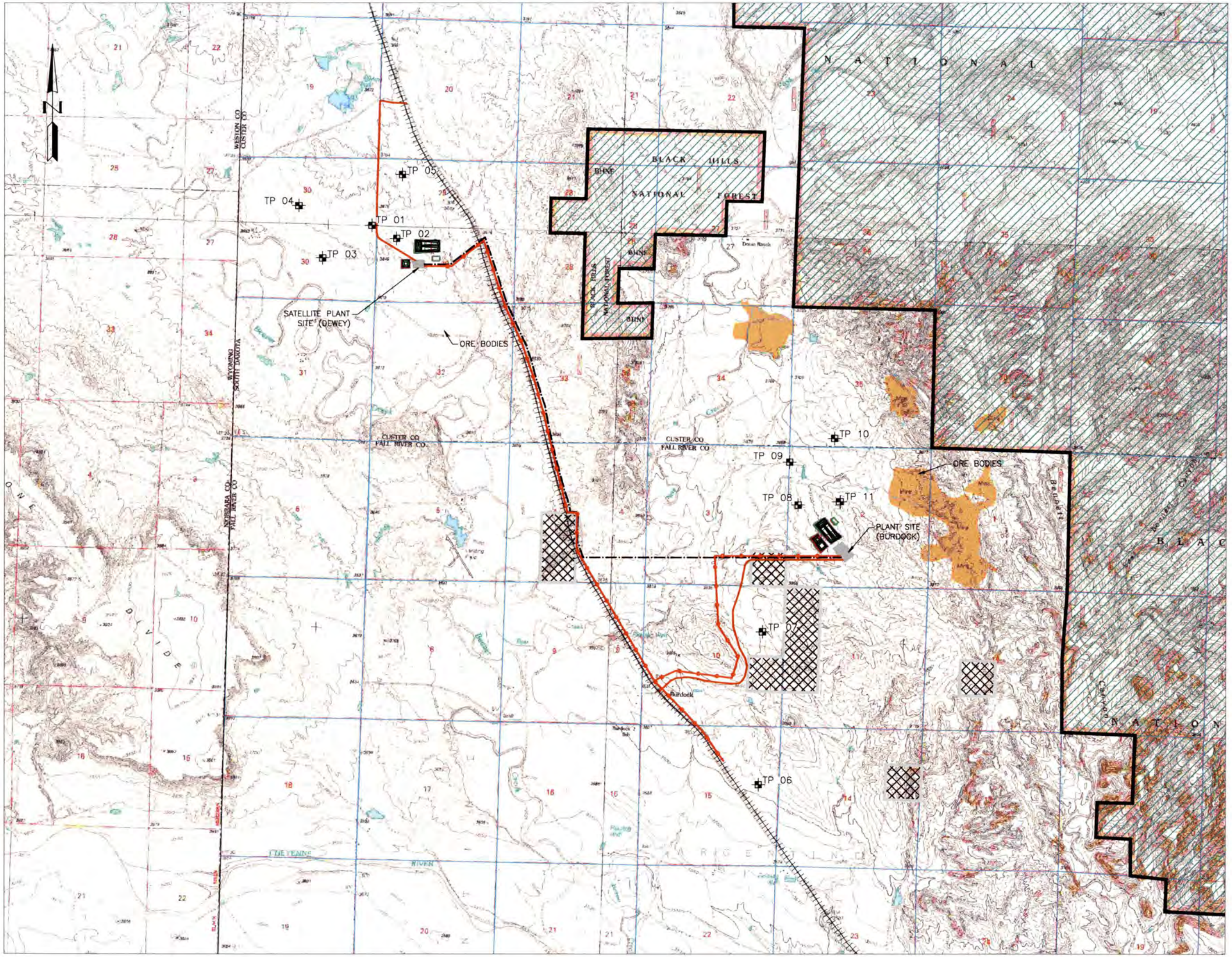

PLAN

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).

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	FIGURE NUMBER	REVISION
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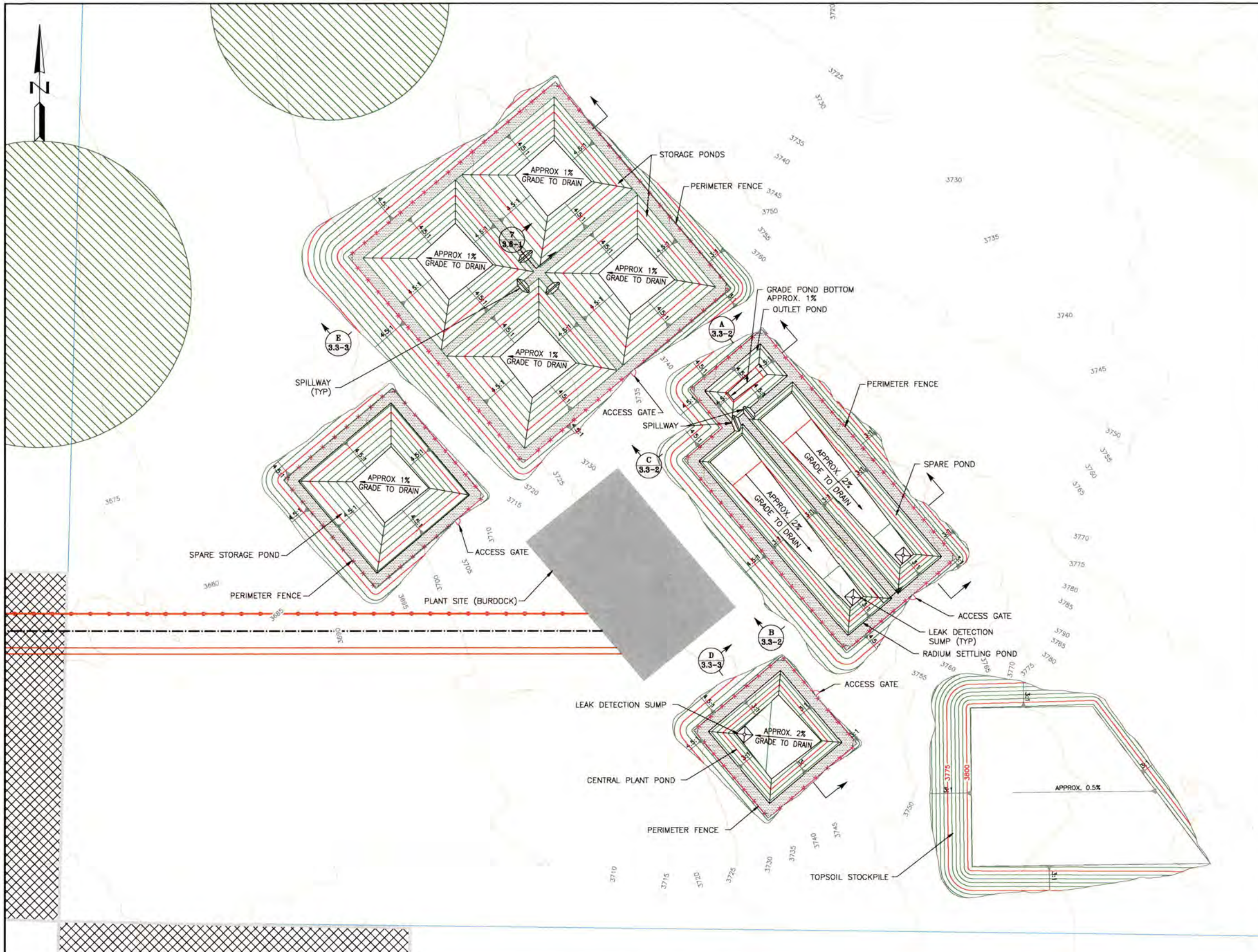

PLAN – BURDOCK PLANT SITE

200 0 200 400 FEET

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

LEGEND:

- EXISTING CONTOURS
- REGRADED CONTOURS
- EMBANKMENT ROAD
- NEW ROADS
- PERIMETER FENCE
- POWER LINE
- PIPELINE
- EXISTING STREAM
- 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).

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY–BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION BURDOCK PLANT SITE PLAN

Knight Piésold CONSULTING

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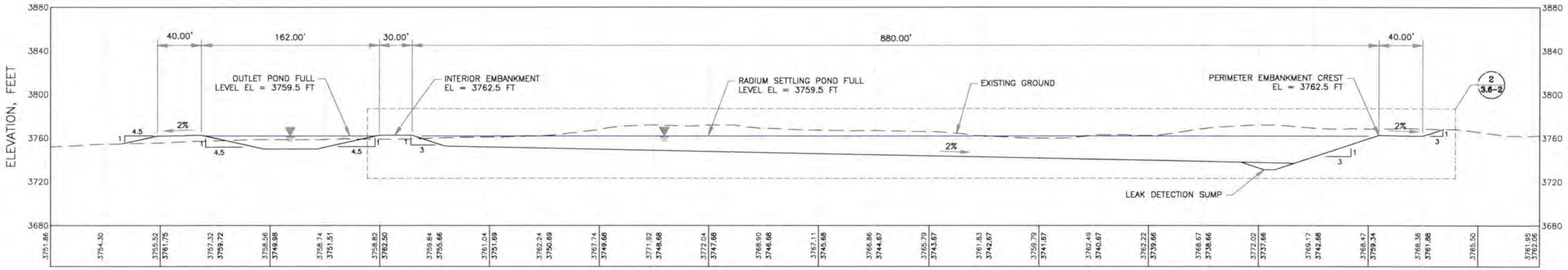
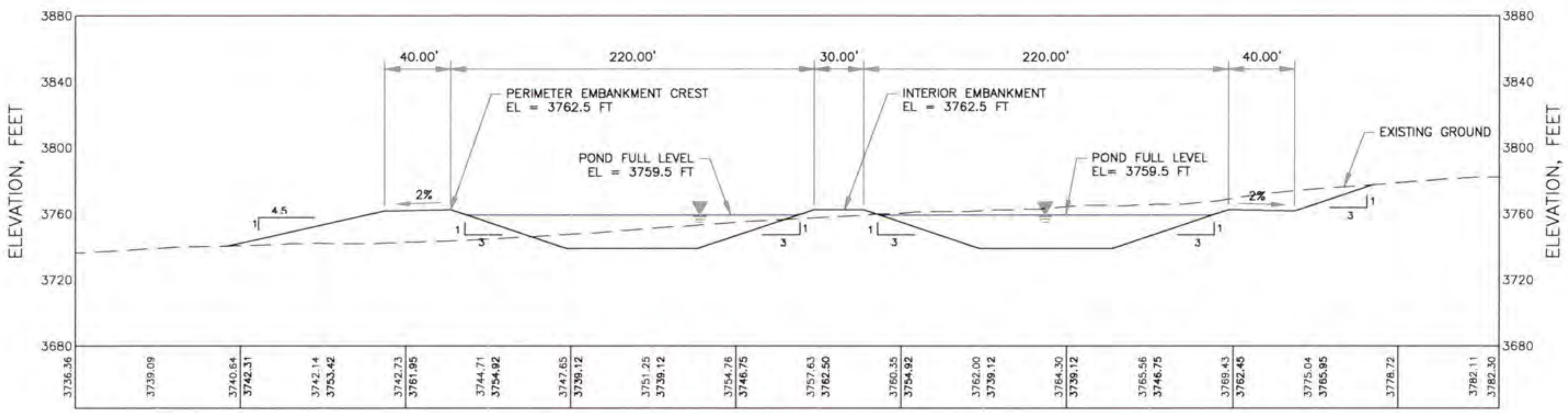


A
3.3-1
BURDOCK RADIUM SETTLING AND OUTLET PONDS
SECTION



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BURDOCK RADIUM SETTLING AND SPARE PONDS
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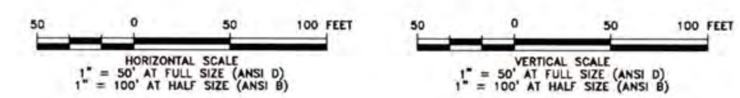

NOTES:

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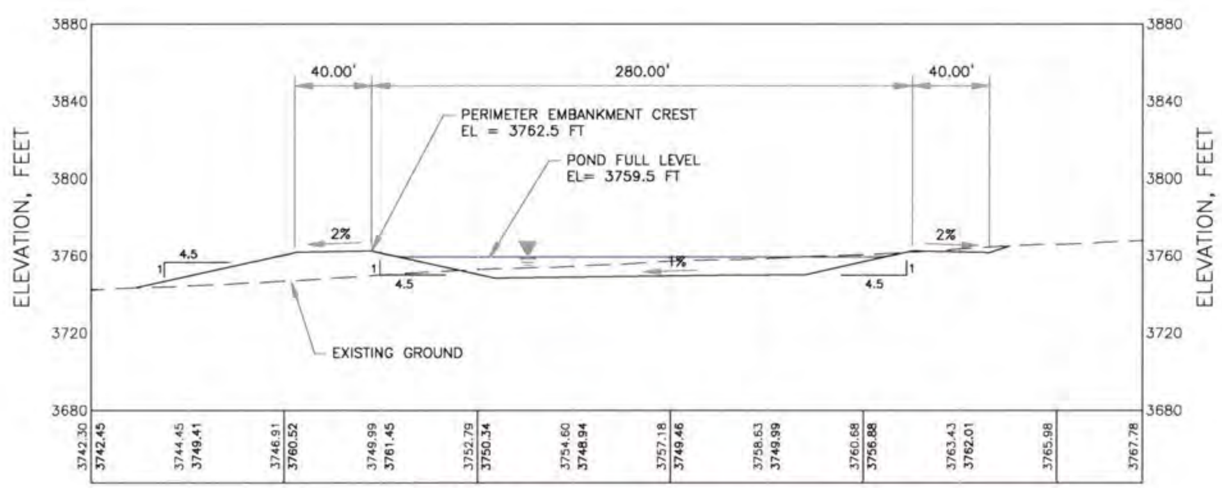

C
3.3-1
BURDOCK OUTLET POND
SECTION

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY–BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION BURDOCK POND SECTIONS SHEET 1 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
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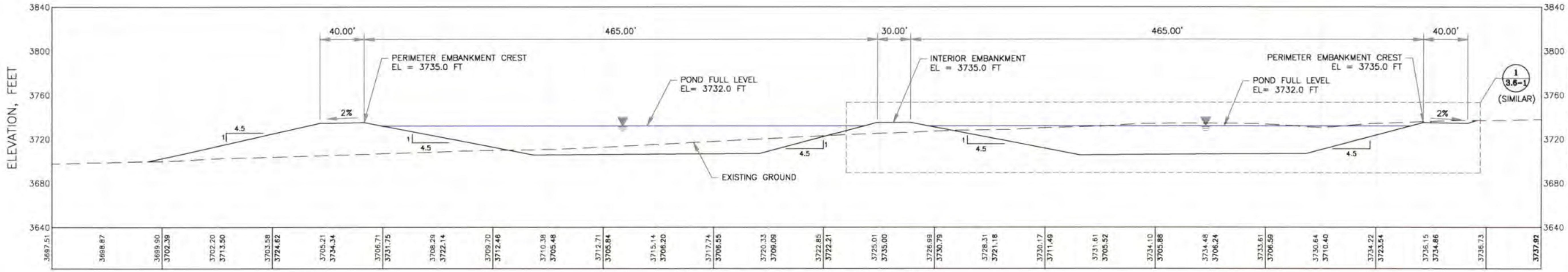

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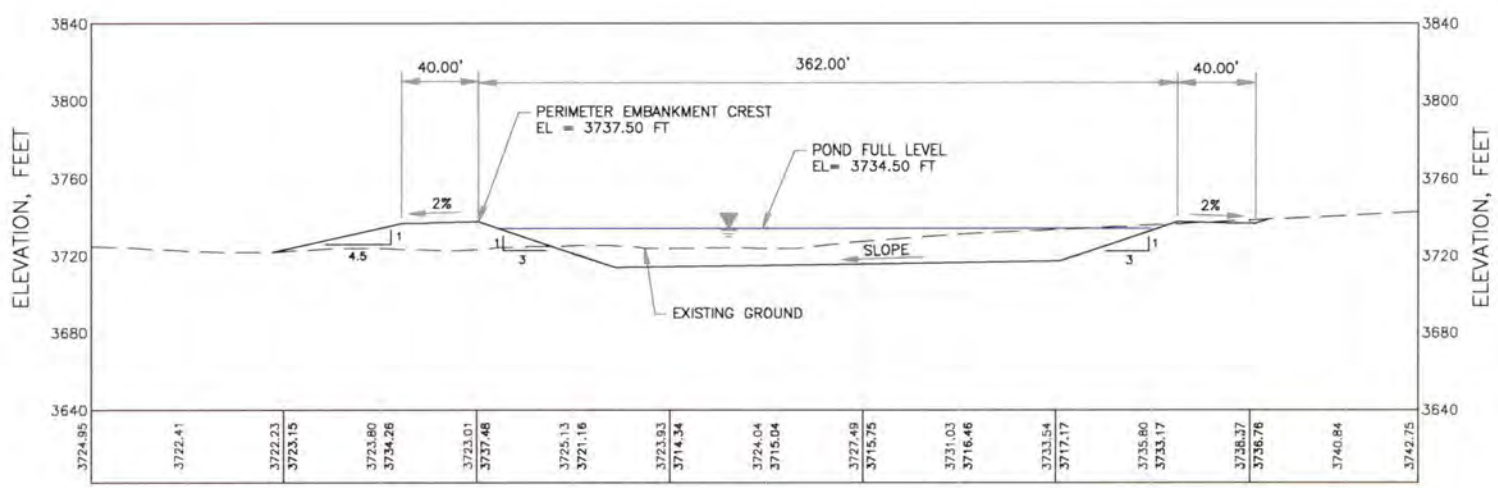
BURDOCK STORAGE PONDS SECTION



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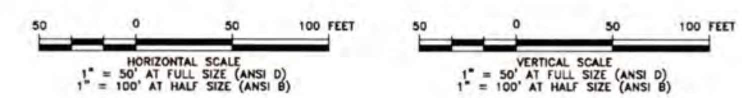
CENTRAL PLANT POND SECTION



NOTES:

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

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION BURDOCK POND SECTIONS SHEET 2 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
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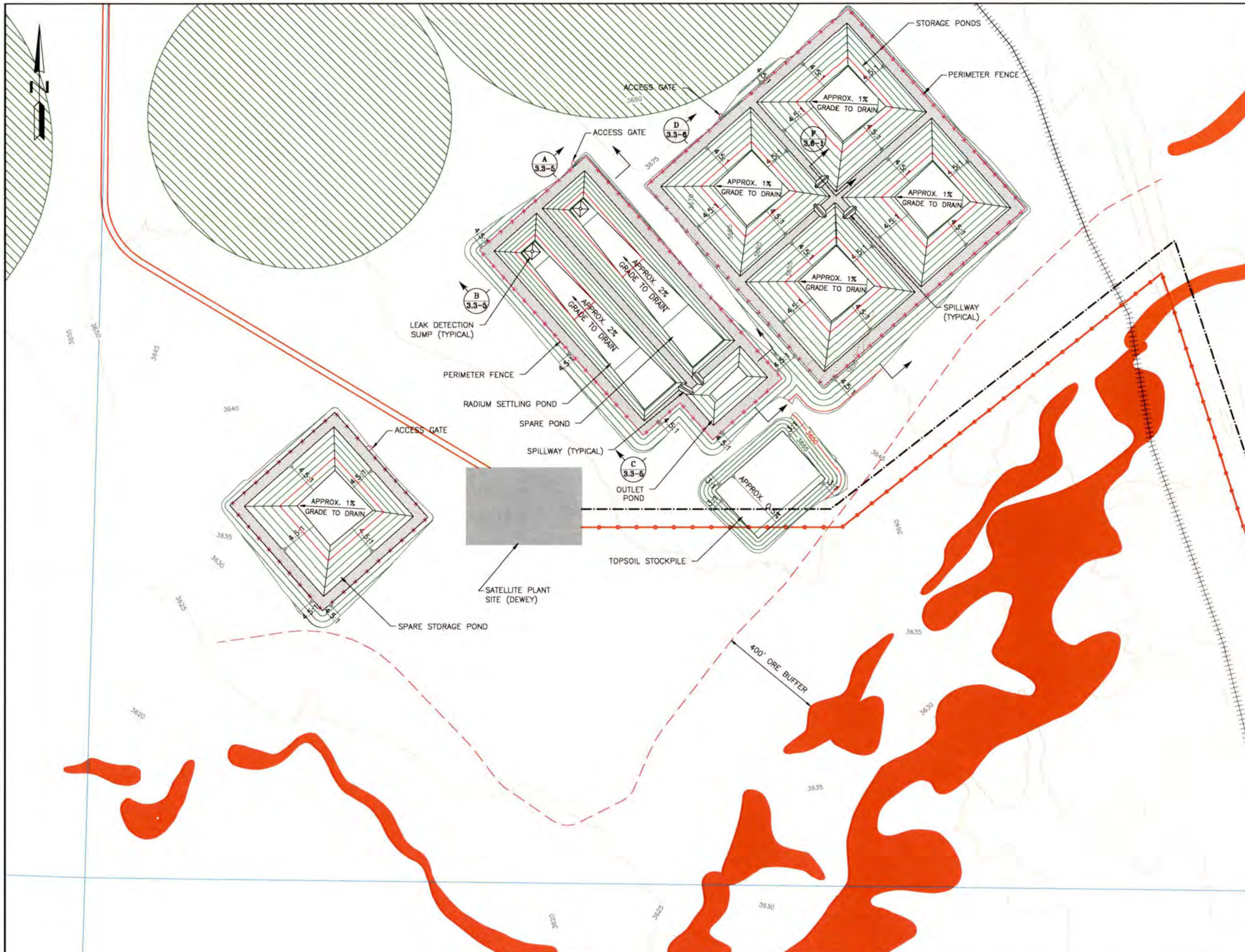

PLAN – DEWEY SATELLITE PLANT SITE

200 0 200 400 FEET

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

LEGEND:

- EXISTING CONTOURS
- REGRADED CONTOURS
- EMBANKMENT ROAD
- RAILROAD
- PERIMETER FENCE
- PIPELINE
- POWER LINE
- EXISTING STREAM
- 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).

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY–BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION DEWEY PLANT SITE PLAN

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	102	279.02	3.3–4	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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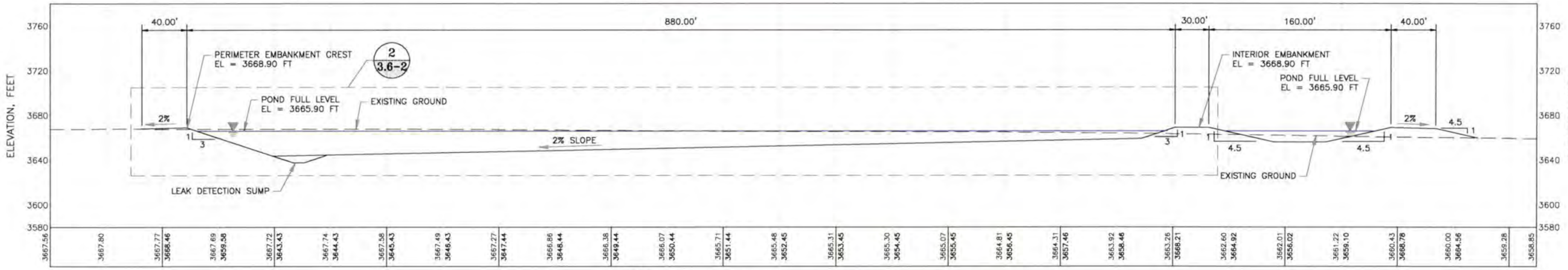
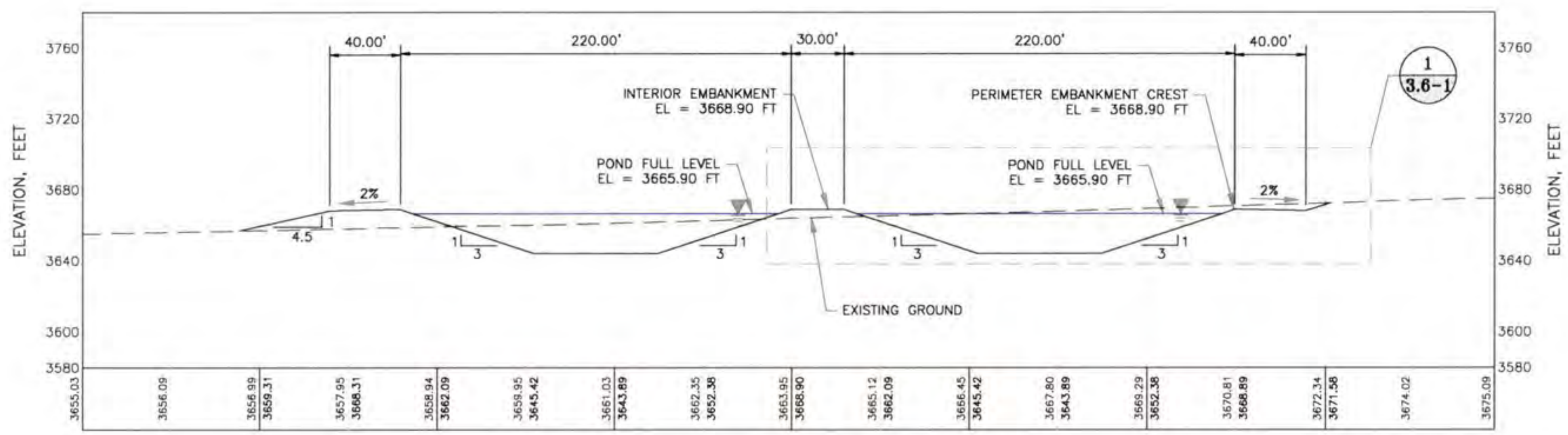
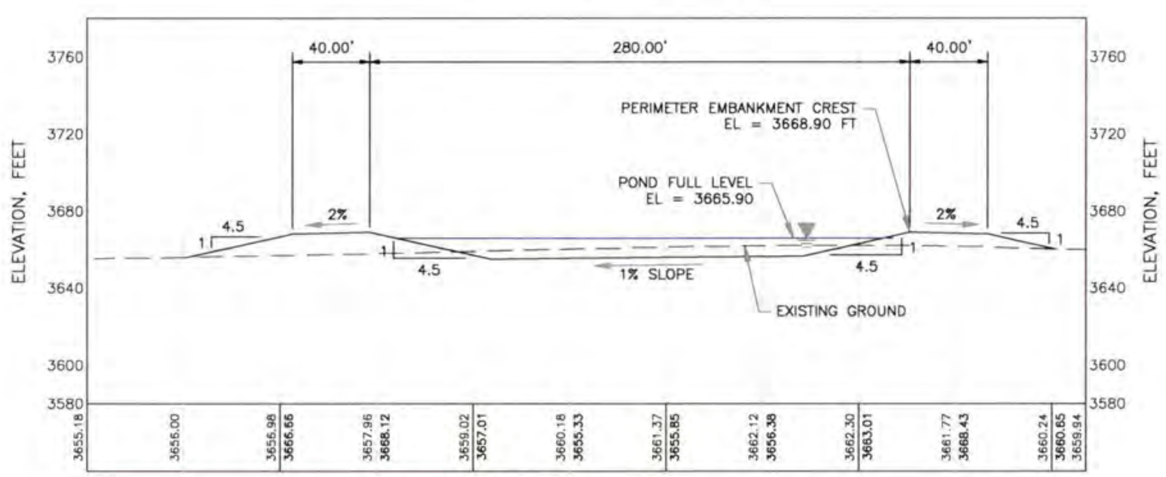


A 3.3-4 DEWEY RADIUM SETTLING AND OUTLET PONDS SECTION



B 3.3-4 DEWEY RADIUM SETTLING PONDS SECTION



C 3.3-4 DEWEY OUTLET POND 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).

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION DEWEY POND SECTIONS SHEET 1 OF 2

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	102	279.02	3.3-5	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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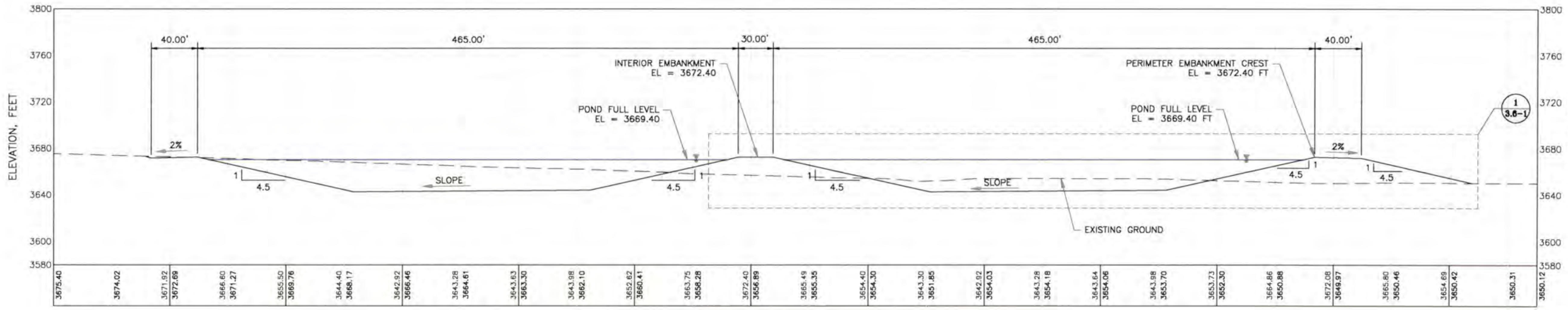

D
3.3-4

DEWEY STORAGE PONDS
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).

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	FIGURE NUMBER	REVISION
DRAWN BY	RJB	102	279.02	3.3-6	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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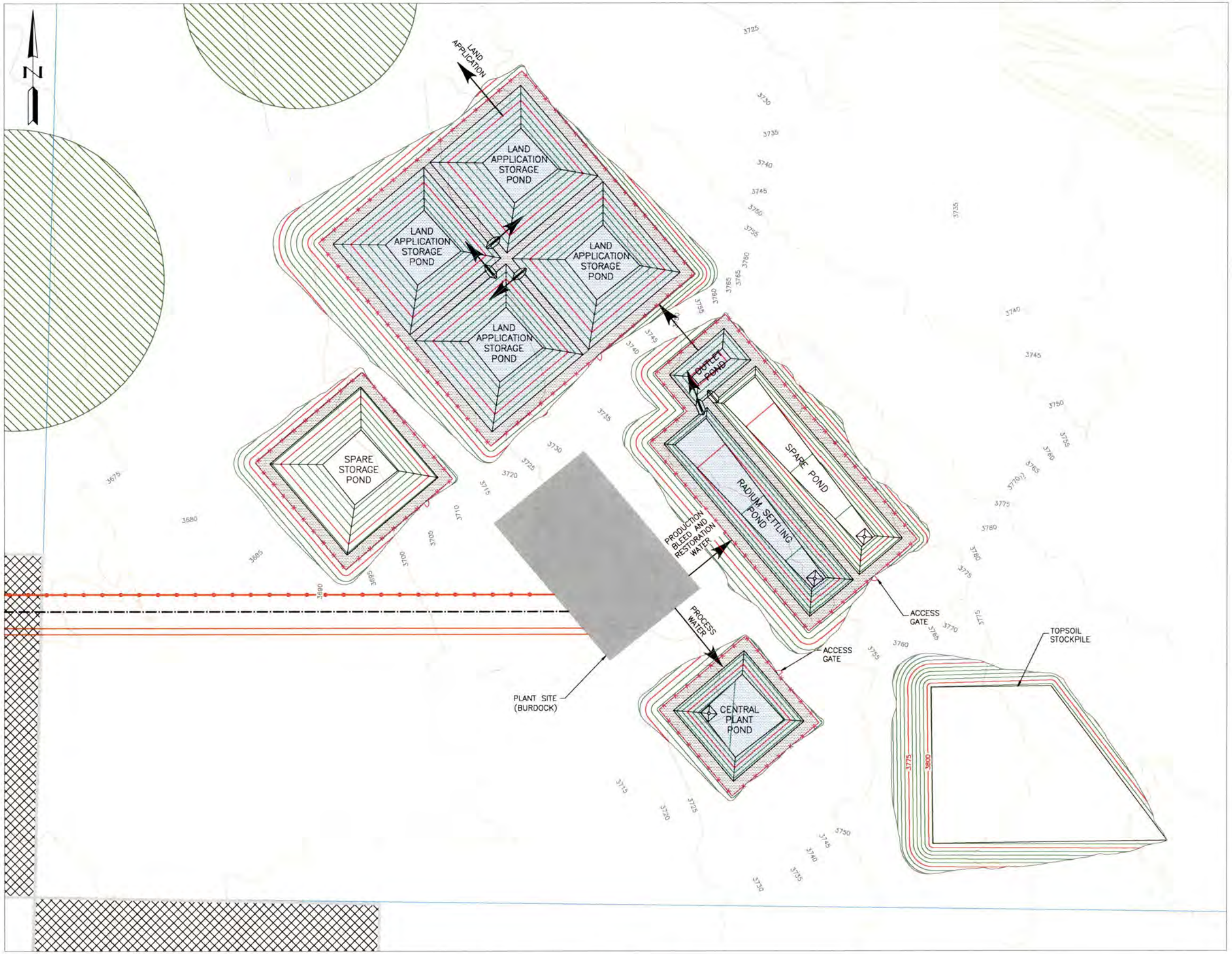

LEGEND:

- EXISTING CONTOURS
- REGRADED CONTOURS
- EMBANKMENT ROAD
- NEW ROADS
- RAILROAD
- PERIMETER FENCE
- POWER LINE
- PIPELINE
- EXISTING STREAM
- LAND APPLICATION AREAS
- BLM AREAS
- DIRECTION OF WATER FLOW

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 2006

PLAN - BURDOCK PLANT SITE

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

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION BURDOCK PLANT SITE FLOW DIAGRAM

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	102	279.02	3.4-1	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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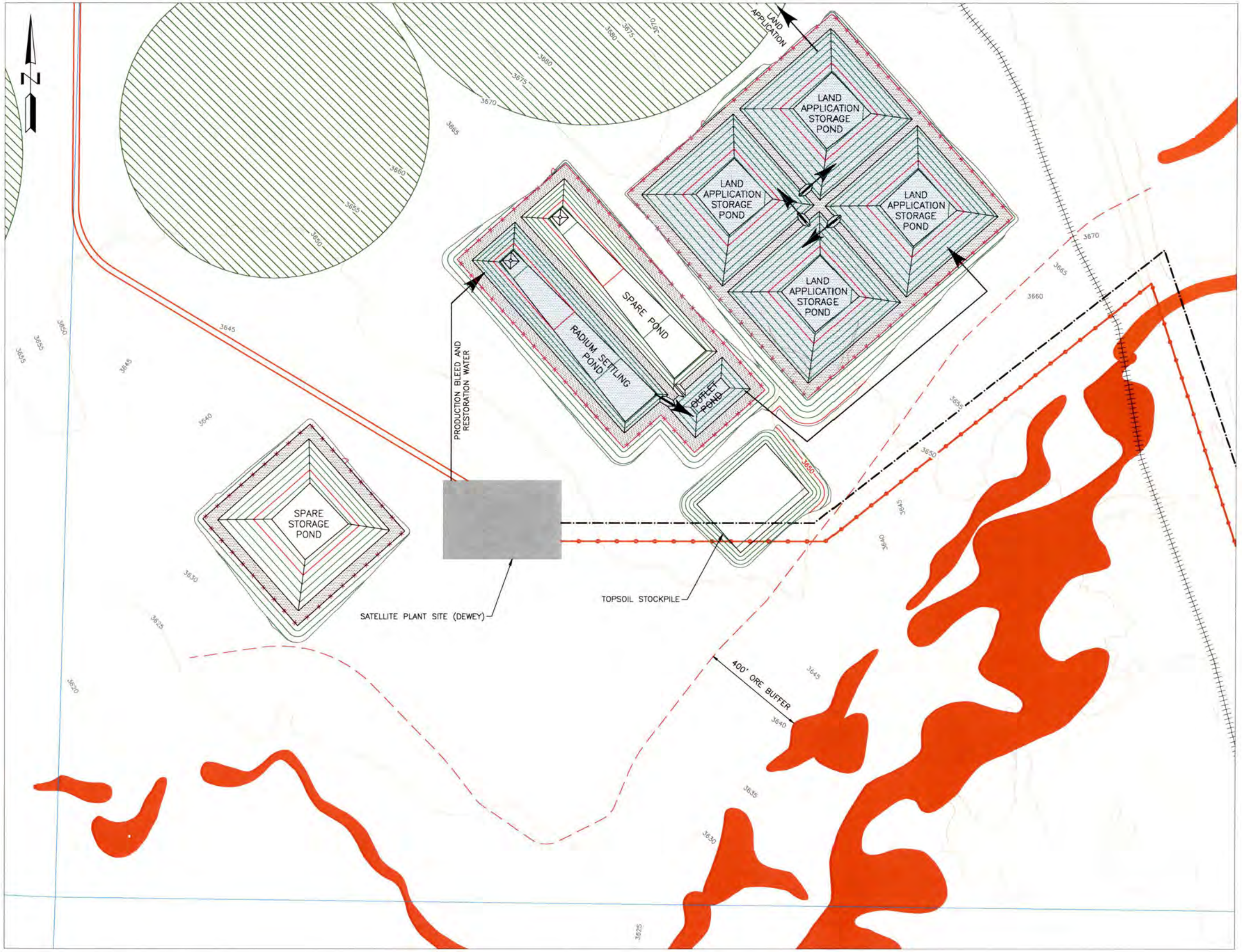

LEGEND:

- EXISTING CONTOURS
- REGRADED CONTOURS
- EMBANKMENT ROAD
- RAILROAD
- PERIMETER FENCE
- POWER LINE
- ORE BODIES
- PIPELINE
- EXISTING STREAM
- LAND APPLICATION AREAS
- DIRECTION OF WATER FLOW

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 SATELLITE PLANT SITE

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

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	LAND APPLICATION AND IRRIGATION DEWEY PLANT SITE FLOW DIAGRAM

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	102	279.02	3.4-2	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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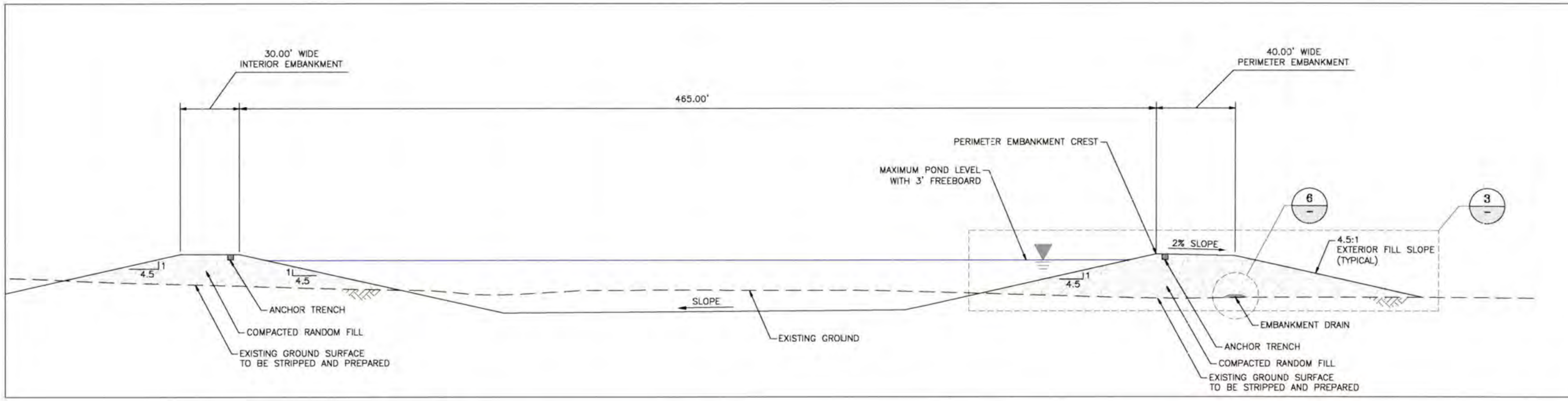
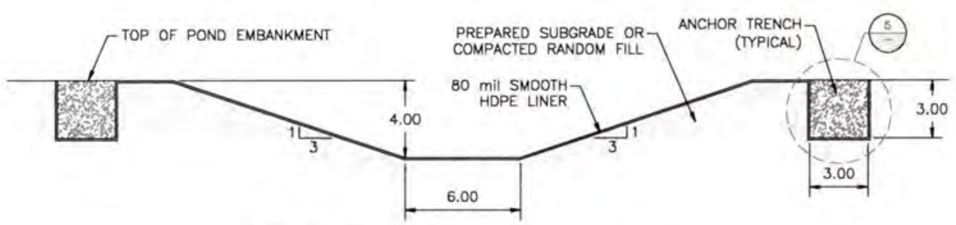


1 3.3-3 | 1 3.3-6 STORAGE POND DETAIL
TYPICAL OF SINGLE LINED PONDS

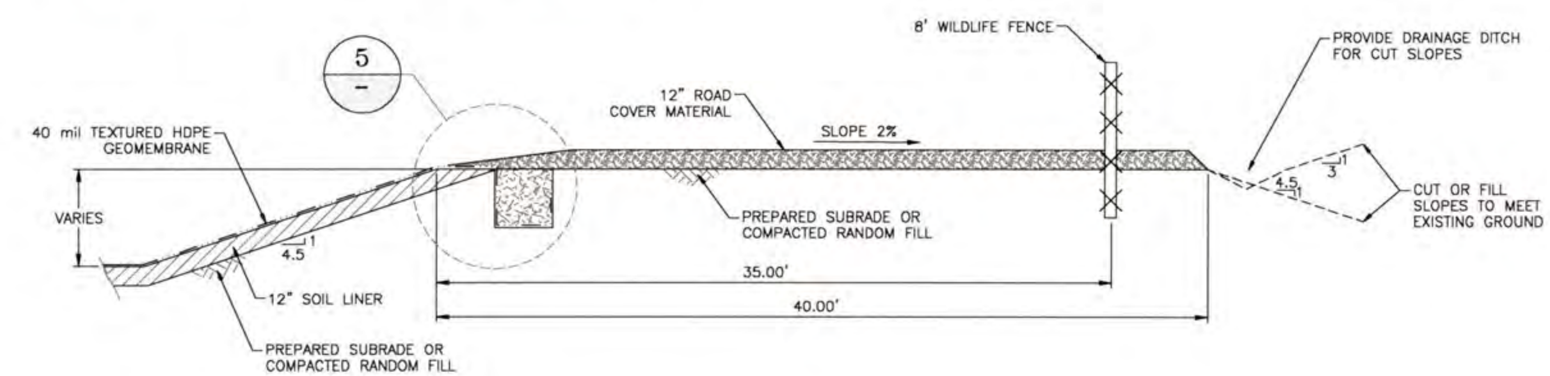
30 0 30 60 FEET
HORIZONTAL SCALE
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)

30 0 30 60 FEET
VERTICAL SCALE
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)



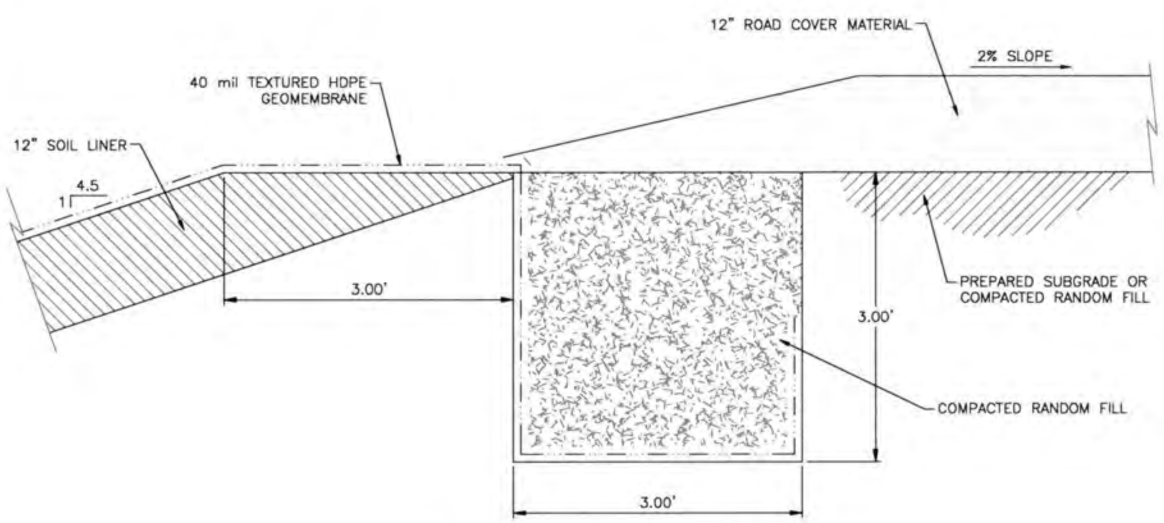
7 3.3-1 | 7 3.3-4 SPILLWAY DETAIL

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



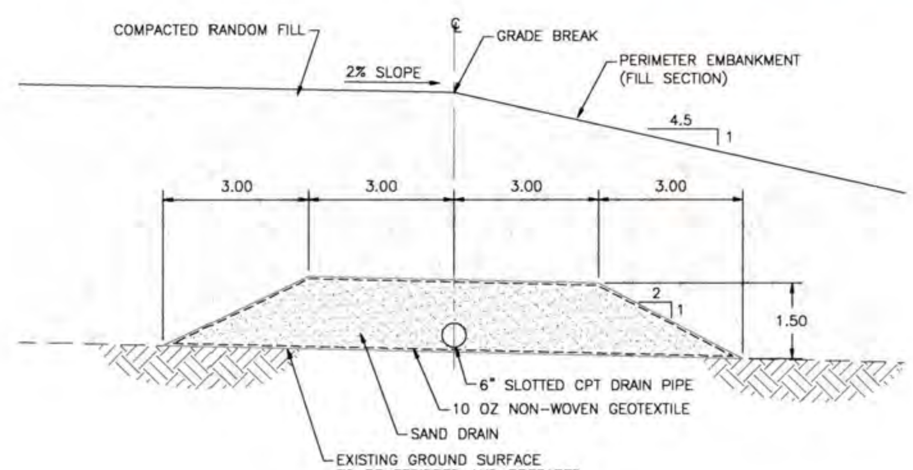
3 – POND EMBANKMENT DETAIL
FOR SINGLE LINED PONDS

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



5 – LINER ANCHOR TRENCH DETAIL
FOR SINGLE LINED PONDS

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



6 – EMBANKMENT DRAIN DETAIL

2 0 2 4 FEET
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.

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

		LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DESIGNED BY	ST	DV-102	279-02	3.6-1	B
DRAWN BY	RJB				
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

LAST SAVED BY: RBOWLING
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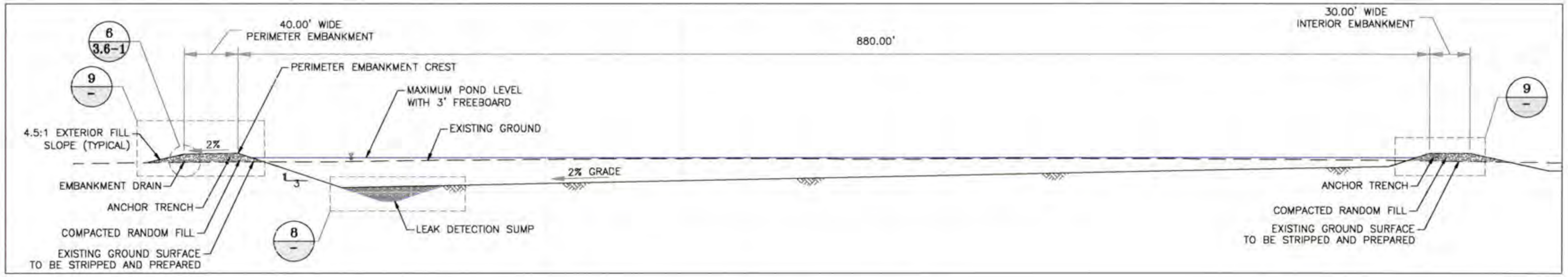
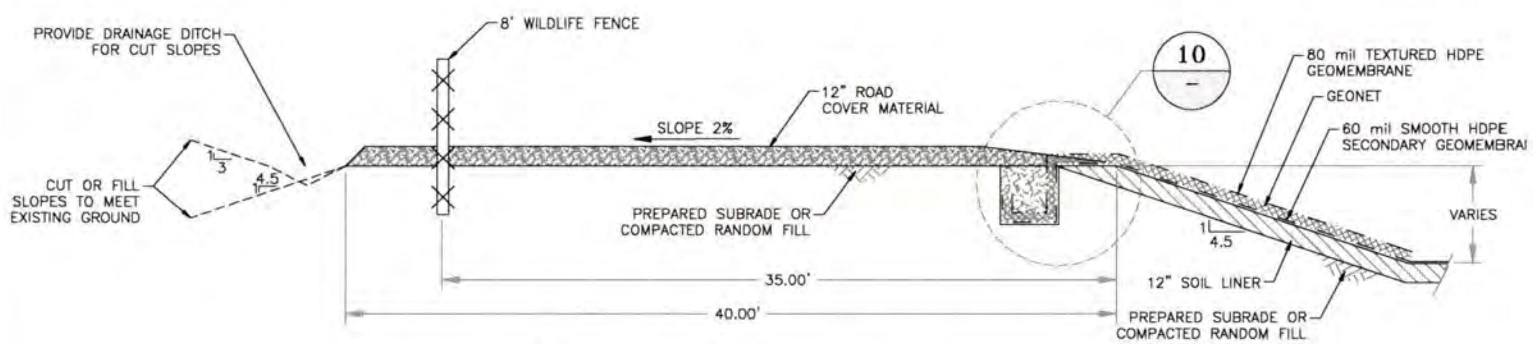


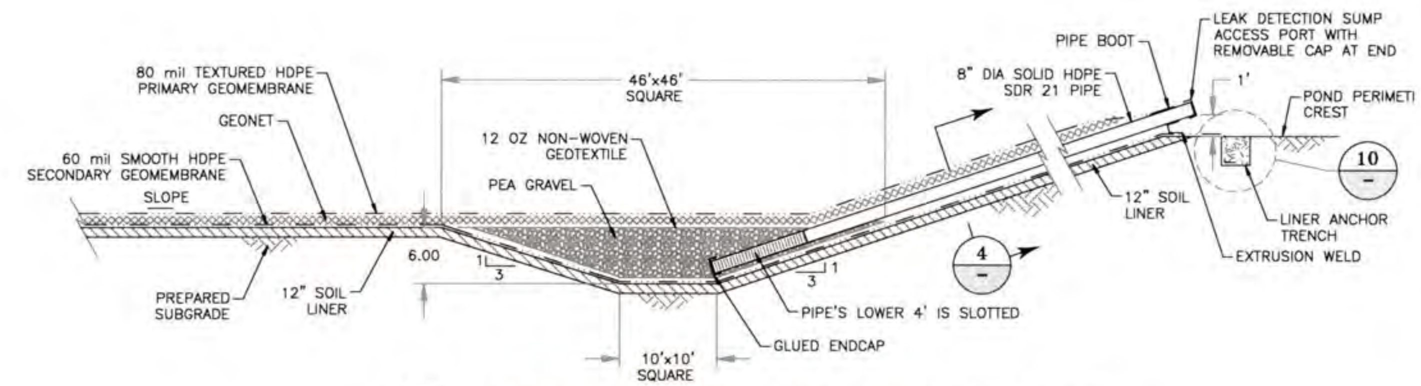
2 3.3-2 2 3.3-5 RADIUM SETTLING POND DETAIL
TYPICAL OF DOUBLE LINED PONDS

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



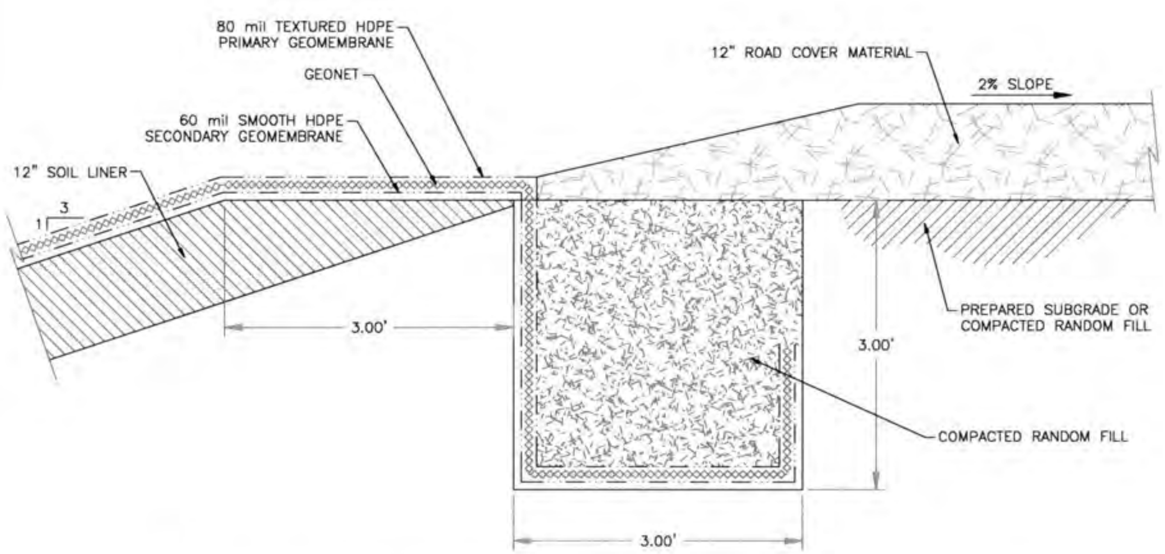
9 – POND EMBANKMENT DETAIL
FOR DOUBLE LINED PONDS

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



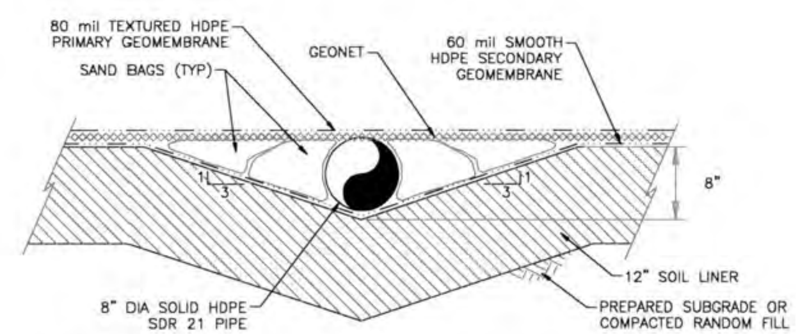
8 – LEAK DETECTION SUMP AND ACCESS PORT DETAIL

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 POND SECTIONS AND DETAILS SHEET 2 OF 2

Knight Piésold
CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279-02	3.6-2	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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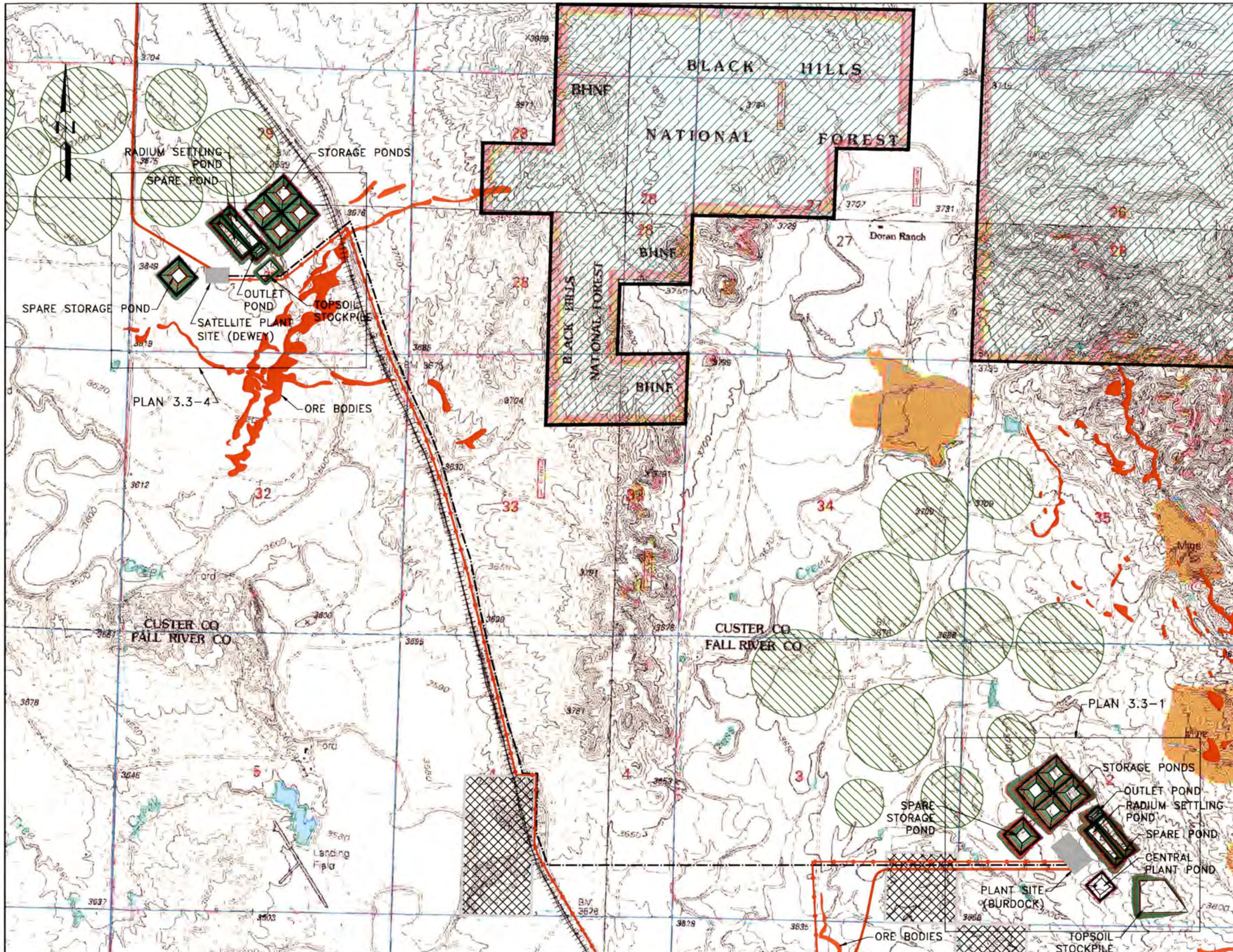

LEGEND:

- REGRADED CONTOURS
- EXISTING ROAD
- NEW ROADS
- RAILROAD
- POWER LINE
- PIPELINE
- EXISTING STREAM
- ORE BODIES
- LAND APPLICATION AREAS
- 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	LAND APPLICATION AND IRRIGATION SITE PLAN

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	102	279.02	3.7-1	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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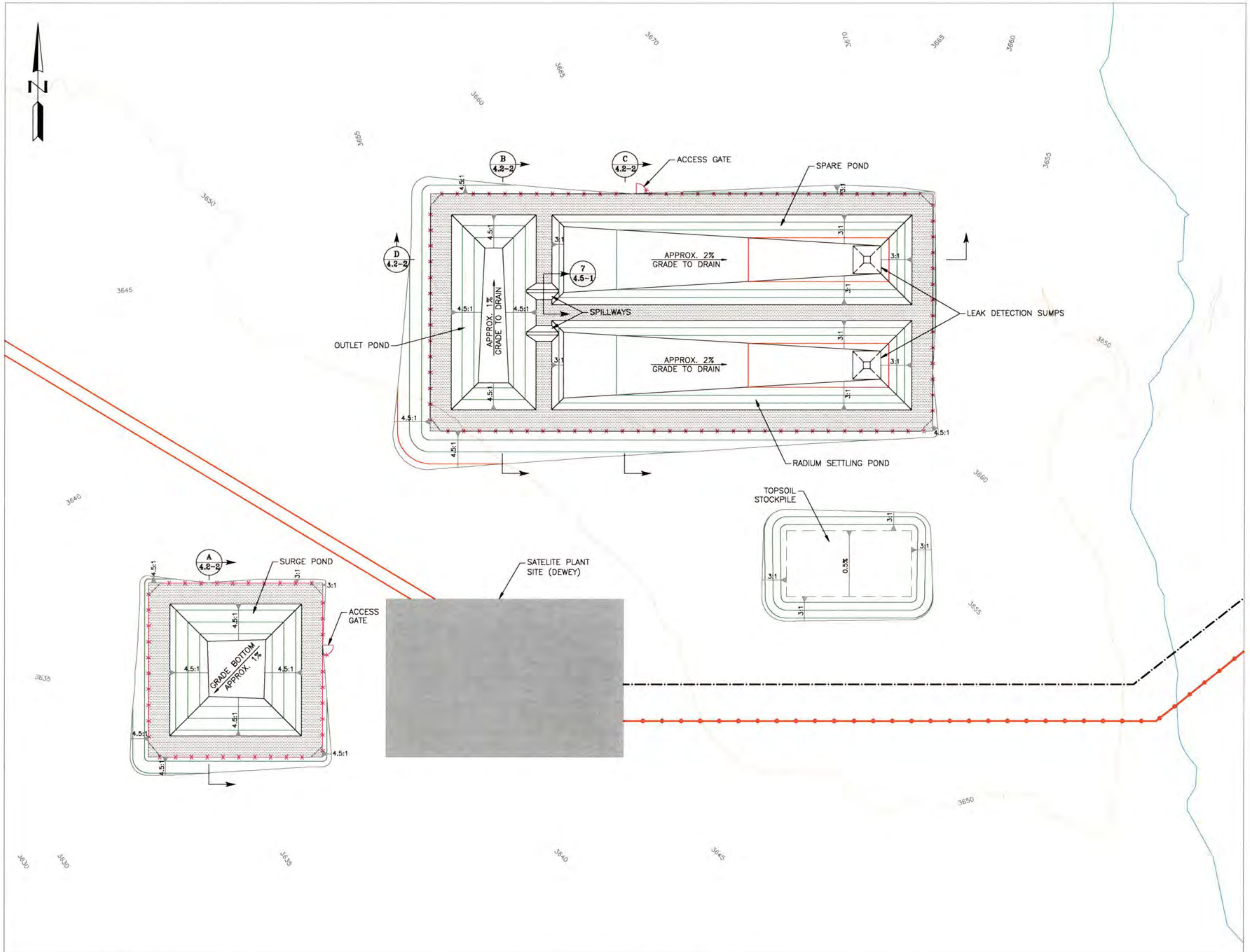

LEGEND:

- 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)

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	FIGURE NUMBER	REVISION
DRAWN BY	RSP	DV-102	279-05	4.2-1	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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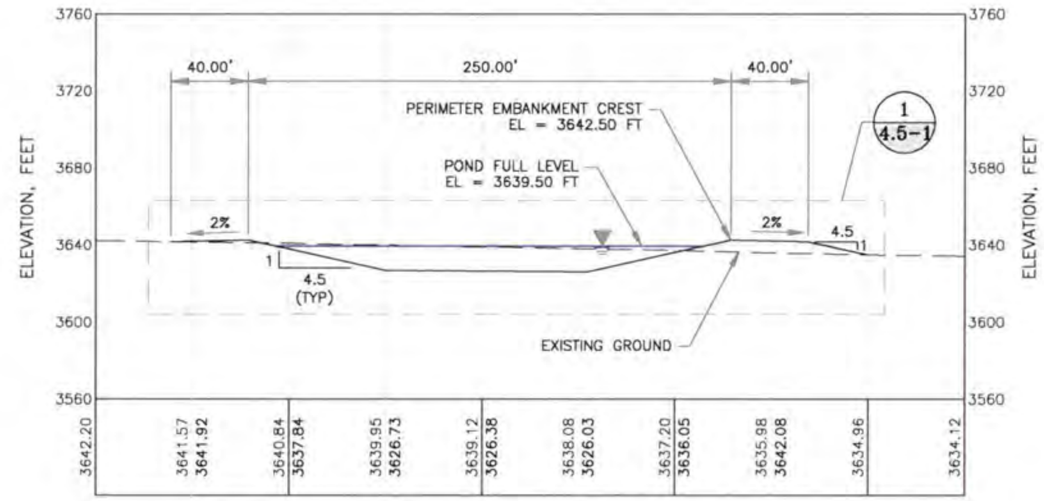
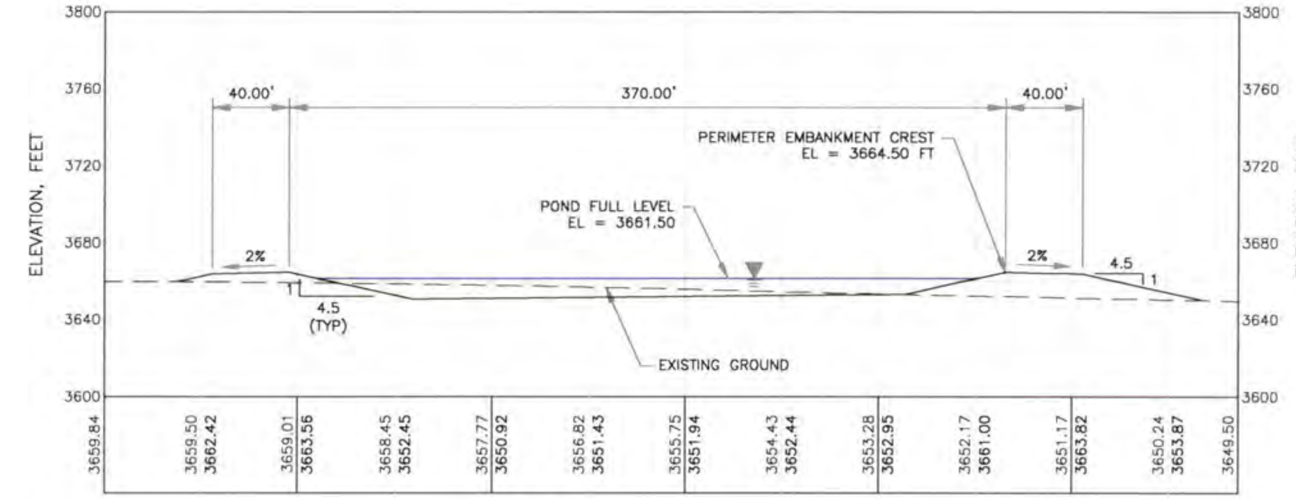
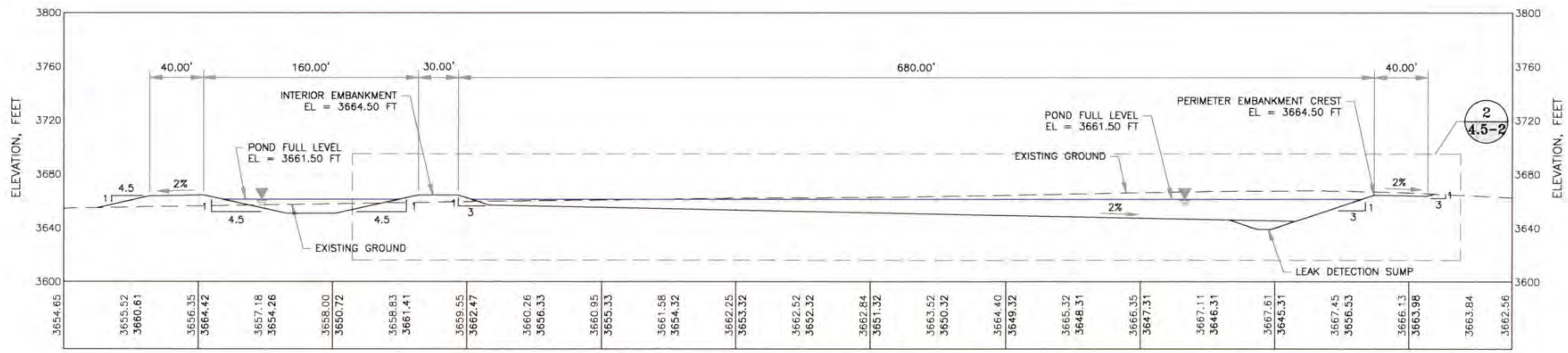


A 4.2-1 DEWEY SURGE POND SECTION



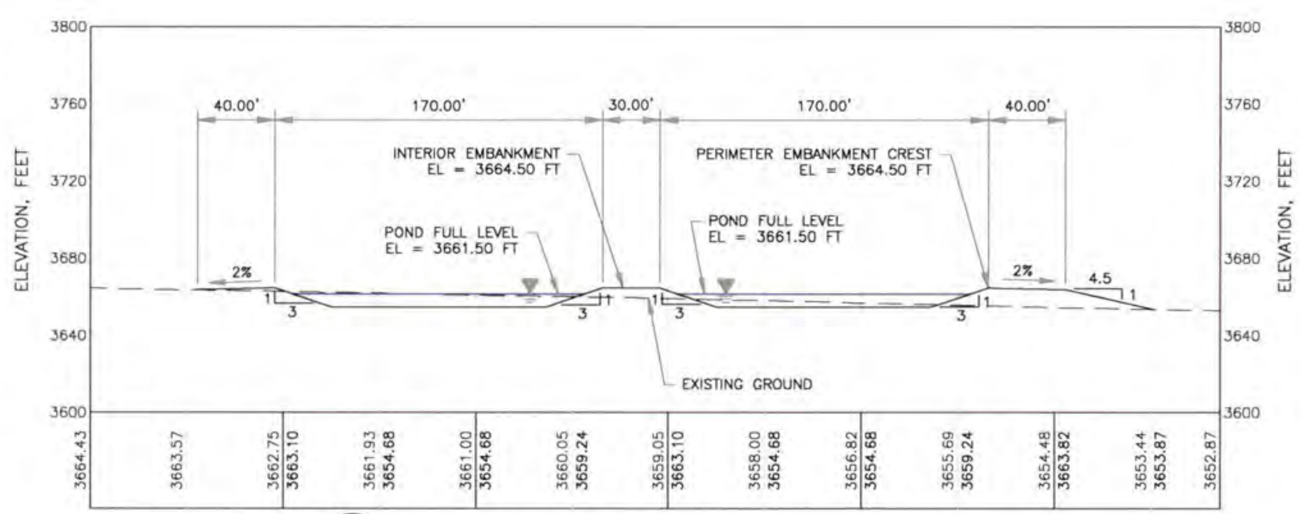
B 4.2-1 DEWEY OUTLET POND SECTION



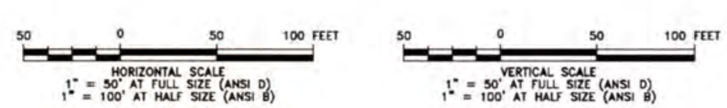
D 4.2-1 DEWEY OUTLET AND RADIUM SETTLING PONDS SECTION

NOTES:

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



C 4.2-1 DEWEY RADIUM SETTLING AND SPARE PONDS SECTION



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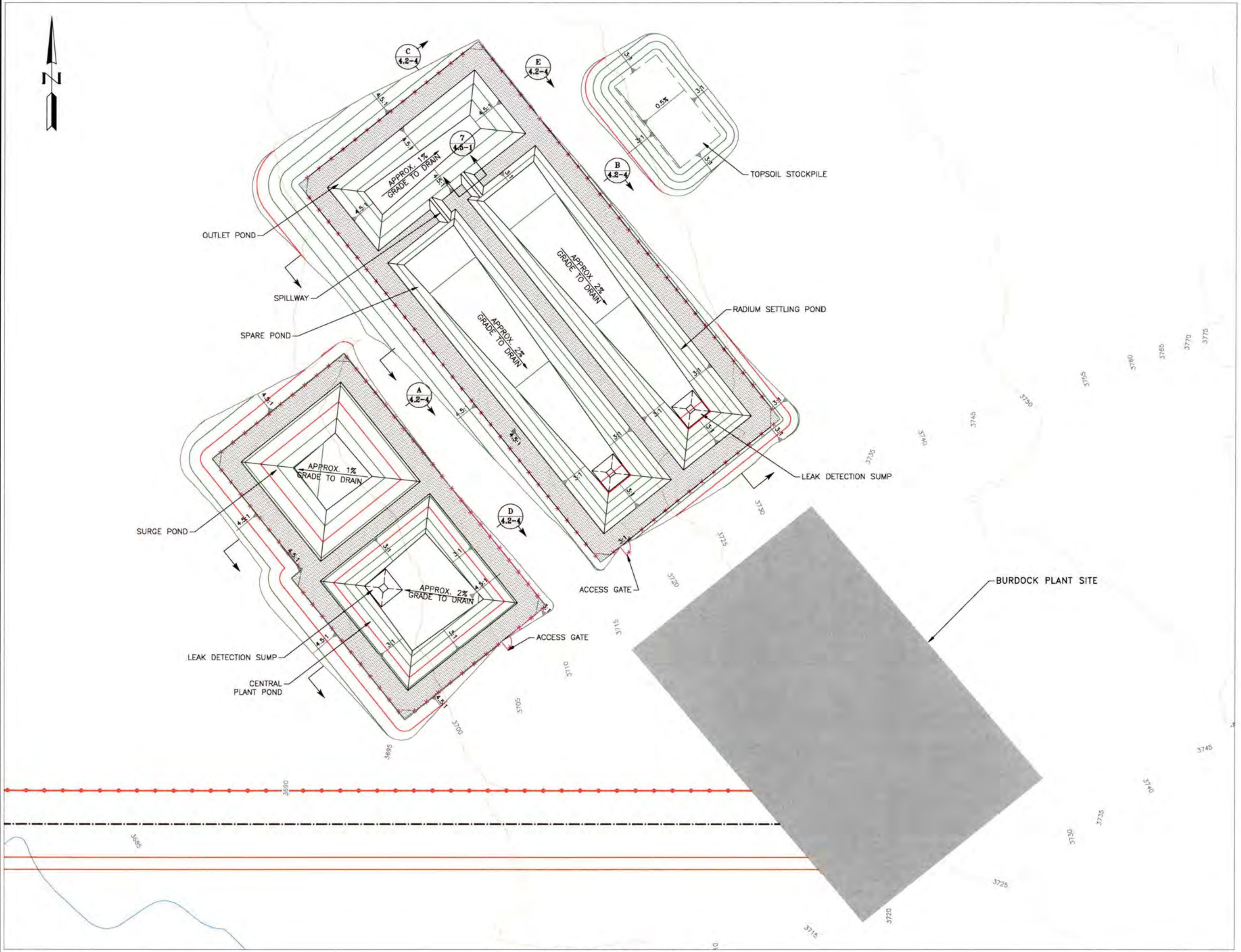
CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	DEEP WELL DISPOSAL DEWEY POND SECTIONS

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279.05	4.2-2	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		



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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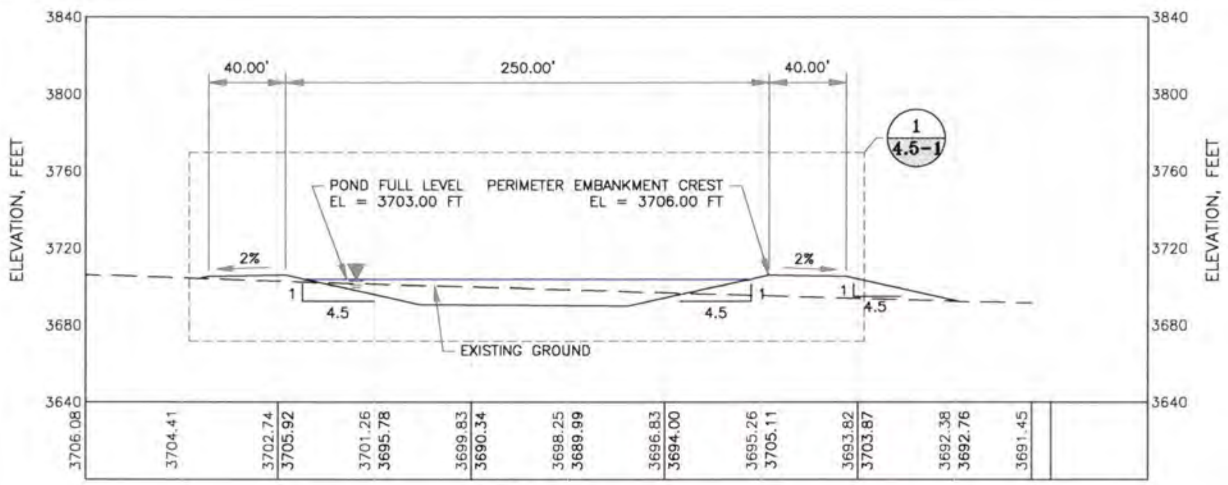
CLIENT: POWERTECH (USA) Inc.

PROJECT: DEWEY–BURDOCK PROJECT

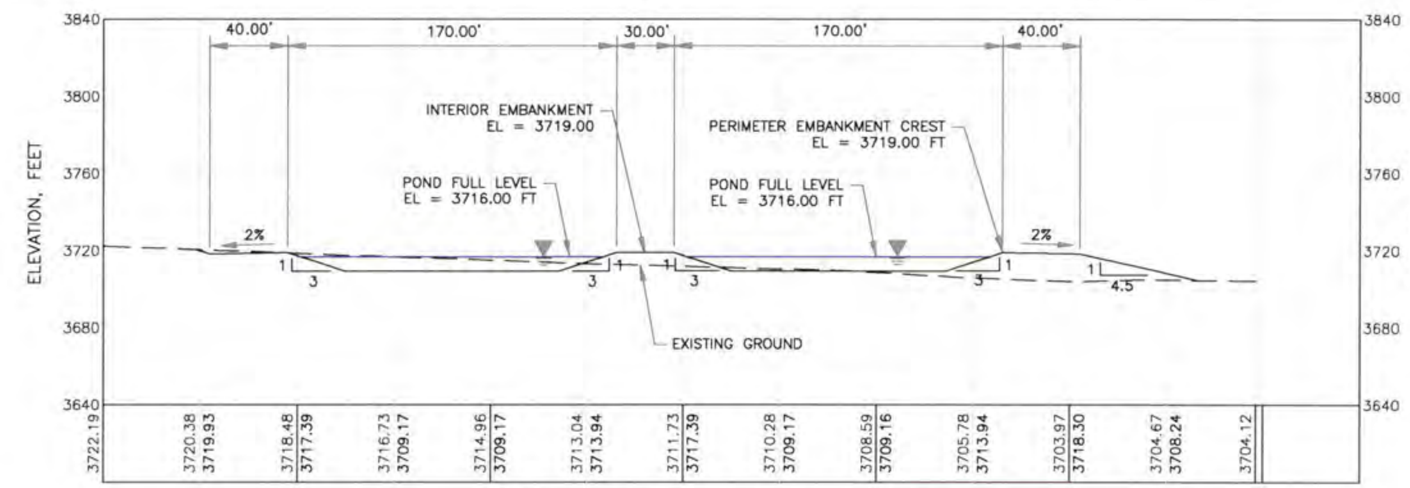
TITLE: DEEP WELL PROPOSAL BURDOCK PLANT SITE PLAN

Knight Piésold CONSULTING

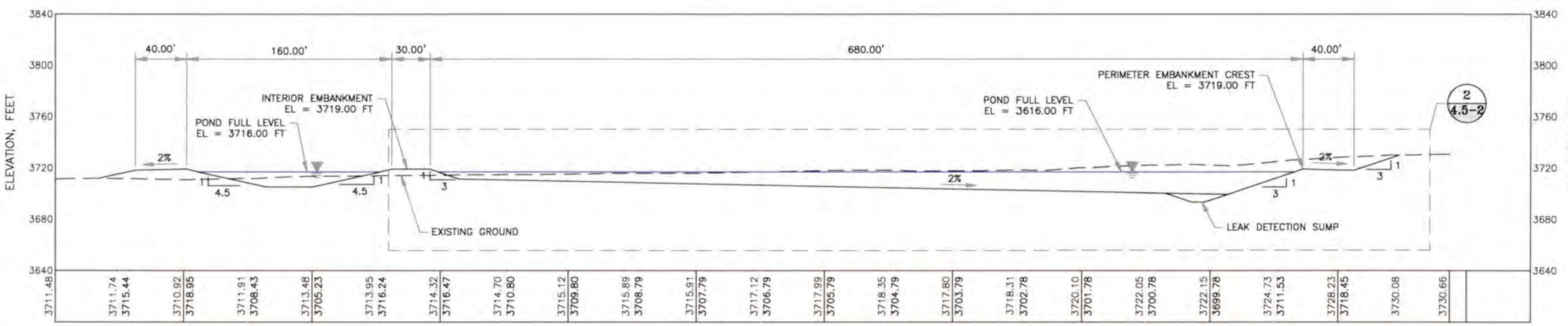
DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279-05	4.2-3	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		



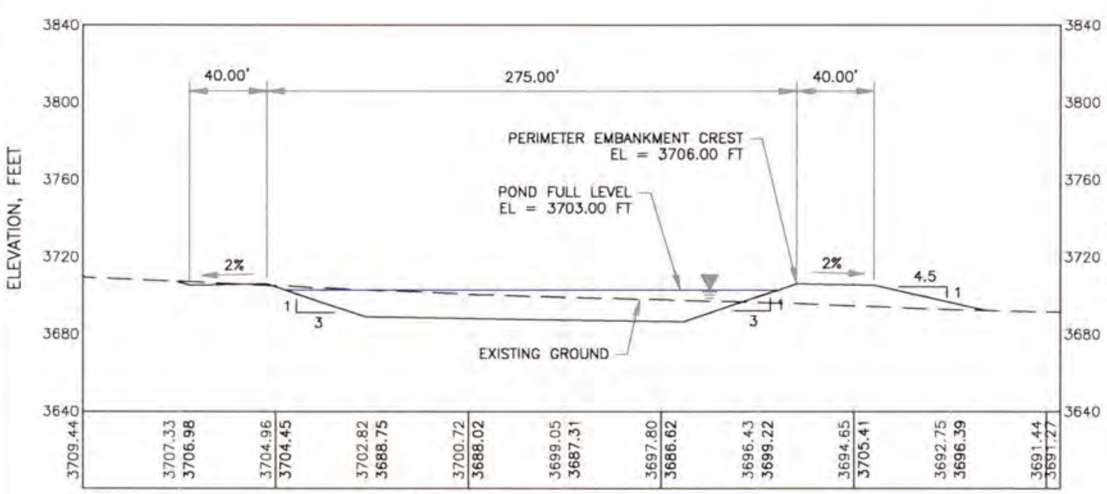
A 4.2-3 BURDOCK SURGE POND
SECTION



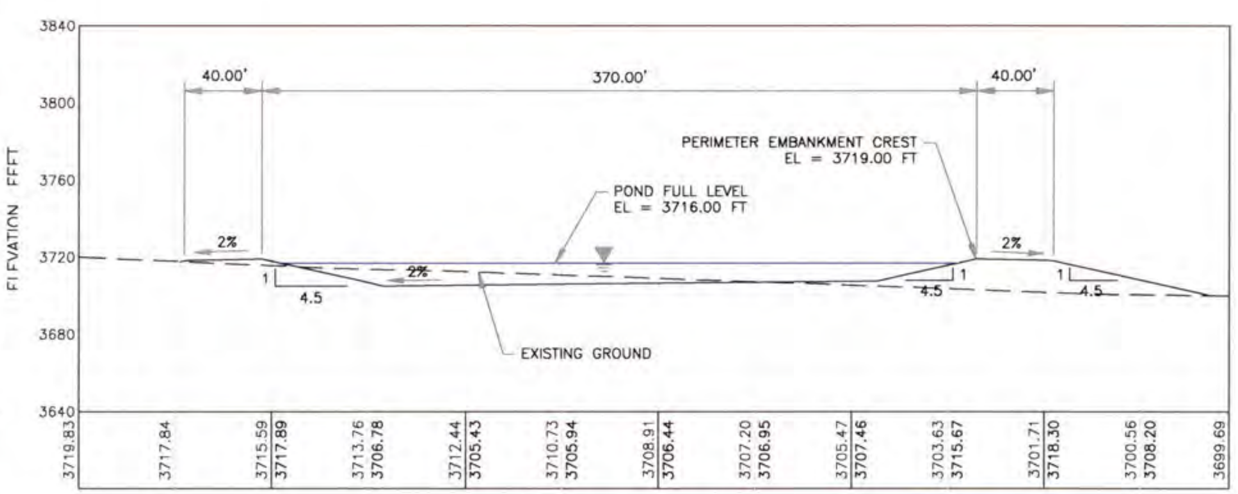
B 4.2-3 BURDOCK RADIUM SETTLING PONDS
SECTION



C 4.2-3 BURDOCK RADIUM SETTLING AND OUTLET PONDS
SECTION



D 4.2-3 CENTRAL PLANT POND
SECTION



E 4.2-3 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).

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)

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	DEEP WELL DISPOSAL BURDOCK POND SECTIONS
	Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279.05	4.2-4	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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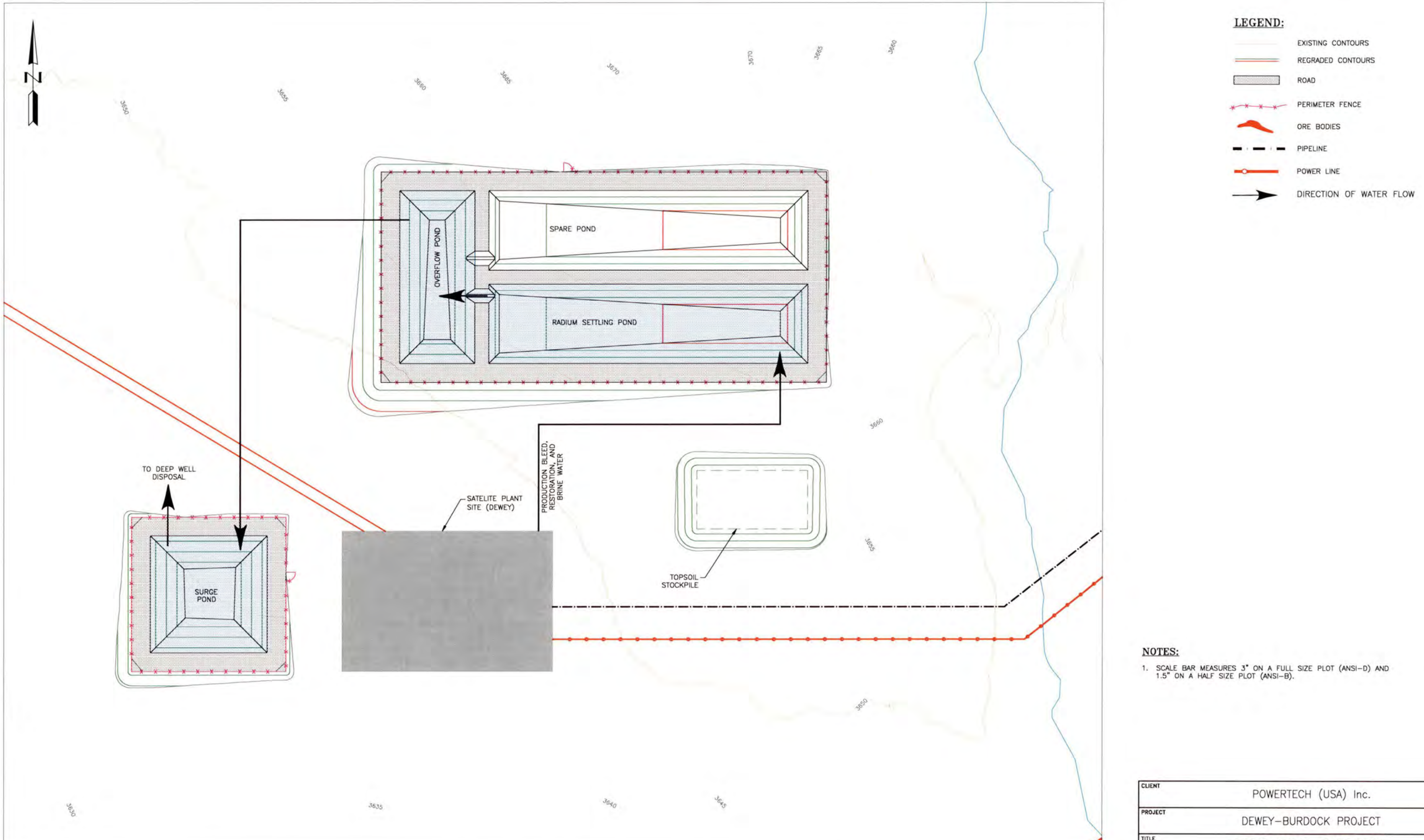

NOTES:

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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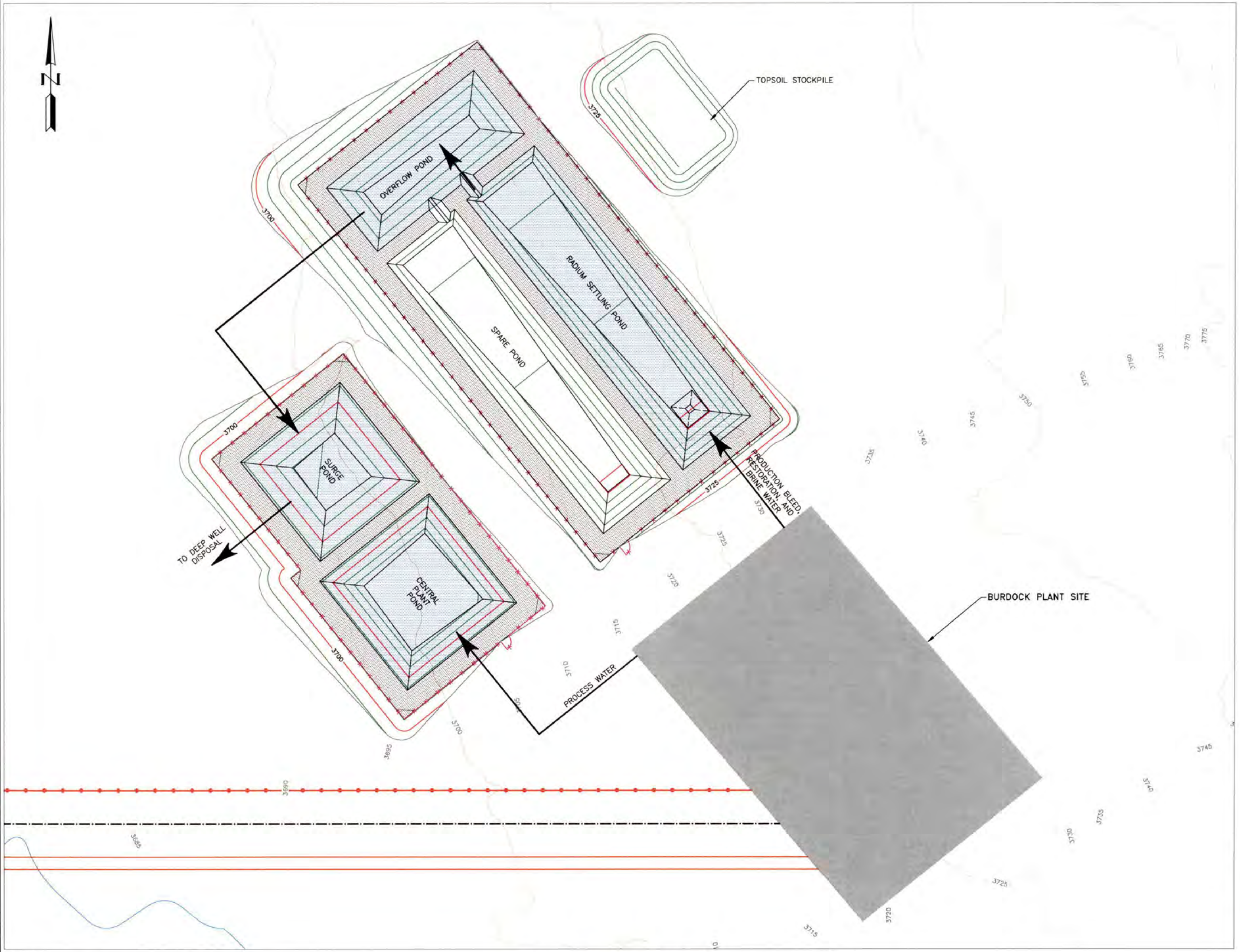
CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	DEEP WELL DISPOSAL DEWEY PLANT SITE FLOW DIAGRAM

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RSP	DV-102	279-05	4.3-1	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		



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)

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).

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	DEEP WELL DISPOSAL BURDOCK PLANT SITE FLOW DIAGRAM

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279-05	4.3-2	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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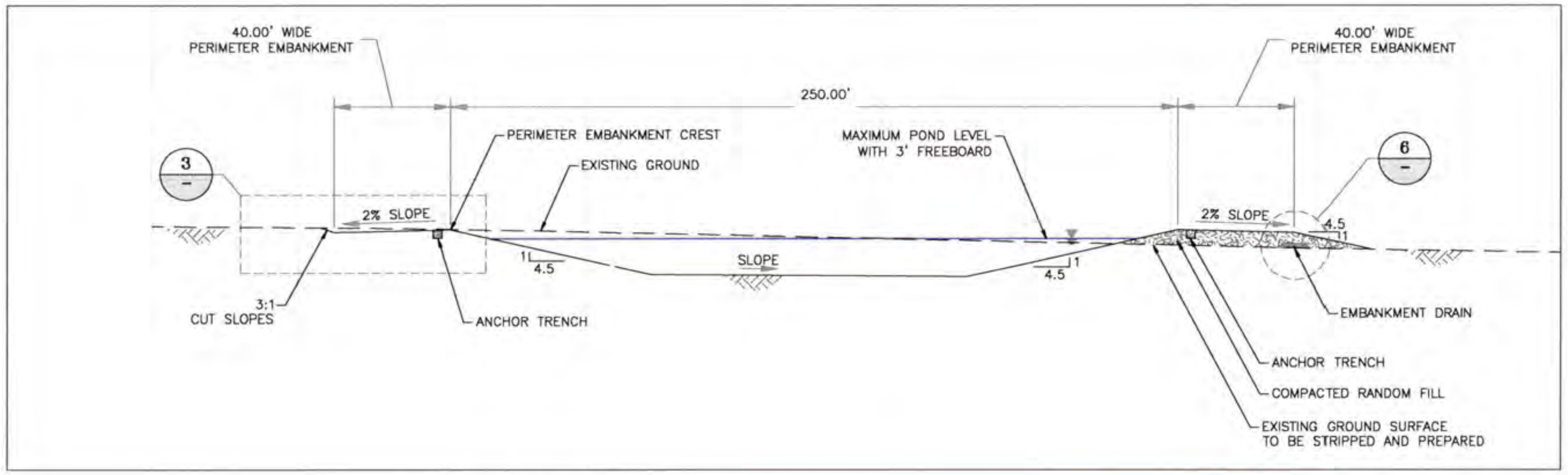
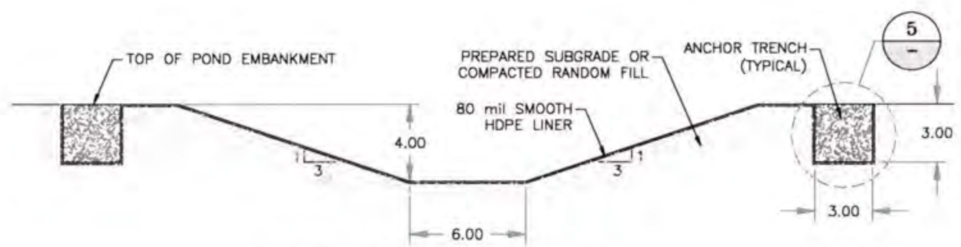


1 / 4.2-2, 1 / 4.2-4 SURGE POND DETAIL
TYPICAL OF SINGLE LINED PONDS

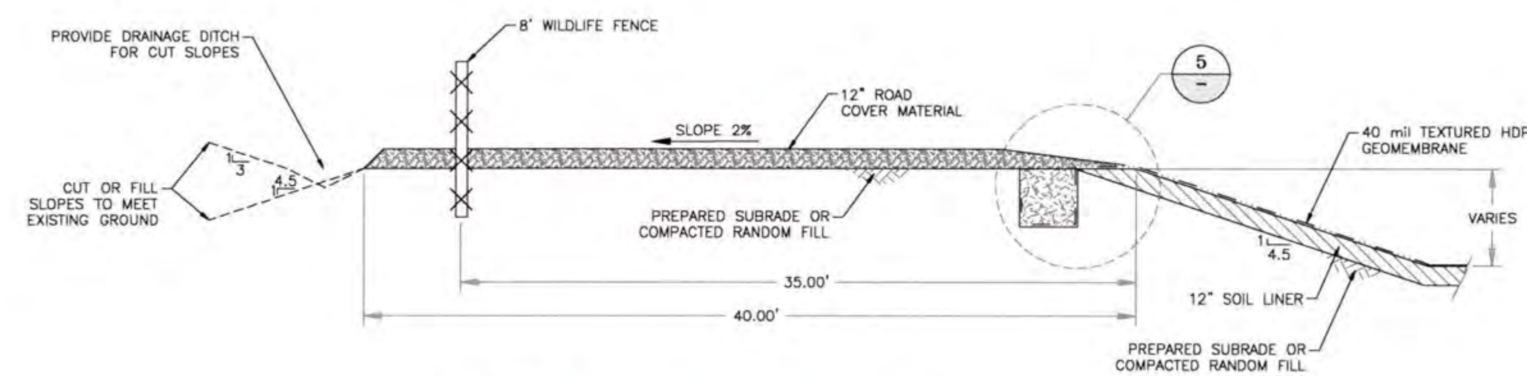
HORIZONTAL SCALE
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)

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



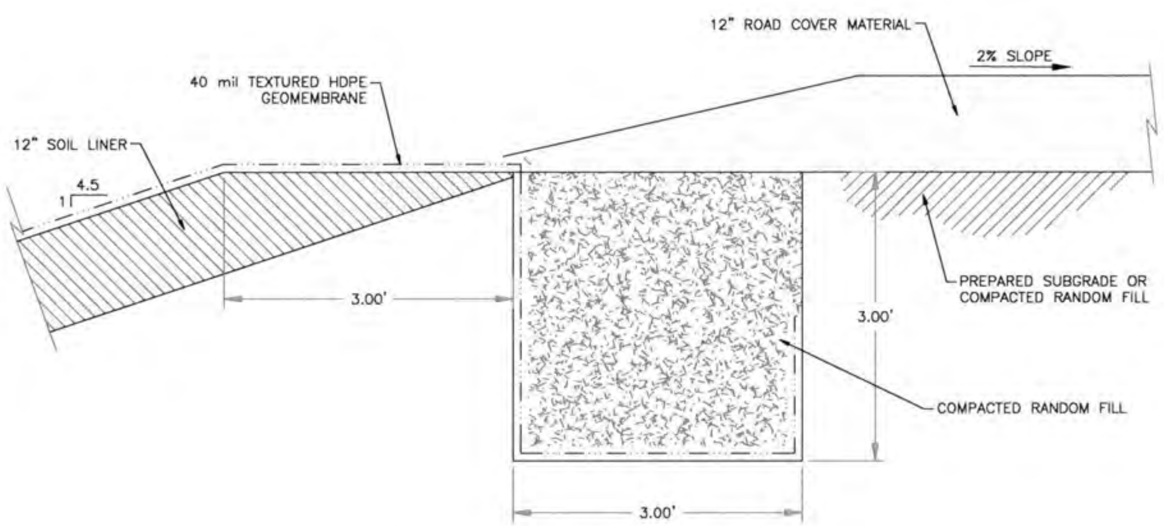
7 / 4.2-1, 7 / 4.2-3 SPILLWAY DETAIL

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



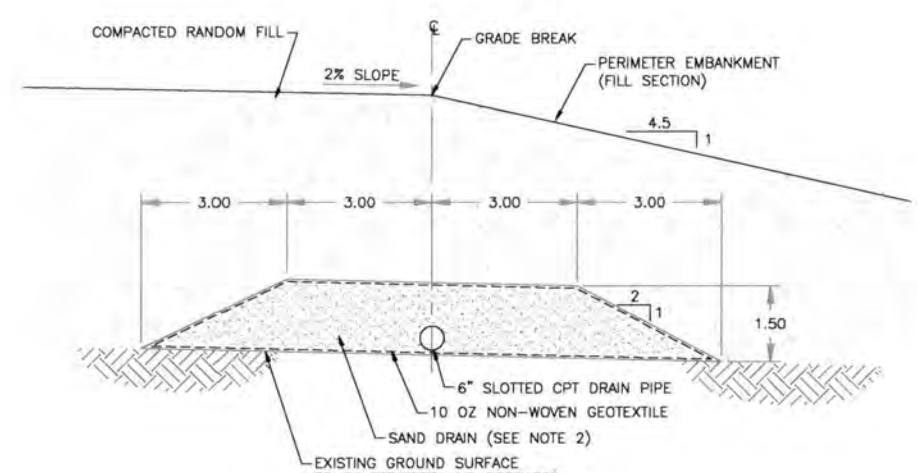
3 / – POND EMBANKMENT DETAIL
FOR SINGLE LINED PONDS

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.

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

Knight Piésold CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279-05	4.5-1	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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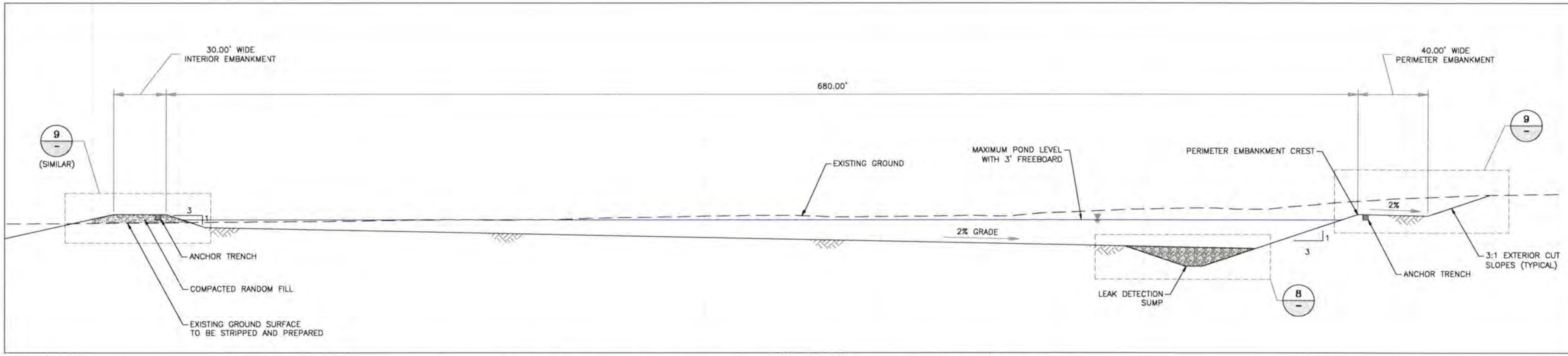
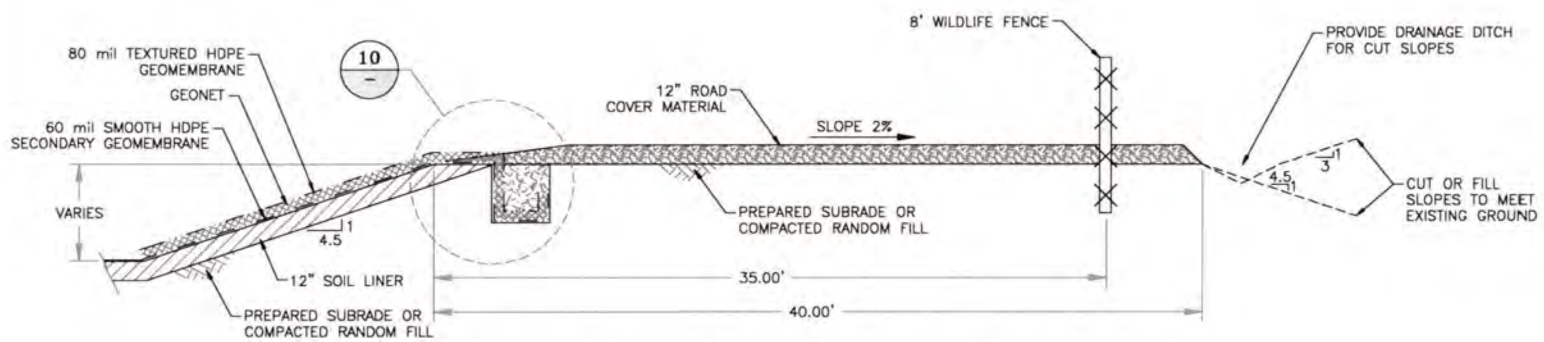


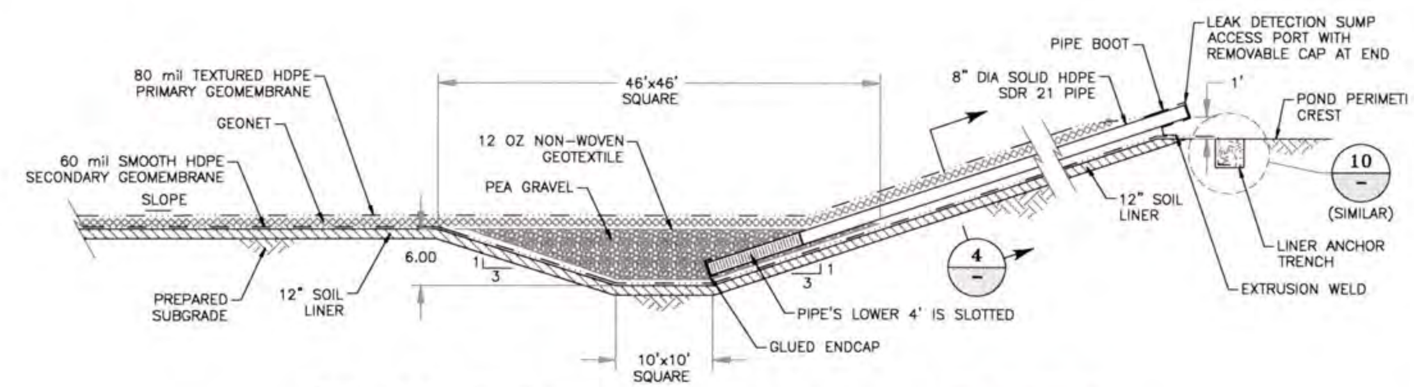
2 / 4.2-2 2 / 4.2-4 RADIUM SETTLING POND DETAIL
TYPICAL OF DOUBLE LINED PONDS

30 0 30 60 FEET
1" = 30' AT FULL SIZE (ANSI D)
1" = 60' AT HALF SIZE (ANSI B)



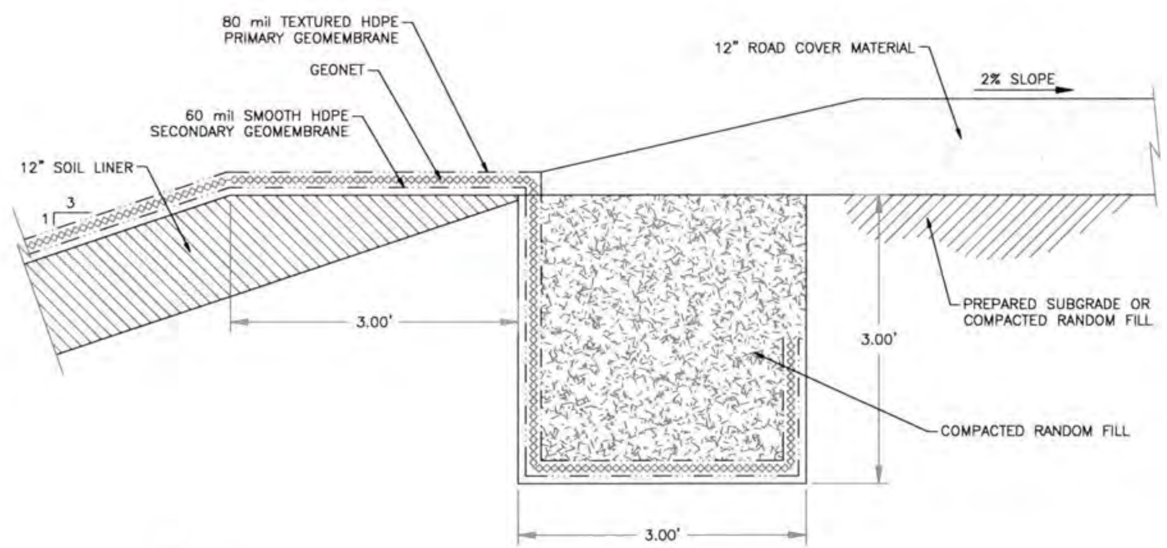
9 / – POND EMBANKMENT DETAIL
FOR DOUBLE LINED PONDS

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



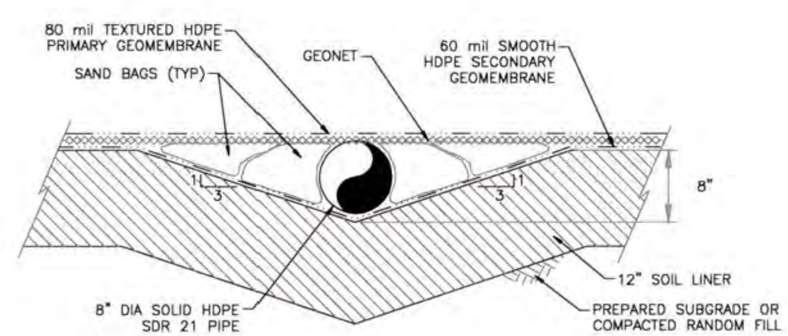
8 / 4.2-2 8 / – LEAK DETECTION SUMP AND ACCESS PORT DETAIL

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	DEEP WELL DISPOSAL TYPICAL POND SECTIONS AND DETAILS SHEET 2 OF 2

Knight Piésold
CONSULTING

DESIGNED BY	ST	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	RJB	DV-102	279-05	4.5-2	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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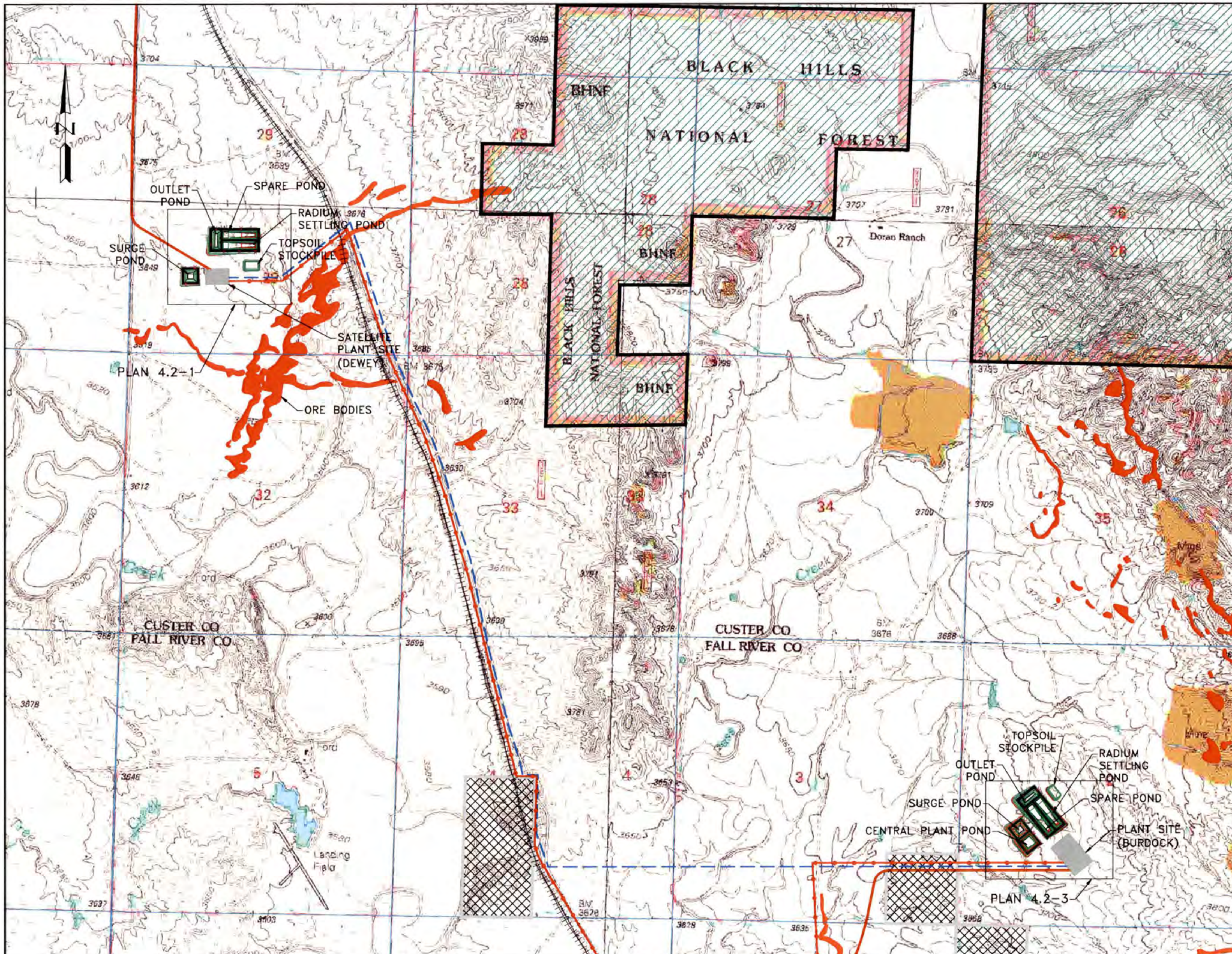

PLAN

1000 0 1000 2000 FEET
1" = 1000' AT FULL SIZE (ANSI D)
1" = 2000' AT HALF SIZE (ANSI B)

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).

CLIENT	POWERTECH (USA) Inc.
PROJECT	DEWEY-BURDOCK PROJECT
TITLE	DEEP WELL DISPOSAL SITE PLAN

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DESIGNED BY	ST/DJB	LOCATION	PROJECT NUMBER	FIGURE NUMBER	REVISION
DRAWN BY	DJB	DV-102	279-05	4.6-1	B
ACTIVITY CODE	N/A	XREF NUMBER	N/A		

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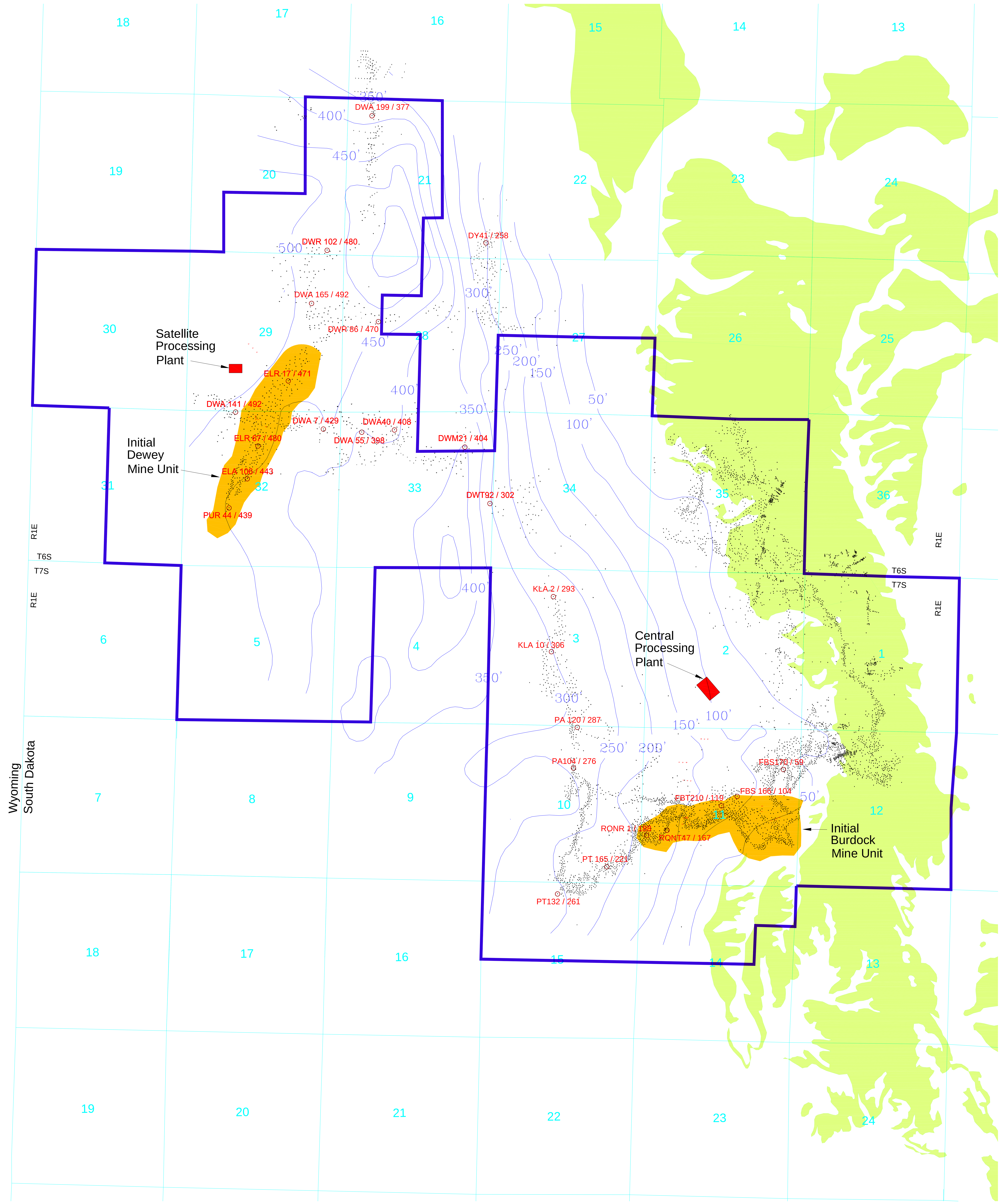
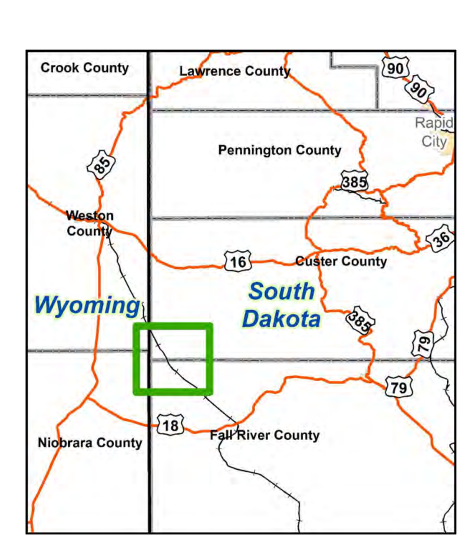
Plates



Legend

- Processing Plant Sites
- Fall River Outcrop
- Initial Mine Units
- Permit Boundary
- 100' Thickness
- TVA Borehole Locations
- Powertech Exploration Borehole Locations
- PA104 / 276 Measured Thickness at Borehole (Hole / Thickness)



N

Feet: 0 500 1,000 2,000 3,000 4,000

Meters: 0 250 500 1,000

CONSULTANT

REF 315

CHECK SCALES

If this bar does not measure 1 inch this map is not at its original scale

Arch E 36" x 48"

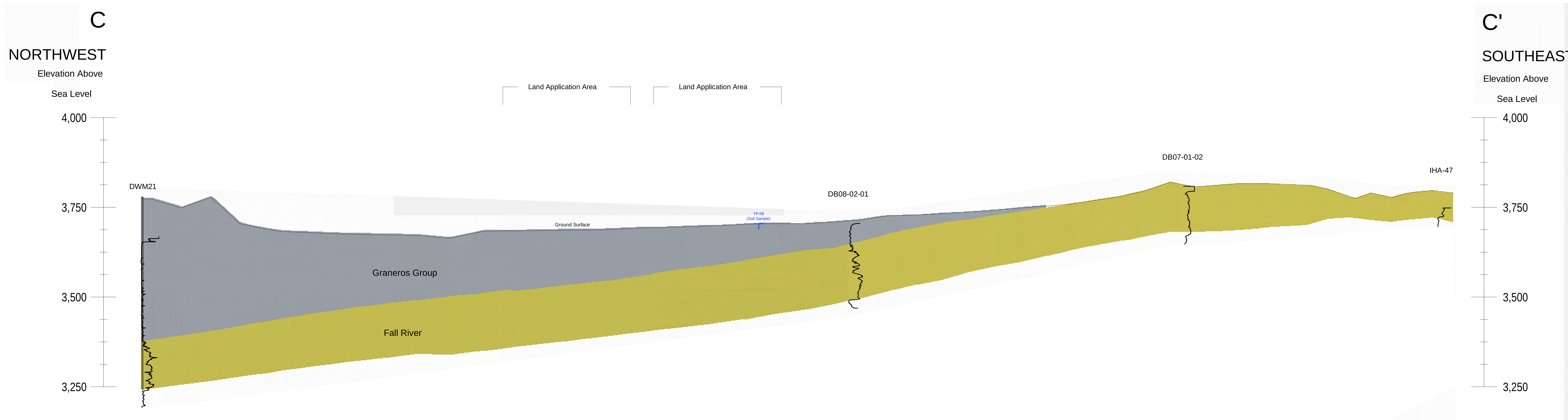
REVISIONS				
#	DRAWN	CHECKED	APPROVED	DATE

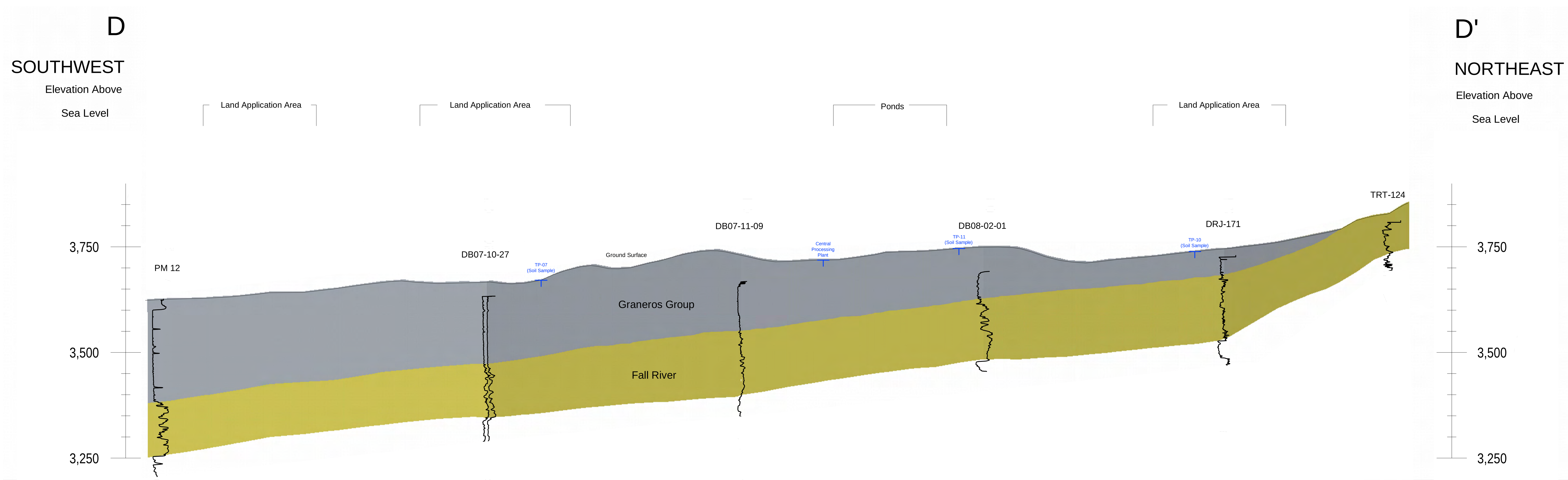
POWERTECH (USA) INC.

Supplemental Exhibit xxx

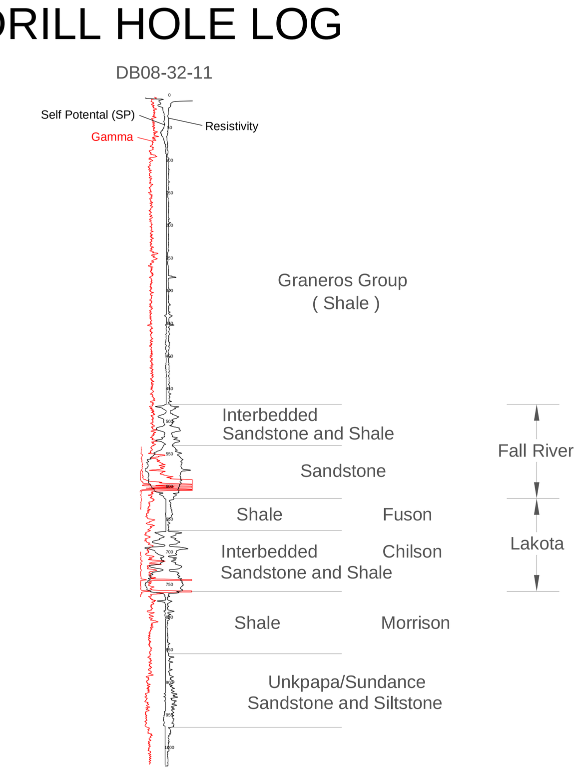
Isopach of the Upper Confining Graneros Unit (Mowry and Skull Creek Shales)

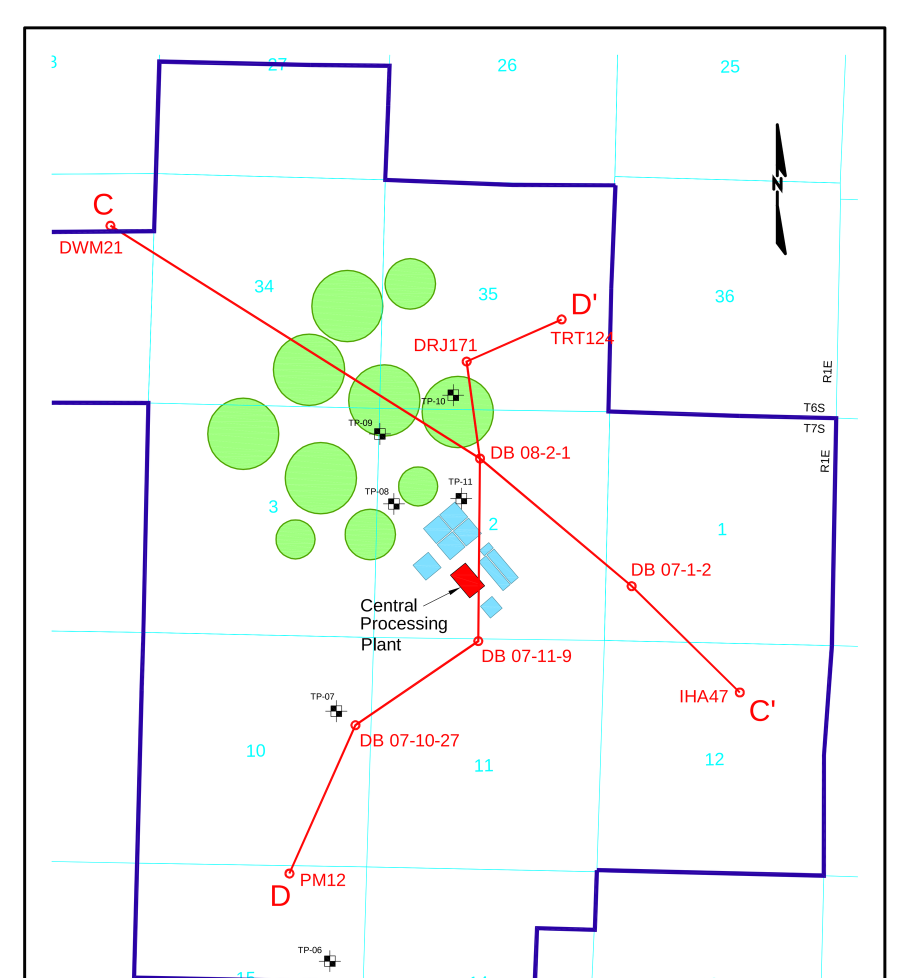
PLOT DATE 06-Aug-2009	DATE 28-Jun-2009	PROJECT Dewey-Burdock Project	
DRAWN Hetrick, Lichnovsky	CHECKED W. Mays	COORDS NAD 27, South Dakota State Plane South (feet)	
SCALE 1" = 1000'	FILENAME p:\dewey-burdock\nrc supplimental\finals\isopach upper confining unit mowry and skull.dwg		OF





DRILL HOLE LOG





CROSS SECTION
INDEX

SCALE FEET
0 100 200
HORIZONTAL & VERTICAL SCALE

CONSULTANT	REVISIONS					POWERTECH (USA) INC.
	#	DRAWN	CHECKED	APPROVED	DATE	Supplemental Exhibit xxx
REF 335						Land Application Cross Sections Burdock
CHECK SCALES If this bar does not measure 1 inch this map is not at its original scale	PLOT DATE 06-Aug-2009		DATE 23-Jul-2009			PROJECT Dewey-Burdock Project
	DRAWN Cadd Services		CHECKED W. Mays			COORDS n/a
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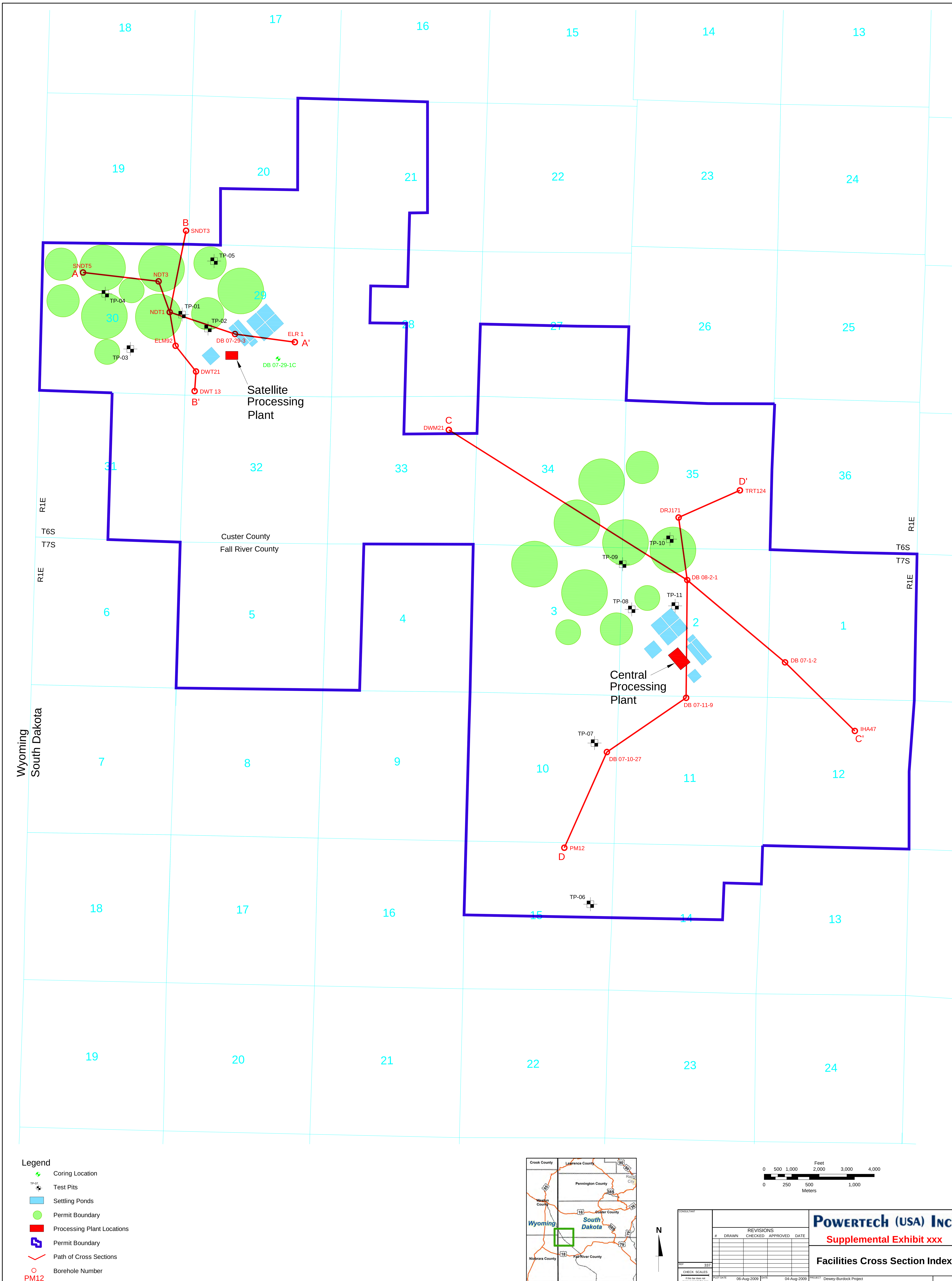
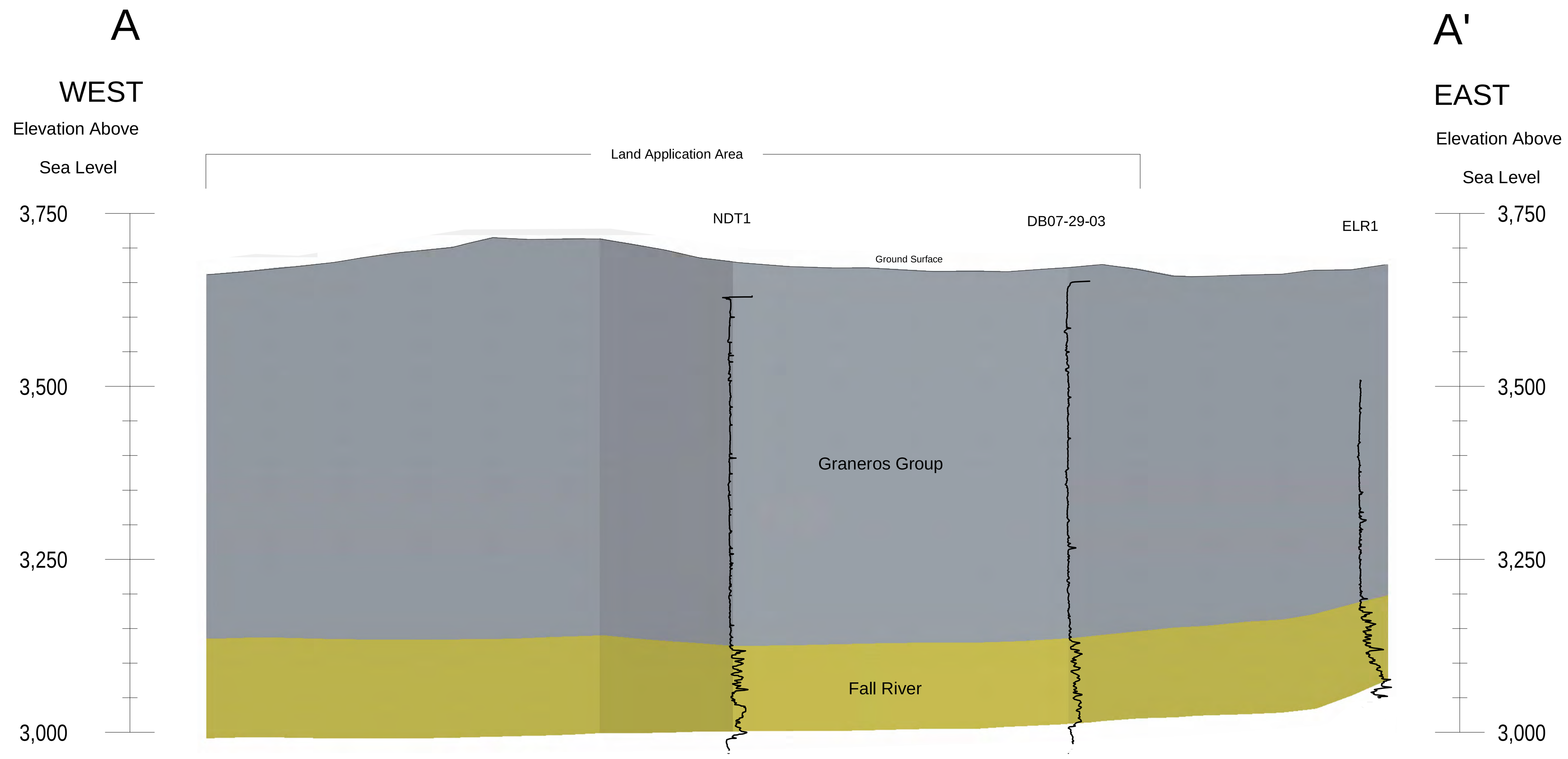
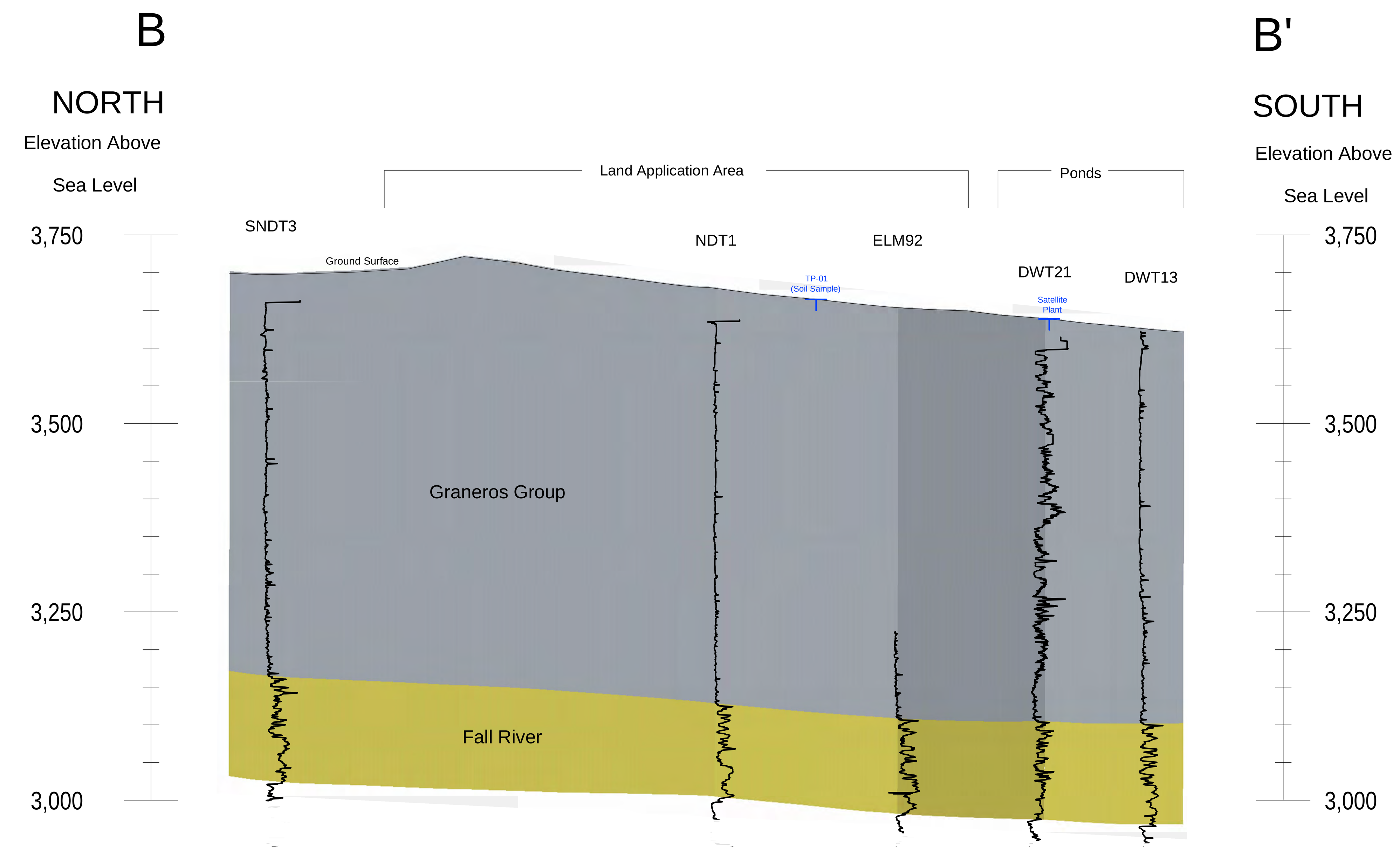
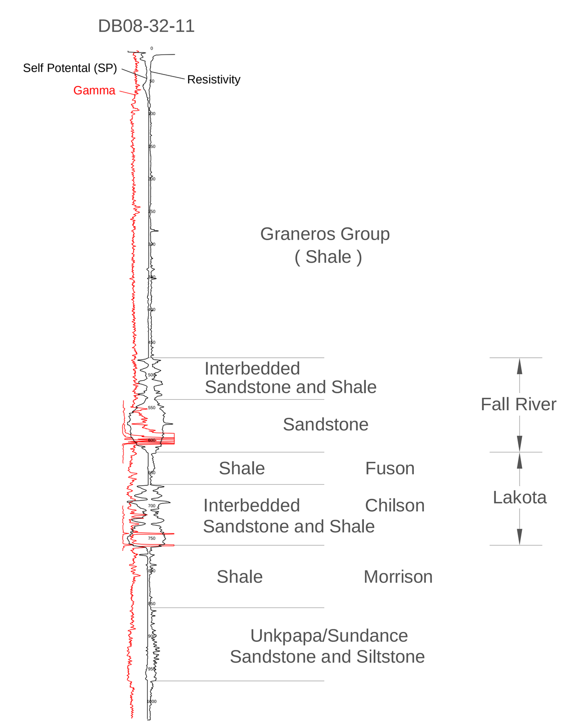
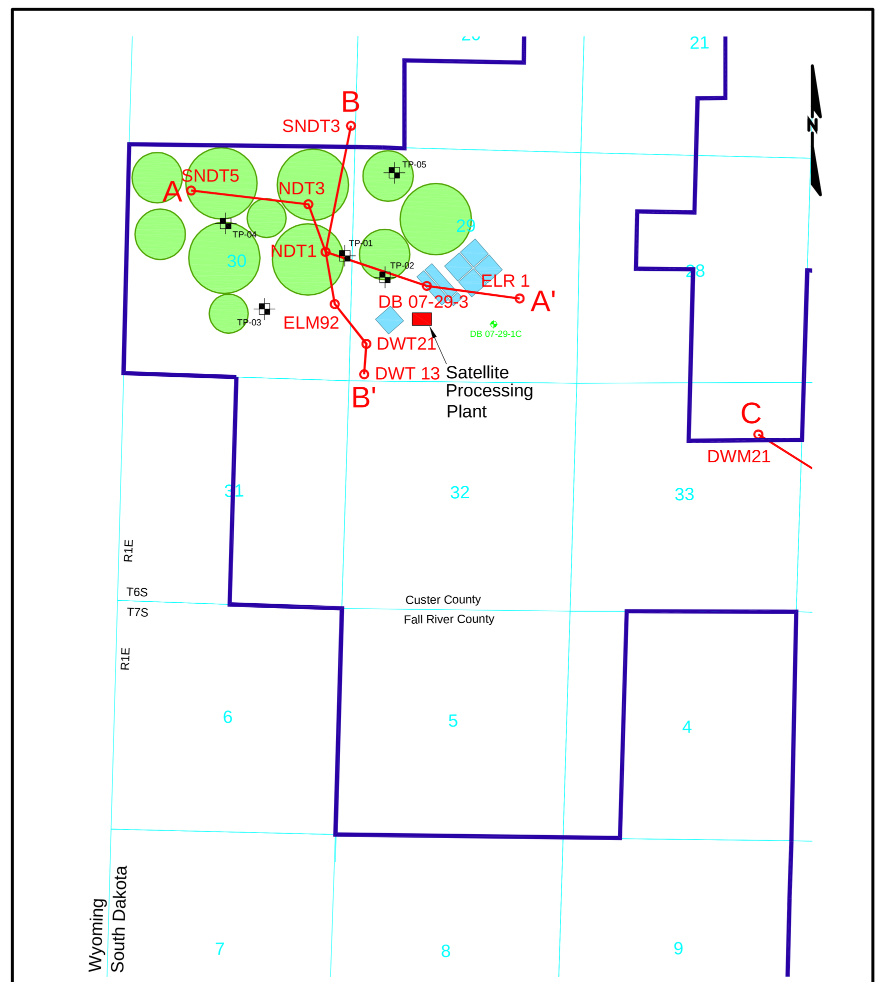

Satellite Processing Plant
Central Processing Plant
Custer County
Fall River County
Wyoming
South Dakota
T6S
T7S
R1E
A
A'
B
B'
C
C'
D
D'
SNDT3
SNDT5
NDT3
NDT1
ELM92
DWT21
DWT 13
DB 07-29-3
ELR 1
DB 07-29-1C
TP-01
TP-02
TP-03
TP-04
TP-05
DWM21
DRJ171
TRT124
DB 08-2-1
DB 07-1-2
IHA47
DB 07-11-9
DB 07-10-27
PM12
TP-06
TP-07
TP-08
TP-09
TP-10
TP-11
Legend
Coring Location
Test Pits
Settling Ponds
Permit Boundary
Processing Plant Locations
Permit Boundary
Path of Cross Sections
Borehole Number
Crook County
Lawrence County
Pennington County
Weston County
Custer County
Niobrara County
Fall River County
N
Feet
0 500 1,000 2,000 3,000 4,000
0 250 500 1,000
Meters
CONSULTANT
REF 337
CHECK SCALES
If this bar does not measure 1 inch this map is not at its original scale
Arch E 36" x 48"
REVISIONS
DRAWN CHECKED APPROVED DATE
PLOT DATE 06-Aug-2009
DATE 04-Aug-2009
DRAWN S. Hetrick
CHECKED W. Mays
SCALE 1" = 1000'
FILENAME p:\dewey-burdock\nrc supplimental\finals\landappxsecindex.dwg
PROJECT Dewey-Burdock Project
COORDS NAD 27, South Dakota State Plane South (feet)
OF
POWERTECH (USA) INC.
Supplemental Exhibit xxx
Facilities Cross Section Index





DRILL HOLE LOG





CROSS SECTION INDEX

SCALE FEET
0 100 200
HORIZONTAL & VERTICAL SCALE

CONSULTANT	REVISIONS: # DRAWN CHECKED APPROVED DATE	**POWERTECH (USA) INC.**
REF 338		Supplemental Exhibit xxx
CHECK SCALES — If this bar does not measure 1 inch this map is not at its original scale		**Land Application Cross Sections Dewey**
Arch E 36" x 48"	PLOT DATE 06-Aug-2009	DATE 23-Jul-2009
	DRAWN Cadd Services (RJV)	CHECKED W. Mays
	SCALE As Shown	FILENAME p:\dewey-burdock\nrc supplimental\finals\j-dewey-well-secs.dwg
	PROJECT Dewey-Burdock Project	COORDS n/a
	OF	

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Appendix A

Regulatory Requirements

A-1 USNRC Regulatory Requirements
A-2 South Dakota DENR Regulatory Requirements

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Appendix A-1

USNRC Regulatory Requirements

The USNRC regulatory requirements relating to surface impoundments are contained in NRC Regulations 10 CFR Part 40 Appendix A, Criterion 5A, Regulatory Guide 3.11 and NUREG-1569. These are summarized below:

- The liner must be designed, constructed and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil, groundwater or surface water during its life.
- Closure must make allowance for the removal of or decontamination of any of all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste and leachate.
- For impoundments that will be closed with the liner material left in place, the liner must be constructed from materials that prevent wastes from migrating into them during the active life of the facility.
- Liners must be constructed from materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to:
  - Pressure gradients
  - Physical contact with the waste or leachate to which they are exposed
  - Climatic conditions
  - Stress of installation
  - Stress of daily operation
- Liners must be placed on a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner. This must prevent failure due to settlement, compression or uplift.
- Liners must be installed to cover all surrounding earth that would otherwise be likely to be in contact with the wastes or leachate.
- Dykes forming any surface impoundment must be designed, constructed and maintained with sufficient structural integrity to prevent massive failure of the dykes. In ensuring the structural integrity, it must not be assumed that the liner system will not function without leakage during the active life of the impoundment.
- A leak detection system must be installed below synthetic liners to ensure that major failures are detected if they occur.

- Where clay liners are used, or where relatively thin in situ clay soils are to be relied upon for seepage controls, tests must be conducted to confirm that no significant deterioration of permeability or stability properties will occur with continuous exposure of the clay to tailings solutions. Tests must be run for a sufficient period of time to reveal any effects if they are going to occur.

- The design, installation and operation of surface impoundments must have sufficient capacity that the entire contents of one impoundment can be transferred to another surface impoundment in case of a leak.

- Surface impoundments must be designed, constructed, maintained and operated to prevent overtopping from normal or abnormal operations, equipment malfunctions and human error.

- Stability analyses of slopes including seismic stability, settlement and seepage analyses.

- Basic design criteria for stability of the retention system and minimum factors of safety.

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Appendix A-2

South Dakota DENR Regulatory Requirements

The South Dakota DENR regulatory requirements relating to surface water ponds are contained in the South Dakota Legislature Administrative Rules 74:29:11:23 In Situ Leach Mining: Pond and Surface Impoundment Design and Construction Requirements. These are summarized below:

- General design and construction requirements include:
  - A geotechnical and stability analysis to determine the suitability of the site and materials for construction
  - A minimum of 3-feet of freeboard
  - Maximum side slopes of 3 horizontal to 1 vertical
  - A minimum bottom slope of 2 percent
  - Provisions for migratory bird and wildlife protection
  - A minimum capacity of normal operating levels plus storage for the 100-year, 24-hour storm event
- A double liner must be included for impoundments that are to contain fluids that have the potential to pollute surface or ground water. The liner system must conform to the following:
  - The liners shall be separated by a leak detection, collection and recovery system. At a minimum, this must consist of:
    1. A design that will rapidly remove fluids to minimize hydraulic head on the secondary liner.
    2. A drain layer of clean sand or gravel, or a geonet drainage product. The system shall be constructed of materials chemically resistant to the fluids contained in the pond or impoundment.
    3. The system shall have a minimum hydraulic conductivity of 0.01 cm/sec.
    4. The drain layer shall cover the entire pond or impoundment if possible. At a minimum, it must cover the pond or impoundment to the high water mark.

5. The system shall be capable of draining the fluids to a collection gallery for recovery. If the collection gallery is not free draining, it shall be continuously pumped to minimize hydraulic head on the secondary liner.

6. The permit application must include a leakage response plan detailing actions that will be taken in response to the detection of liner system leakage including notification, reporting, monitoring and repair.

- The bottom liner shall be composite liner, consisting of one of the following:

1. An upper geomembrane liner and a lower compacted soil liner, having the following requirements:

   a. The soil liner shall have a compacted maximum coefficient of permeability of $1x10^{-7}$ cm/sec.

   b. The soil liner shall have a one-foot thick compacted thickness placed in 6-inch scarified and compacted lifts, with no materials greater than three inches in diameter.

   c. The soil liner shall meet compaction specifications equivalent to 95 percent standard proctor density with a moisture content of 0 to 6 percent of optimum moisture.

   d. The geomembrane and soil liner shall be in direct contact, with minimal void spaces, to minimize lateral flow of liquids at the geomembrane/soil liner interface.

2. A geosynthetic clay liner, having the following requirements:

   a. For bentonite clay encapsulated by geotextile layers, the geosynthetic clay liner shall be overlain by a geosynthetic liner. The geosynthetic liner shall have a minimum 60-mil thickness.

   b. For bentonite clay bonded to a geomembrane liner, the geomembrane liner shall have a minimum 60-mil thickness. During installation, the geomembrane shall be the upper layer of the composite liner.

c. Installation of the geosynthetic clay liners must be consistent with the manufacturer's specifications and recommendations.

- Liners systems must be constructed of materials that have the strength, thickness and chemical properties needed to prevent failure due to:

  1. Pressure gradients
  2. Physical contact with the waste or fluids to which they are exposed
  3. Climatic conditions
  4. Stress of installation
  5. Stress of daily operation

- Liner design and construction requirements include at a minimum:

  1. The primary (uppermost) liner shall have an 80 mil thickness, and the secondary (bottom) geomembrane shall have a 60 mil thickness.
  2. The liners shall be compatible with the fluids to be contained.
  3. Liners shall have a life expectancy longer than the life of the facility.
  4. Installation of the liners must be consistent with the manufacturer's specifications and recommendations.

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Appendix B

Site Investigation – Test Pit Logs

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TEST PIT LOG

TEST PIT 01

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307 SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 12 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 09:45	Ground Elevation	:
Date & Time Finished	: 7/11/2008 12:00	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0–1		ML		SILT, soft, topsoil, rootlets, dry, gray (10YR 7/1).			
1					—	LD, MC	Sample No. TP01-1
1–5		ML		SILT with trace amount of CLAY and very fine SAND, firm, dry, light brown gray (10YR 6/2).			
3					—	LD, MC	Sample No. TP01-3
5–9		ML		SANDY SILT, stiff, damp, greenish brown (10YR 5/2).			
7					—	LD, MC	Sample No. TP01-7
9					—	SD	
9–10				SILTY CLAYSTONE, weathered bedrock, weak, moist, gray.			

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TEST PIT LOG

TEST PIT 01

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307 SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 12 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 09:45	Ground Elevation	:
Date & Time Finished	: 7/11/2008 12:00	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10							
11							
12				End of testpit at 12 ft.			
13							
14							
15							
16							
17							
18							
19							
20							

Knight Piésold CONSULTING

TEST PIT LOG

TEST PIT 02

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 13 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 11:00	Ground Elevation	:
Date & Time Finished	: 7/11/2008 13:20	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0				CLAYEY SILT, stiff, rootlets throughout, dry, light grayish brown (10YR 6/2).			
1		ML			—	LD, MC	Sample No. TP02-1
2				SILT, firm, dry, grayish brown (10YR 5/2).			
3							
4		ML			—	LD, MC	Sample No. TP02-4
5							
6				SANDY SILT with trace amount of CLAY, firm, sand zone very fine grained, damp, variegated very pale brown (10YR 7/4) to black (10YR 2/1).			
7					—	LD, MC	Sample No. TP02-7
8		ML					
9							
10							

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TEST PIT LOG

TEST PIT 02

Excavation Contractor	: BILL HOLLENBECK CONST.		
Operator	: BILL HOLLENBECK		
Type of Excavator	: 307SSR		
Size of Test Pit	: 20 ft X 15 ft		
Surface Conditions	: DRY, GRASSY		
Depth to GWT	: NA		
Total Depth of Test Pit	: 13 ft		

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 11:00	Ground Elevation	:
Date & Time Finished	: 7/11/2008 13:20	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10		ML					
11				SHALE, weathered bedrock, fissle, black (7.5YR 2.5/1).			
12					—	LD, MC	Sample No. TP02-12
13				End of testpit at 13 ft			
14							
15							
16							
17							
18							
19							
20							

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TEST PIT LOG

TEST PIT 03

(Page 1 of 2)

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 12 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 12:20	Ground Elevation	:
Date & Time Finished	: 7/11/2008	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0		ML		SILT, firm, rootlets throughout, dry, grayish brown (10YR 5/2).			
1					—	LD, MC	Sample No. TP03-1
2		CL		SILTY CLAY, stiff, dry, dark grayish brown (10YR 6/2).			
3				PALEOSOL (SILT), firm, calcite rootlets, dry, light reddish brown (2.5YR 6/4).			
4							
5							
6							
7					—	LD, MC	Sample No. TP03-7
8							
9							
10							

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TEST PIT LOG

TEST PIT 03

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 12 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 12:20	Ground Elevation	:
Date & Time Finished	: 7/11/2008	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10–12		GW		SANDY GRAVEL, loose to medium dense, fine to coarse, significant cobbles (> 3 in), well graded, dry, multiple colors.	—	LD	Sample No. TP03-11 No MC-Loose Gravel and difficult to drive through Cobbles
12				End of testpit at 12 ft			

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

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TEST PIT LOG

TEST PIT 04

Excavation Contractor : BILL HOLLENBECK CONST.
Operator : BILL HOLLENBECK
Type of Excavator : 307SSR
Size of Test Pit : 20 ft X15 ft
Surface Conditions : DRY, GRASSY
Depth to GWT : NA
Total Depth of Test Pit : 12 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 13:50	Ground Elevation	:
Date & Time Finished	: 7/11/2008 16:30	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0–2		ML		SILT, firm, rootlets throughout, light gray (10YR 7/1)			
1					—	LD, MC	Sample No. TP04-1
2–10		SM		SILTY SAND, very dense, quartz, feldspar, caliche throughout, very fine grained, well sorted, dry, gray (10YR 5/1).			
7					—	LD, MC	Sample No. TP04-7

Depth scale: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

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TEST PIT LOG

TEST PIT 04

Excavation Contractor : BILL HOLLENBECK CONST.
Operator : BILL HOLLENBECK
Type of Excavator : 307SSR
Size of Test Pit : 20 ft X15 ft
Surface Conditions : DRY, GRASSY
Depth to GWT : NA
Total Depth of Test Pit : 12 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 13:50	Ground Elevation	:
Date & Time Finished	: 7/11/2008 16:30	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10–12		SM					

End of testpit at 12 ft

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

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TEST PIT LOG

TEST PIT 05

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 11 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 16:45	Ground Elevation	:
Date & Time Finished	: 7/11/2008 18:00	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0		ML		SILT, stiff, dry, dark gray (10YR 5/1)			
1					—	LD, MC	Sample No. TP05-1
4		SP		SILTY SAND, loose, very fine grained, dry, dark gray (10YR 5/1).	—	LD, MC	Sample No. TP05-4
6		SM		TRANSITIONAL into SANDY SILT, soft, iron oxide staining in places, dry, gray (10YR 5/1).			
8					—	LD, MC	Sample No. TP05-8
8.5				SHALE, weathered bedrock, weathering (Fe Oxides), very weak, red brown. SHALE, unweathered, weak, black (7.5YR 2.5/1).			
10							

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TEST PIT LOG

TEST PIT 05

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 11 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/11/2008 16:45	Ground Elevation	:
Date & Time Finished	: 7/11/2008 18:00	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10							
11				End of testpit at 11ft			
12							
13							
14							
15							
16							
17							
18							
19							
20							

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TEST PIT LOG

TEST PIT 06

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 11 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 08:45	Ground Elevation	:
Date & Time Finished	: 7/12/2008 10:30	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0–2		ML		SILT, stiff, dry, rootlets throughout, dry, dark gray brown (10YR 4/2).			
1					—	LD, MC	Sample No. TP06-1
2–10		SM		SILTY SAND, medium dense, very fine grained, poorly graded, dry, light brown (10YR 7/1).			
7					—	LD, MC	Sample No. TP06-7

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TEST PIT LOG

TEST PIT 06

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Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 11 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 08:45	Ground Elevation	:
Date & Time Finished	: 7/12/2008 10:30	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10–11		SM			—	LD	Sample No. TP06-10
11				End of testpit at 11 ft.			
12							
13							
14							
15							
16							
17							
18							
19							
20							

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TEST PIT LOG

TEST PIT 07

Excavation Contractor : BILL HOLLENBECK CONST.
Operator : BILL HOLLENBECK
Type of Excavator : 307SSR
Size of Test Pit : 20 ft X 15 ft
Surface Conditions : DRY, GRASSY
Depth to GWT : NA
Total Depth of Test Pit : 11 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 10:45	Ground Elevation	:
Date & Time Finished	: 7/12/2008 12:30	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0–2		ML		SILT, medium stiff, dry to damp.			
1					—	LD, MC	Sample No. TP07-1
2–7		ML		CLAYEY SILT, hard, damp, gray (10YR 5/1).			
5					—	LD, MC	Sample No. TP07-5
7–10		CL		SILTY CLAY, hard, damp, caliche throughout, dark gray (10YR 4/1).			
10					—	LD, MC	Sample No. TP07-10

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TEST PIT LOG

TEST PIT 07

(Page 2 of 2)

Excavation Contractor	: BILL HOLLENBECK CONST.		
Operator	: BILL HOLLENBECK		
Type of Excavator	: 307SSR		
Size of Test Pit	: 20 ft X 15 ft		
Surface Conditions	: DRY, GRASSY		
Depth to GWT	: NA		
Total Depth of Test Pit	: 11 ft		
Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 10:45	Ground Elevation	:
Date & Time Finished	: 7/12/2008 12:30	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10–11		CL					Very hard/clayey
11				End of testpit 11 ft			

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

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TEST PIT LOG

TEST PIT 08

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 10 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 12:45	Ground Elevation	:
Date & Time Finished	: 7/12/2008 14:07	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0–3		ML		SILT, stiff, rootlets throughout, dry, gray (10YR 5/1)			
2					—	LD, MC	Sample No. TP08-2
3–7		SP		SAND with trace amount of SILT, medium dense, fine grained, well sorted/poorly graded, quartz, feldspar, light reddish brown (2.5YR 6/4).			
6					—	LD, MC	Sample No. TP08-6
7–10				SHALE, very weak, fissle, bentonite blebs, black (7.5YR 2.5/1).			
10				End of testpit at 10ft	—	SD	Sample No. TP07-10

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TEST PIT LOG

TEST PIT 09

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 10 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 14:15	Ground Elevation	:
Date & Time Finished	: 7/12/2008 16:00	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0–2		ML		SANDY SILT, very stiff, rootlets throughout, dry, dark gray (10YR 4/1).			
1					—	LD, MC	Sample No. TP09-1
2–5		SP		SAND with trace amount of SILT medium dense, well sorted/poorly graded, fine grained, quartz/feldspar, light reddish brown (5YR 6/3).			
4					—	LD, MC	Sample No. TP09-4
5–10				CLAYSTONE, weathered, very weak, moist, bentonite stringers throughout, dark gray (10YR 5/1).			
7					—	LD, MC	Sample No. TP09-7
10				End of testpit at 10 ft.			

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TEST PIT LOG

TEST PIT 10

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 16:10	Ground Elevation	:
Date & Time Finished	: 7/12/2008 17:15	Logged By	: JWB

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 12 ft

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0				SILT, soft, damp, brown (10YR 5/3)			
1		ML			—	LD, MC	Sample No. TP010-1
2				CLAYEY SILT, very stiff, bentonite stringers throughout, damp, grayish brown (10YR 5/2).			
3							
4							
5							
6		ML					
7					—	LD, MC	Sample No. TP010-7
8							
9							
10							

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TEST PIT LOG

TEST PIT 10

Excavation Contractor	: BILL HOLLENBECK CONST.		
Operator	: BILL HOLLENBECK		
Type of Excavator	: 307SSR		
Size of Test Pit	: 20 ft X15 ft		
Surface Conditions	: DRY, GRASSY		
Depth to GWT	: NA		
Total Depth of Test Pit	: 12 ft		

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 16:10	Ground Elevation	:
Date & Time Finished	: 7/12/2008 17:15	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
10–12		ML					
12				End of testpit at 12 ft.			

Depth scale: 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

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TEST PIT LOG

TEST PIT 11

(Page 1 of 1)

Excavation Contractor	: BILL HOLLENBECK CONST.
Operator	: BILL HOLLENBECK
Type of Excavator	: 307SSR
Size of Test Pit	: 20 ft X 15 ft
Surface Conditions	: DRY, GRASSY
Depth to GWT	: NA
Total Depth of Test Pit	: 6 ft

Project No.	: DV102-00279/02	Location	:
Project	: DEWEY BURDOCK	Northing	:
Client	: POWERTECH URANIUM	Easting	:
Date & Time Started	: 7/12/2008 17:30	Ground Elevation	:
Date & Time Finished	: 7/12/2008 18:00	Logged By	: JWB

Sample Condition: Disturbed; Undisturbed; Lost; Remolded

Sampler Type: SD Small Disturbed; LD Large Disturbed; MC Modified Cal Liner

Depth (ft)	Water Level	USCS	GRAPHIC	FIELD DESCRIPTION	Samples	Sample Type	REMARKS
0				SHALE, highly weathered from 2'-4' ft depth, weak to strong, fissle to thin beded, oxidized zone, black (7.5YR 2/4) to reddish yellow (7.5YR 6/8).			
1							
2					—	LD, MC	Sample No. TP011-2
3							
4							
5							
6				End of testpit at 6 ft			Refusal at 6 ft
7							
8							
9							
10							

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Appendix C

Site Investigation – Geotechnical Laboratory Test Results

C-1 Particle Size Distributions
C-2 Compaction Test Results
C-3 Specific Gravities
C-4 Flexible Wall Permeability Test Results
C-5 Triaxial Test Results
C-6 Sodium Adsorption Ratio Test Results

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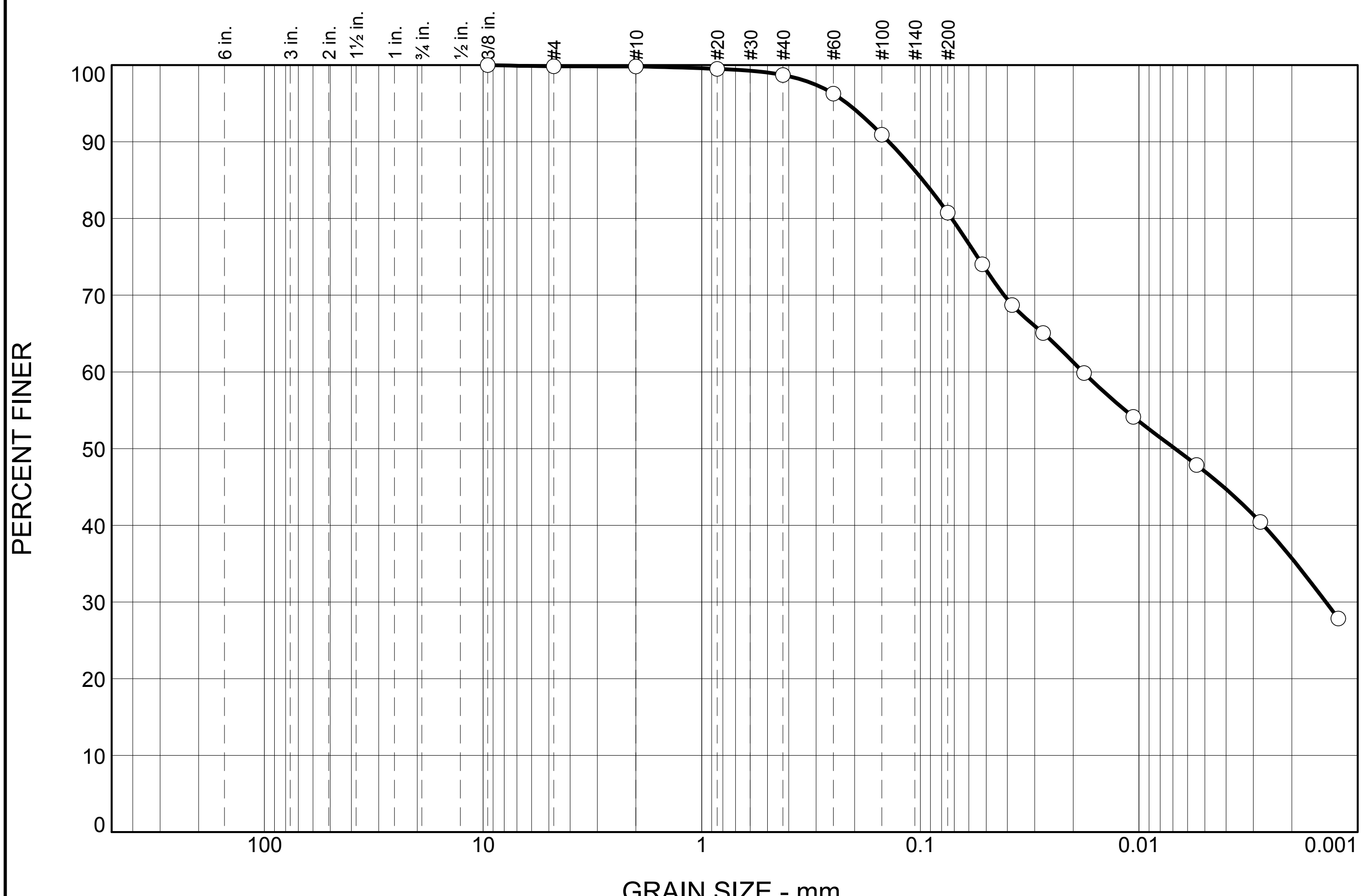
Appendix C-1

Particle Size Distributions

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.1	1.1	17.9	45.1	35.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	99.9		
#10	99.8		
#20	99.5		
#40	98.7		
#60	96.3		
#100	90.9		
#200	80.8		
0.0521 mm.	74.0		
0.0380 mm.	68.7		
0.0275 mm.	65.1		
0.0178 mm.	59.9		
0.0106 mm.	54.1		
0.0055 mm.	47.9		
0.0028 mm.	40.4		
0.0012 mm.	27.8		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 15 LL= 43 PI= 28

Coefficients

D_{90}= 0.1394 D_{85}= 0.0973 D_{60}= 0.0181
D_{50}= 0.0068 D_{30}= 0.0014 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(22)

Remarks

As received moisture 8.7%

Location: TP01
Depth: 1'

Date: 8/21/08

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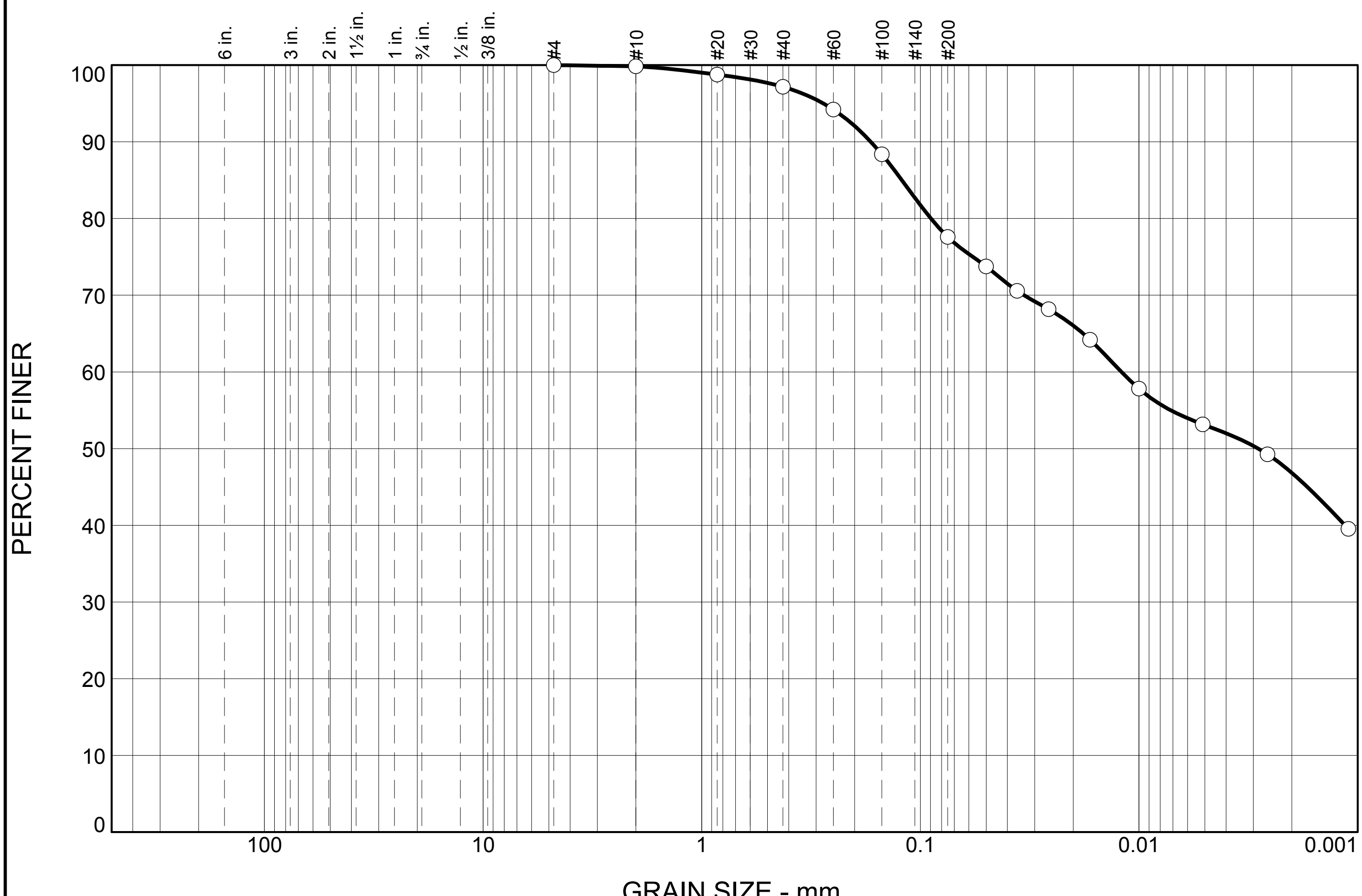
Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	2.7	19.6	30.8	46.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	98.8		
#40	97.2		
#60	94.2		
#100	88.4		
#200	77.6		
0.0501 mm.	73.8		
0.0361 mm.	70.6		
0.0259 mm.	68.2		
0.0168 mm.	64.2		
0.0100 mm.	57.8		
0.0051 mm.	53.2		
0.0026 mm.	49.3		
0.0011 mm.	39.5		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 12 LL= 45 PI= 33

Coefficients

D_{90}= 0.1684 D_{85}= 0.1215 D_{60}= 0.0120
D_{50}= 0.0028 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(24)

Remarks

As received moisture 18.8%

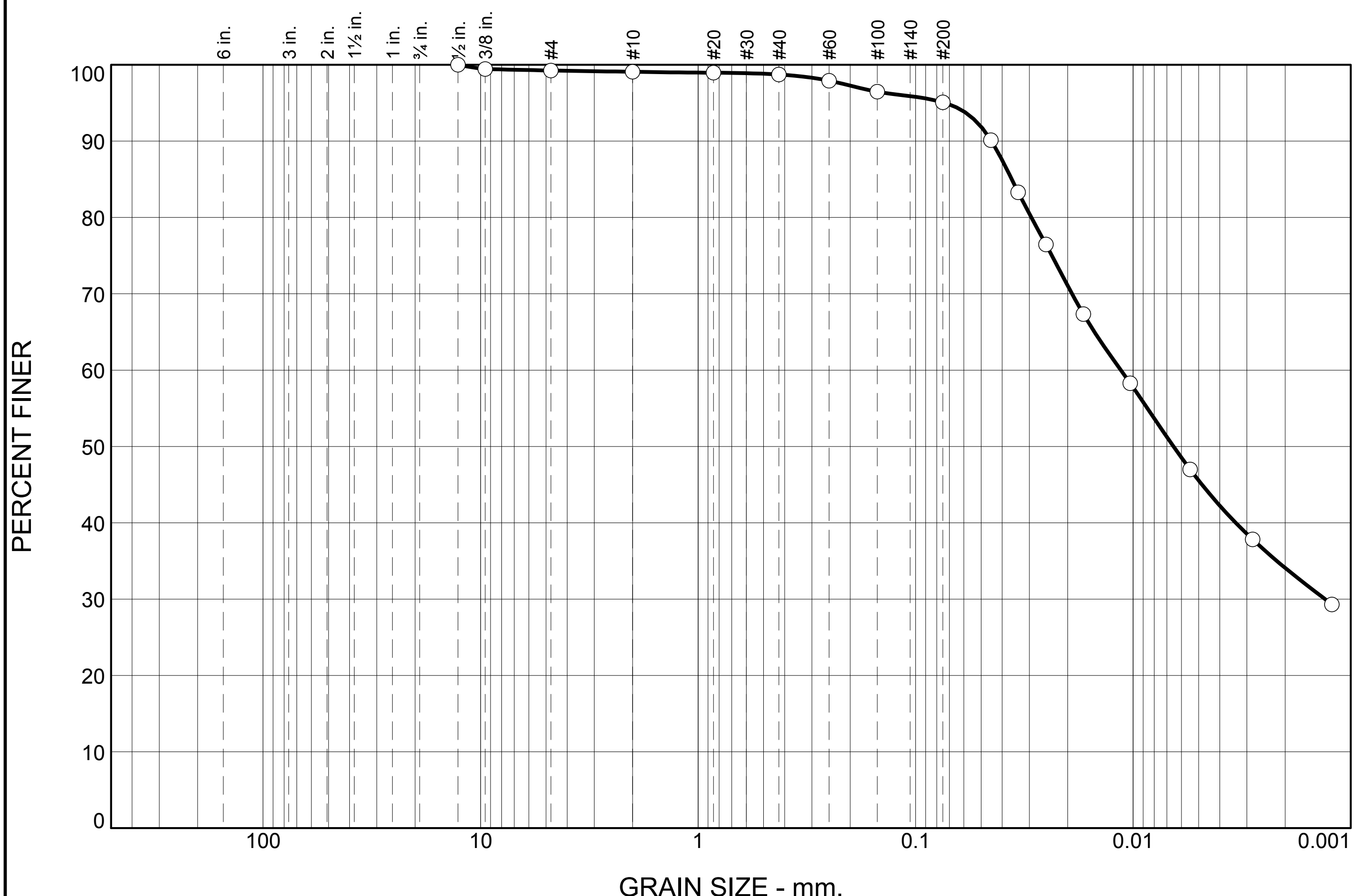
Location: TP01
Depth: 3'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.7	0.2	0.4	3.6	61.0	34.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.5	100.0		
0.375	99.4		
#4	99.3		
#10	99.1		
#20	99.0		
#40	98.7		
#60	97.9		
#100	96.5		
#200	95.1		
0.0450 mm.	90.1		
0.0338 mm.	83.3		
0.0252 mm.	76.5		
0.0169 mm.	67.3		
0.0103 mm.	58.3		
0.0055 mm.	47.0		
0.0028 mm.	37.8		
0.0012 mm.	29.3		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 17 LL= 42 PI= 25

Coefficients

D_{90}= 0.0448 D_{85}= 0.0362 D_{60}= 0.0114
D_{50}= 0.0065 D_{30}= 0.0013 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(25)

Remarks

As received moisture 17.0%

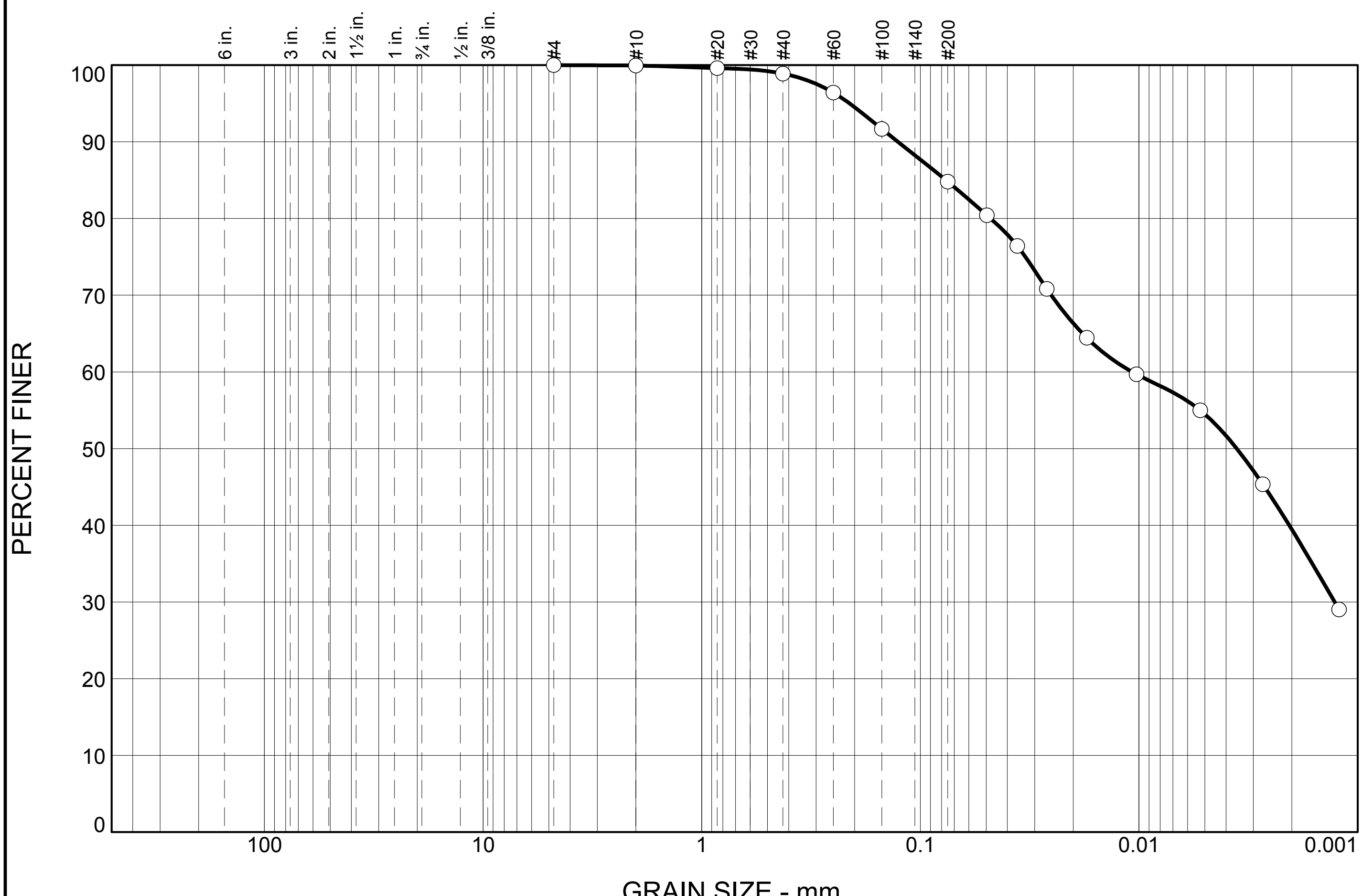
Location: TP01
Depth: 7'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	1.1	14.1	45.3	39.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#20	99.6		
#40	98.9		
#60	96.4		
#100	91.7		
#200	84.8		
0.0496 mm.	80.4		
0.0360 mm.	76.4		
0.0264 mm.	70.8		
0.0173 mm.	64.4		
0.0103 mm.	59.7		
0.0053 mm.	55.0		
0.0027 mm.	45.3		
0.0012 mm.	29.0		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 17 LL= 48 PI= 31

Coefficients

D_{90}= 0.1266 D_{85}= 0.0764 D_{60}= 0.0107
D_{50}= 0.0036 D_{30}= 0.0013 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(27)

Remarks

As received moisture 10.2%

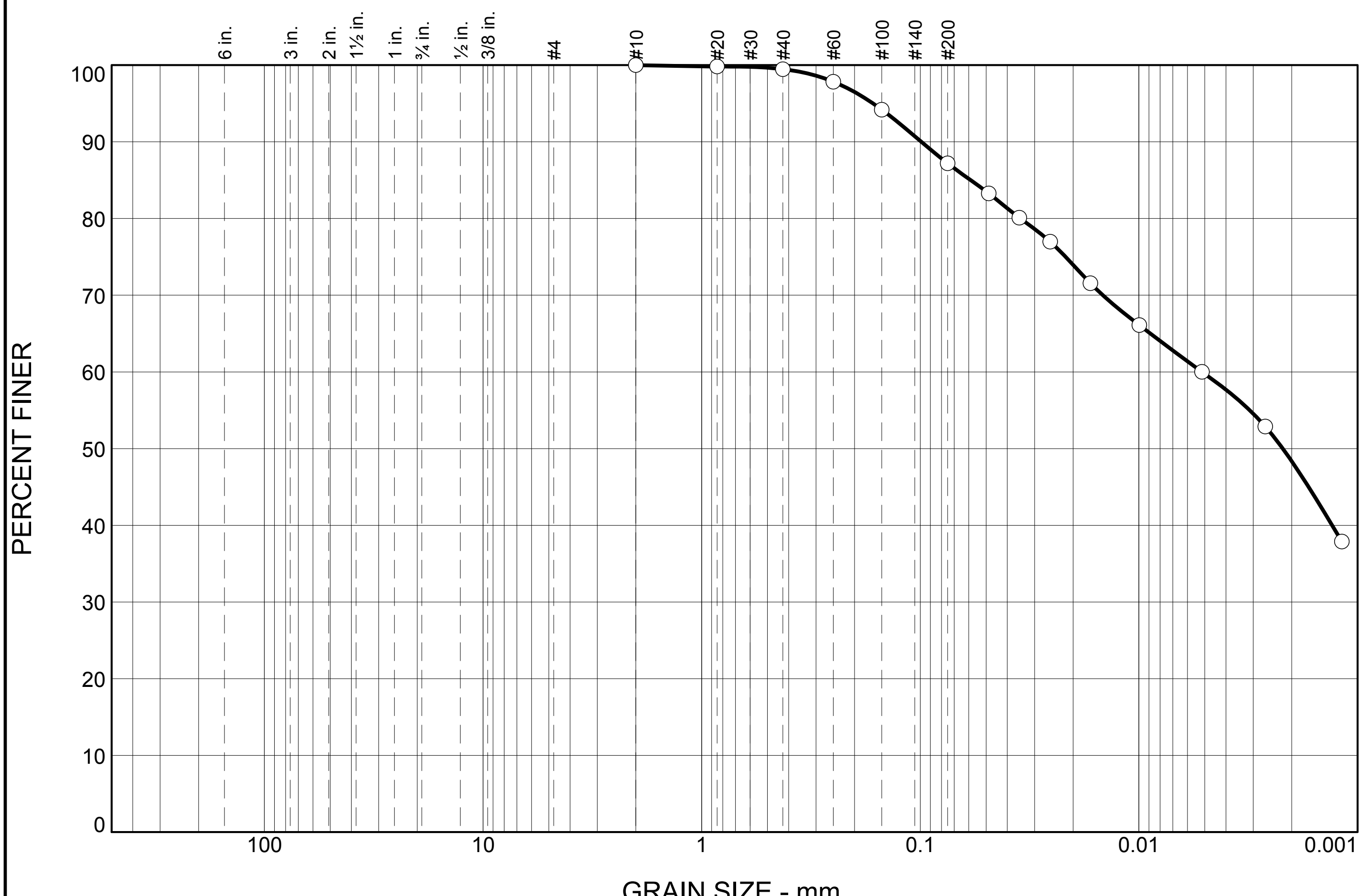
Location: TP02
Depth: 1'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.5	12.3	38.9	48.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	99.5		
#60	97.8		
#100	94.2		
#200	87.2		
0.0486 mm.	83.3		
0.0352 mm.	80.1		
0.0255 mm.	77.0		
0.0167 mm.	71.6		
0.0100 mm.	66.1		
0.0051 mm.	60.0		
0.0026 mm.	52.9		
0.0012 mm.	37.9		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 15 LL= 49 PI= 34

Coefficients

D_{90}= 0.0989 D_{85}= 0.0588 D_{60}= 0.0051
D_{50}= 0.0022 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(30)

Remarks

As received moisture 14.5%

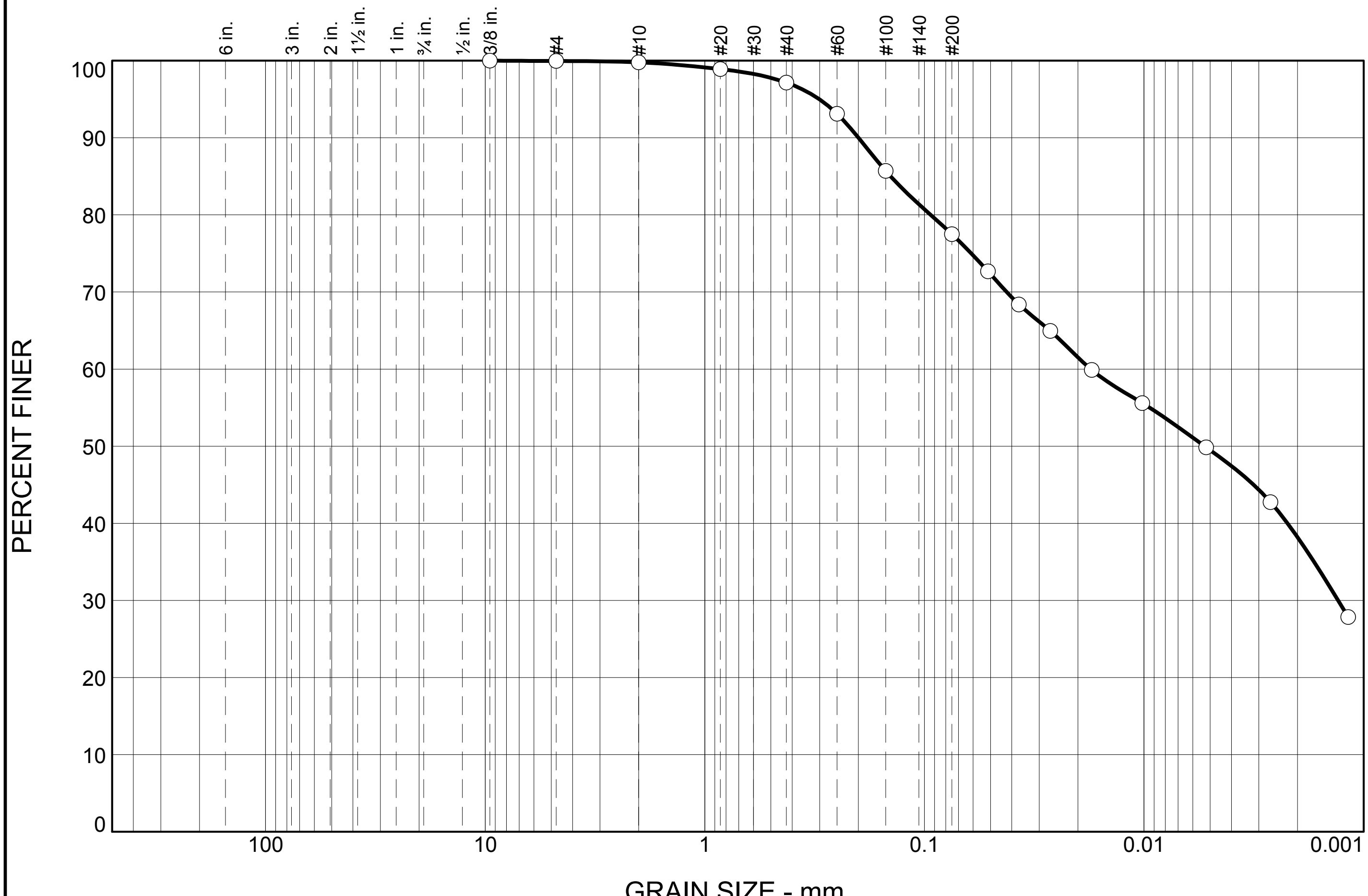
Location: TP02
Depth: 4'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.2	2.6	19.7	39.3	38.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	100.0		
#10	99.8		
#20	98.9		
#40	97.2		
#60	93.1		
#100	85.7		
#200	77.5		
0.0514 mm.	72.7		
0.0371 mm.	68.4		
0.0267 mm.	65.0		
0.0173 mm.	59.9		
0.0102 mm.	55.6		
0.0052 mm.	49.9		
0.0027 mm.	42.7		
0.0012 mm.	27.8		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 11 LL= 43 PI= 32

Coefficients

D_{90}= 0.1996 D_{85}= 0.1426 D_{60}= 0.0175
D_{50}= 0.0053 D_{30}= 0.0013 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(23)

Remarks

As received moisture 27.0%

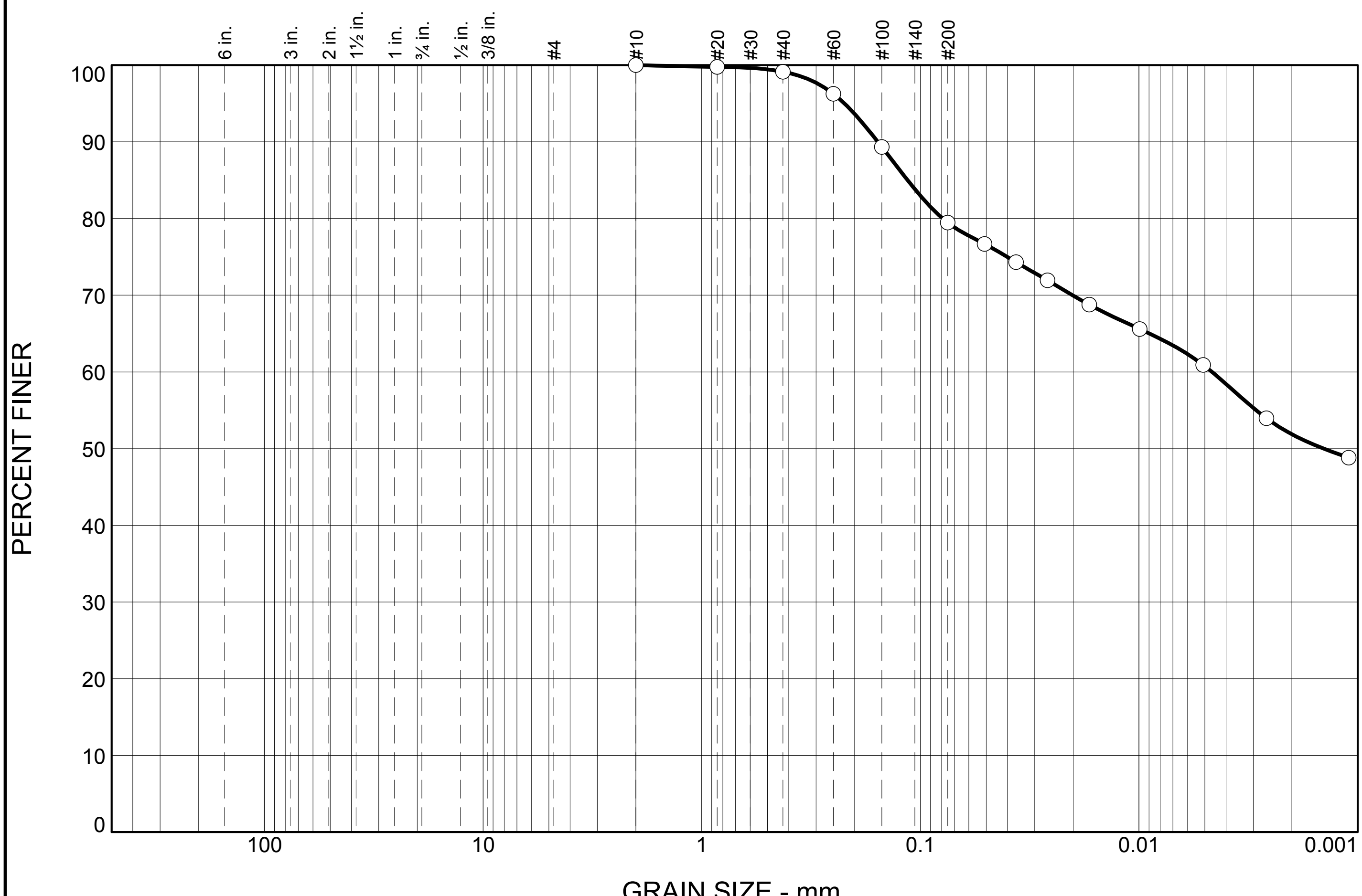
Location: TP02
Depth: 7'

Date: 7/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.9	19.6	27.6	51.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.8		
#40	99.1		
#60	96.3		
#100	89.3		
#200	79.5		
0.0508 mm.	76.7		
0.0365 mm.	74.3		
0.0262 mm.	71.9		
0.0169 mm.	68.8		
0.0099 mm.	65.6		
0.0051 mm.	60.9		
0.0026 mm.	54.0		
0.0011 mm.	48.8		

* (no specification provided)

Soil Description

fat clay with sand

Atterberg Limits

PL= 15 LL= 50 PI= 35

Coefficients

D_{90}= 0.1564 D_{85}= 0.1144 D_{60}= 0.0046
D_{50}= 0.0014 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(28)

Remarks

As received moisture 17.3%

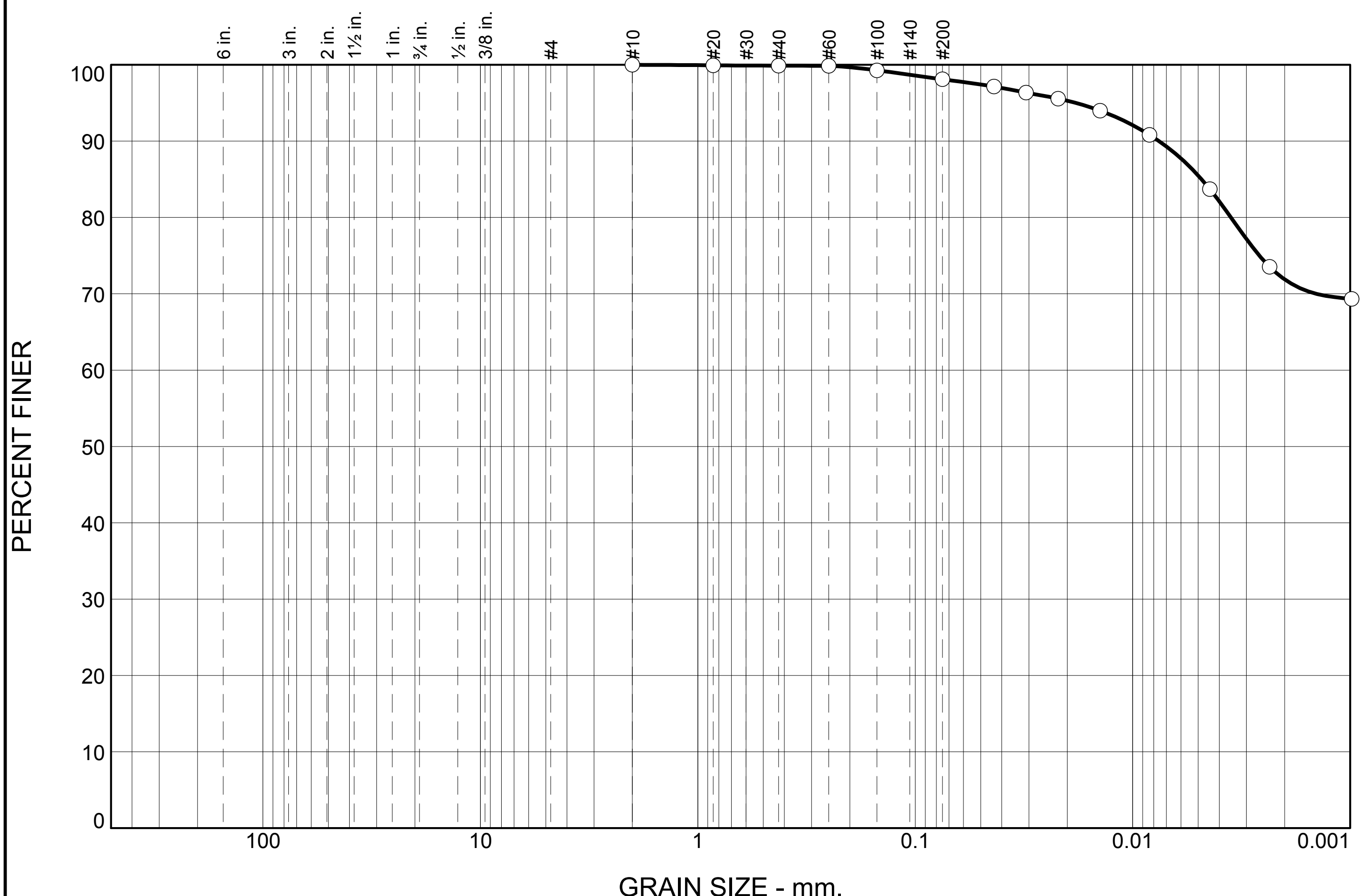
Location: TP03
Depth: 1'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.1	1.8	26.2	71.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	99.9		
#40	99.9		
#60	99.9		
#100	99.3		
#200	98.1		
0.0434 mm.	97.1		
0.0309 mm.	96.4		
0.0220 mm.	95.6		
0.0141 mm.	94.0		
0.0084 mm.	90.8		
0.0044 mm.	83.7		
0.0023 mm.	73.5		
0.0010 mm.	69.3		

* (no specification provided)

Soil Description

fat clay

Atterberg Limits

PL= 17 LL= 69 PI= 52

Coefficients

D_{90}= 0.0076 D_{85}= 0.0048 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(57)

Remarks

As received moisture 14.5%

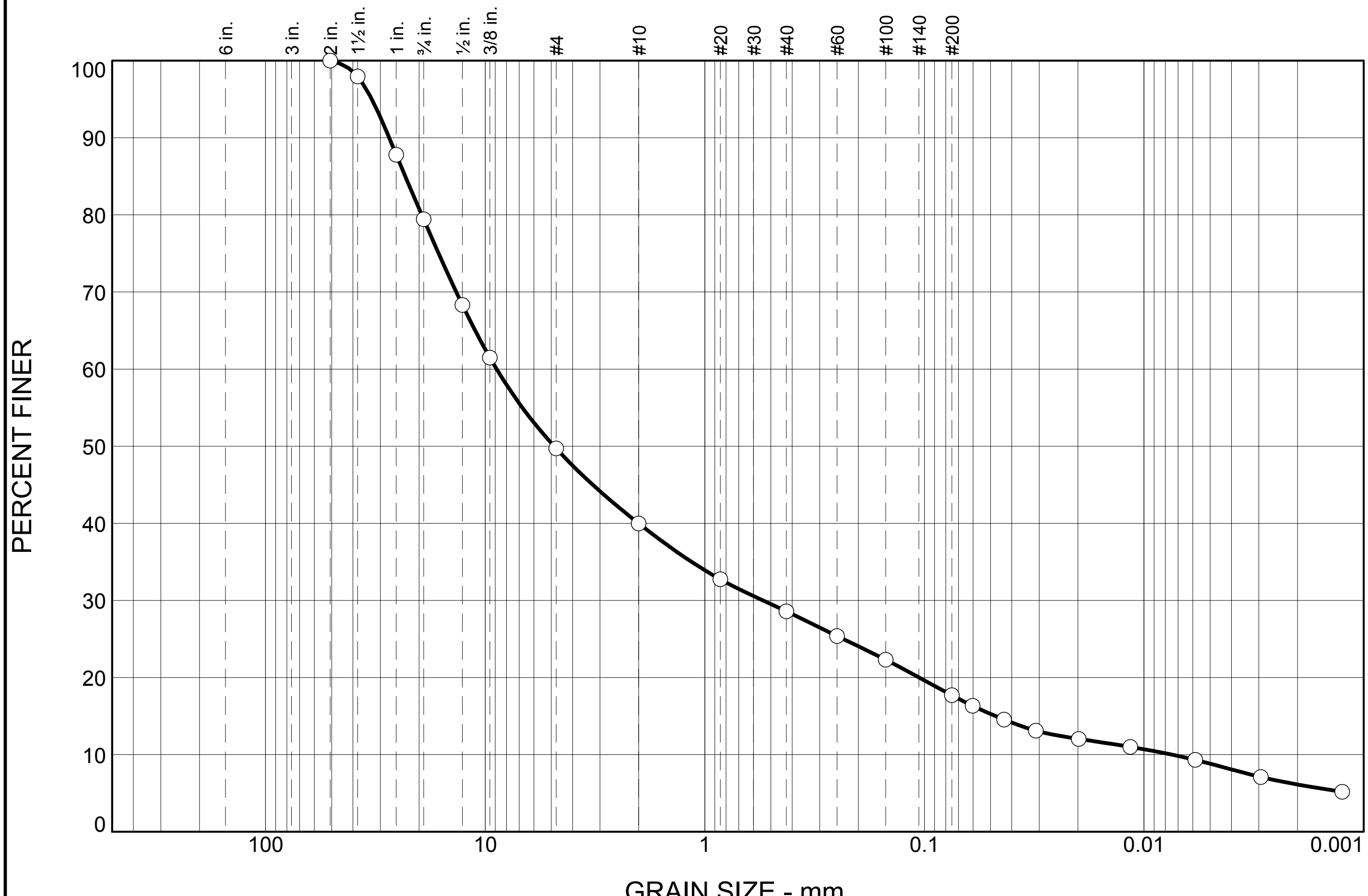
Location: TP03
Depth: 7'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	20.6	29.7	9.7	11.4	10.9	11.6	6.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
2	100.0		
1.5	98.0		
1	87.8		
.75	79.4		
.5	68.3		
0.375	61.5		
#4	49.7		
#10	40.0		
#20	32.7		
#40	28.6		
#60	25.4		
#100	22.3		
#200	17.7		
0.0604 mm.	16.3		
0.0434 mm.	14.5		
0.0311 mm.	13.1		
0.0198 mm.	12.0		
0.0116 mm.	11.0		
0.0058 mm.	9.3		
0.0029 mm.	7.1		
0.0013 mm.	5.2		

* (no specification provided)

Soil Description

clayey gravel with sand

Atterberg Limits

PL= 12 LL= 24 PI= 12

Coefficients

D_{90}= 27.3612 D_{85}= 23.1076 D_{60}= 8.8720
D_{50}= 4.8517 D_{30}= 0.5444 D_{15}= 0.0475
D_{10}= 0.0075 C_u= 1187.75 C_c= 4.47

Classification

USCS= GC AASHTO= A-2-6(0)

Remarks

Natural moisture content was not obtained.

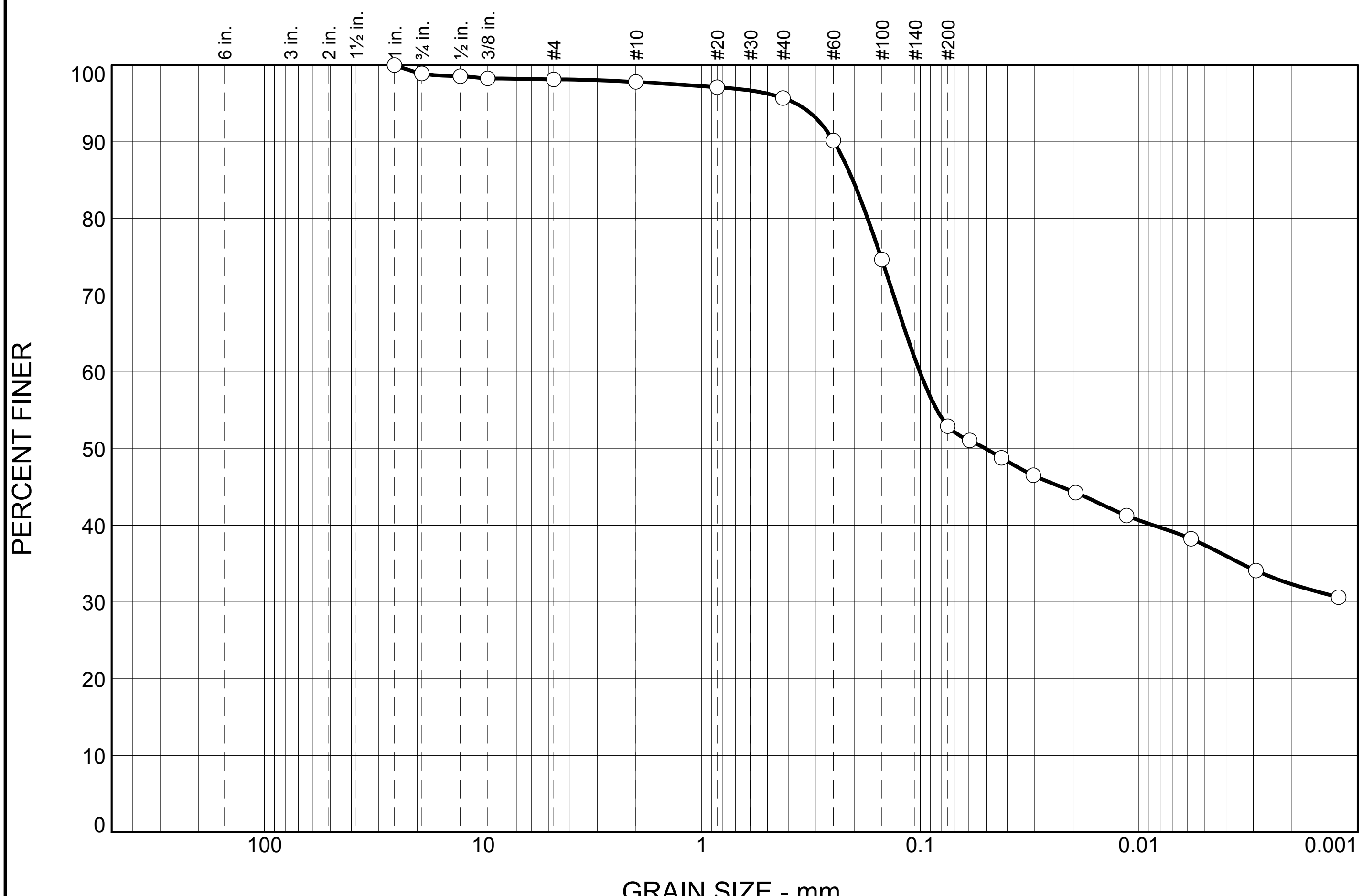
Location: TP03
Depth: 11'

Date: 7/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	1.1	0.8	0.3	2.1	42.8	20.6	32.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1	100.0		
.75	98.9		
.5	98.6		
0.375	98.3		
#4	98.1		
#10	97.8		
#20	97.1		
#40	95.7		
#60	90.2		
#100	74.7		
#200	52.9		
0.0595 mm.	51.1		
0.0426 mm.	48.8		
0.0304 mm.	46.5		
0.0195 mm.	44.3		
0.0114 mm.	41.3		
0.0058 mm.	38.2		
0.0029 mm.	34.1		
0.0012 mm.	30.6		

* (no specification provided)

Soil Description

sandy lean clay

Atterberg Limits

PL= 13 LL= 35 PI= 22

Coefficients

D_{90}= 0.2480 D_{85}= 0.2035 D_{60}= 0.1006
D_{50}= 0.0503 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(8)

Remarks

As received moisture 5.7%

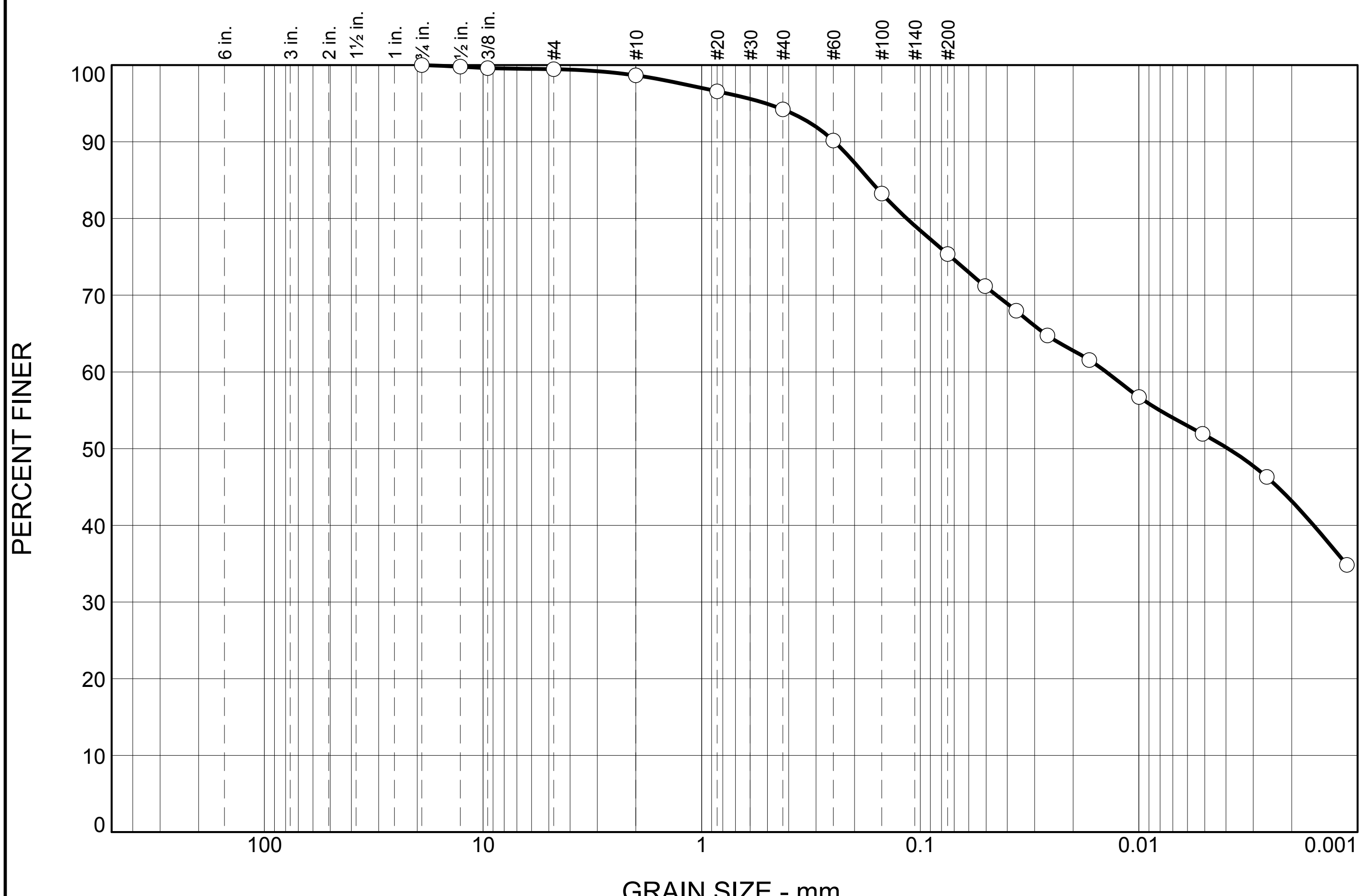
Location: TP04
Depth: 1'

Date: 8/20/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	0.8	4.5	18.8	32.2	43.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	99.8		
0.375	99.6		
#4	99.5		
#10	98.7		
#20	96.6		
#40	94.2		
#60	90.2		
#100	83.2		
#200	75.4		
0.0505 mm.	71.2		
0.0364 mm.	68.0		
0.0262 mm.	64.8		
0.0169 mm.	61.5		
0.0100 mm.	56.7		
0.0051 mm.	51.9		
0.0026 mm.	46.3		
0.0011 mm.	34.8		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 13 LL= 41 PI= 28

Coefficients

D_{90}= 0.2465 D_{85}= 0.1702 D_{60}= 0.0141
D_{50}= 0.0039 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(19)

Remarks

As received moisture 10.2%

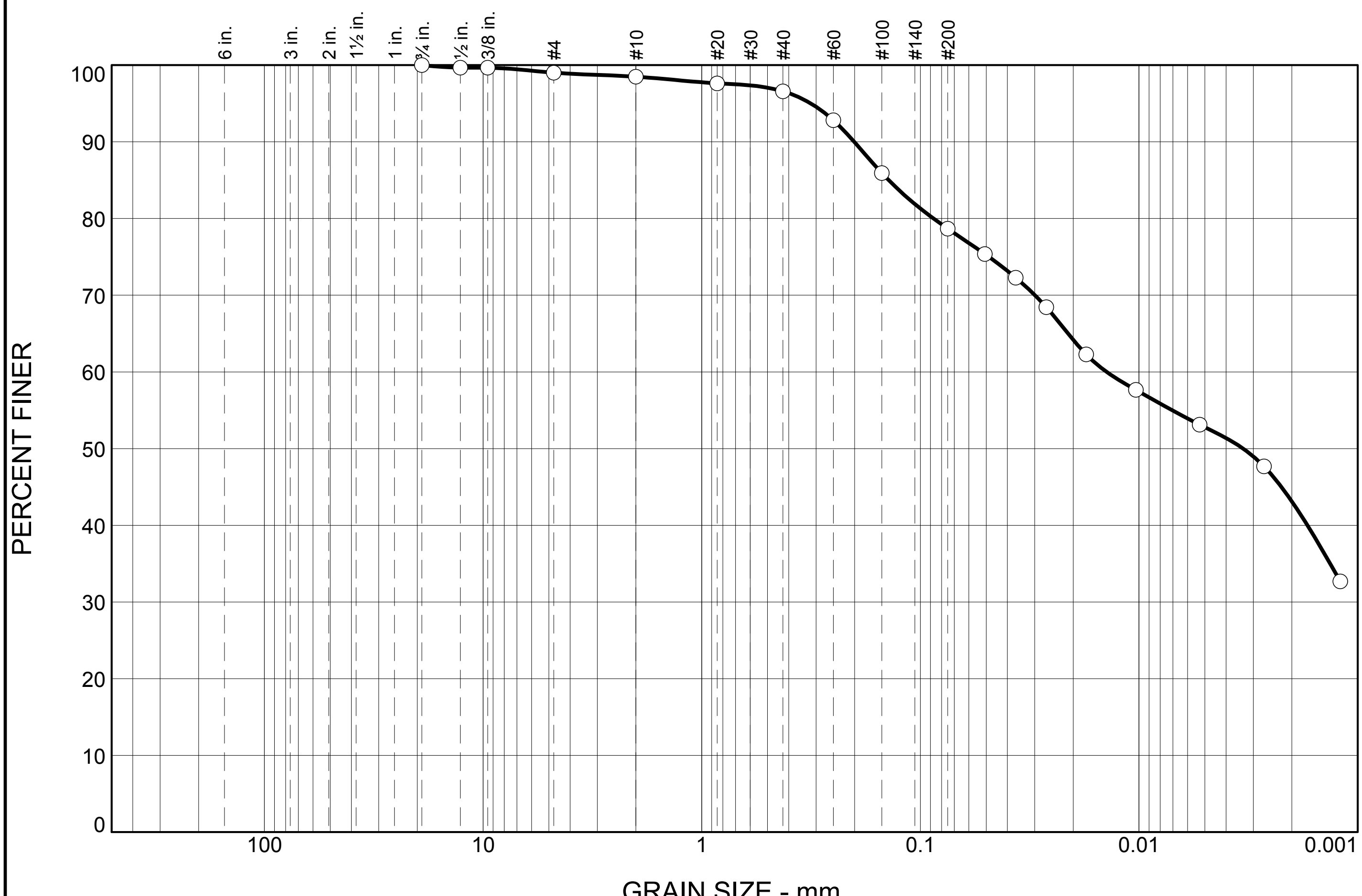
Location: TP04
Depth: 7'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	1.0	0.5	1.9	17.9	35.6	43.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	99.7		
0.375	99.7		
#4	99.0		
#10	98.5		
#20	97.6		
#40	96.6		
#60	92.8		
#100	85.9		
#200	78.7		
0.0507 mm.	75.4		
0.0366 mm.	72.3		
0.0265 mm.	68.4		
0.0174 mm.	62.3		
0.0103 mm.	57.7		
0.0053 mm.	53.1		
0.0027 mm.	47.7		
0.0012 mm.	32.7		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 10 LL= 40 PI= 30

Coefficients

D_{90}= 0.2008 D_{85}= 0.1396 D_{60}= 0.0141
D_{50}= 0.0033 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(22)

Remarks

As received moisture 8.6%

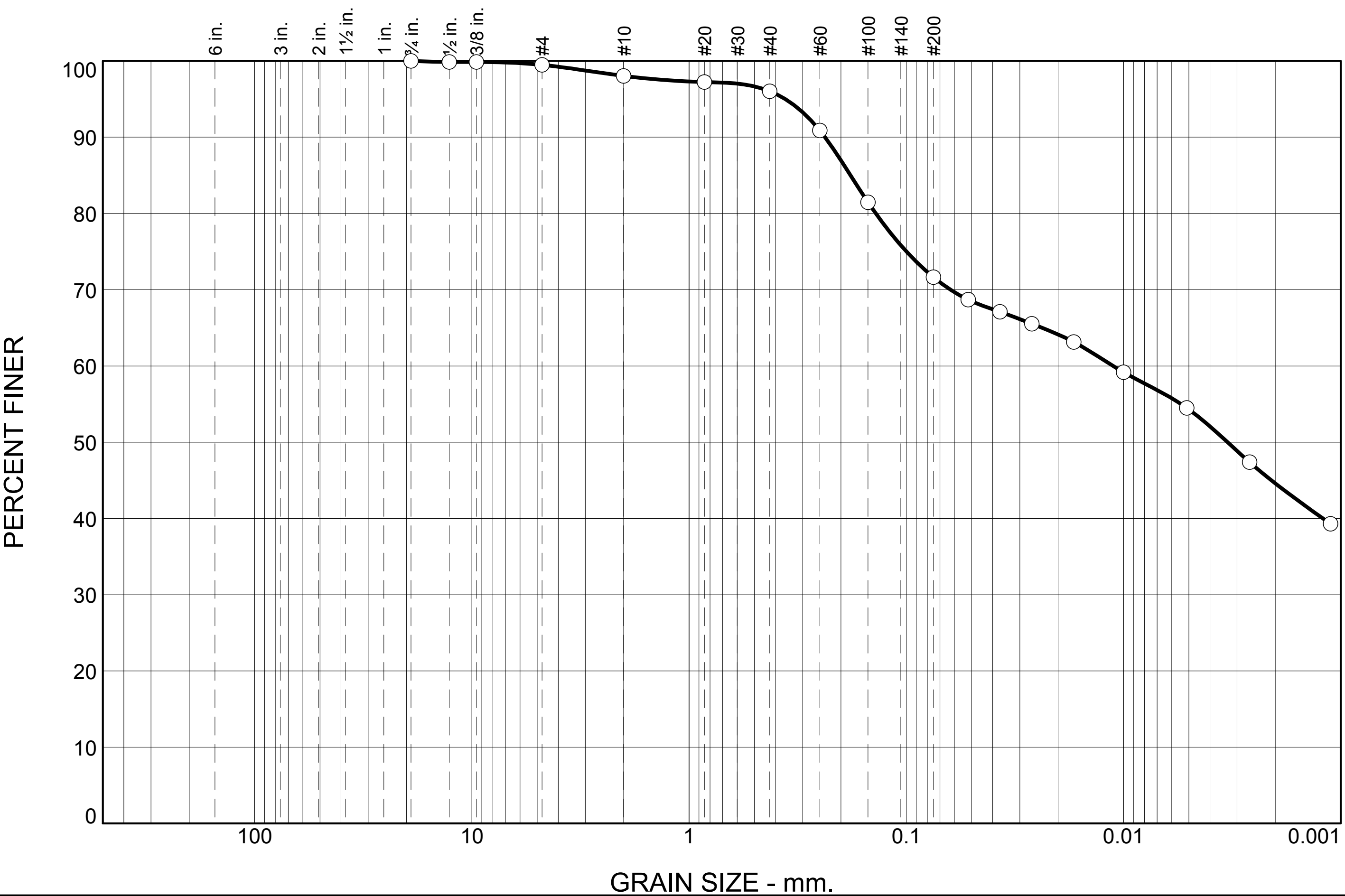
Location: TP05
Depth: 1'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.5	1.5	2.0	24.3	27.1	44.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	99.9		
0.375	99.9		
#4	99.5		
#10	98.0		
#20	97.2		
#40	96.0		
#60	90.9		
#100	81.5		
#200	71.7		
0.0519 mm.	68.7		
0.0370 mm.	67.1		
0.0264 mm.	65.5		
0.0169 mm.	63.1		
0.0100 mm.	59.2		
0.0051 mm.	54.5		
0.0026 mm.	47.4		
0.0011 mm.	39.3		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 12 LL= 42 PI= 30

Coefficients

D_{90}= 0.2367 D_{85}= 0.1805 D_{60}= 0.0112
D_{50}= 0.0033 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(19)

Remarks

As received moisture 11.7%

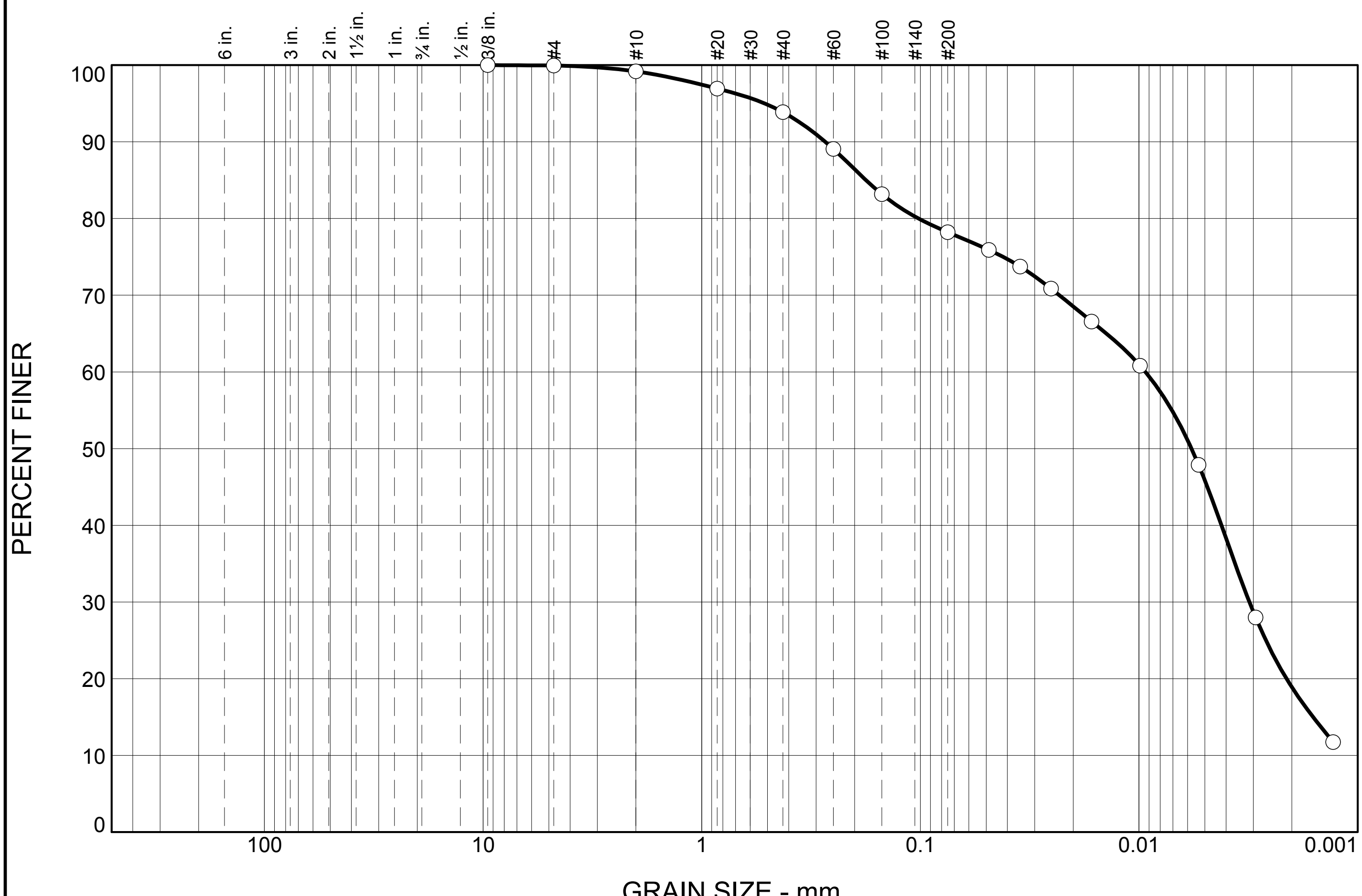
Location: TP05
Depth: 4'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.7	5.3	15.7	59.3	18.9

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	99.9		
#10	99.2		
#20	96.9		
#40	93.9		
#60	89.1		
#100	83.2		
#200	78.2		
0.0486 mm.	75.9		
0.0350 mm.	73.7		
0.0253 mm.	70.9		
0.0165 mm.	66.6		
0.0099 mm.	60.8		
0.0053 mm.	47.9		
0.0029 mm.	28.0		
0.0013 mm.	11.7		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 16 LL= 46 PI= 30

Coefficients

D_{90}= 0.2723 D_{85}= 0.1773 D_{60}= 0.0094
D_{50}= 0.0058 D_{30}= 0.0031 D_{15}= 0.0016
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(22)

Remarks

As received moisture 13.7%

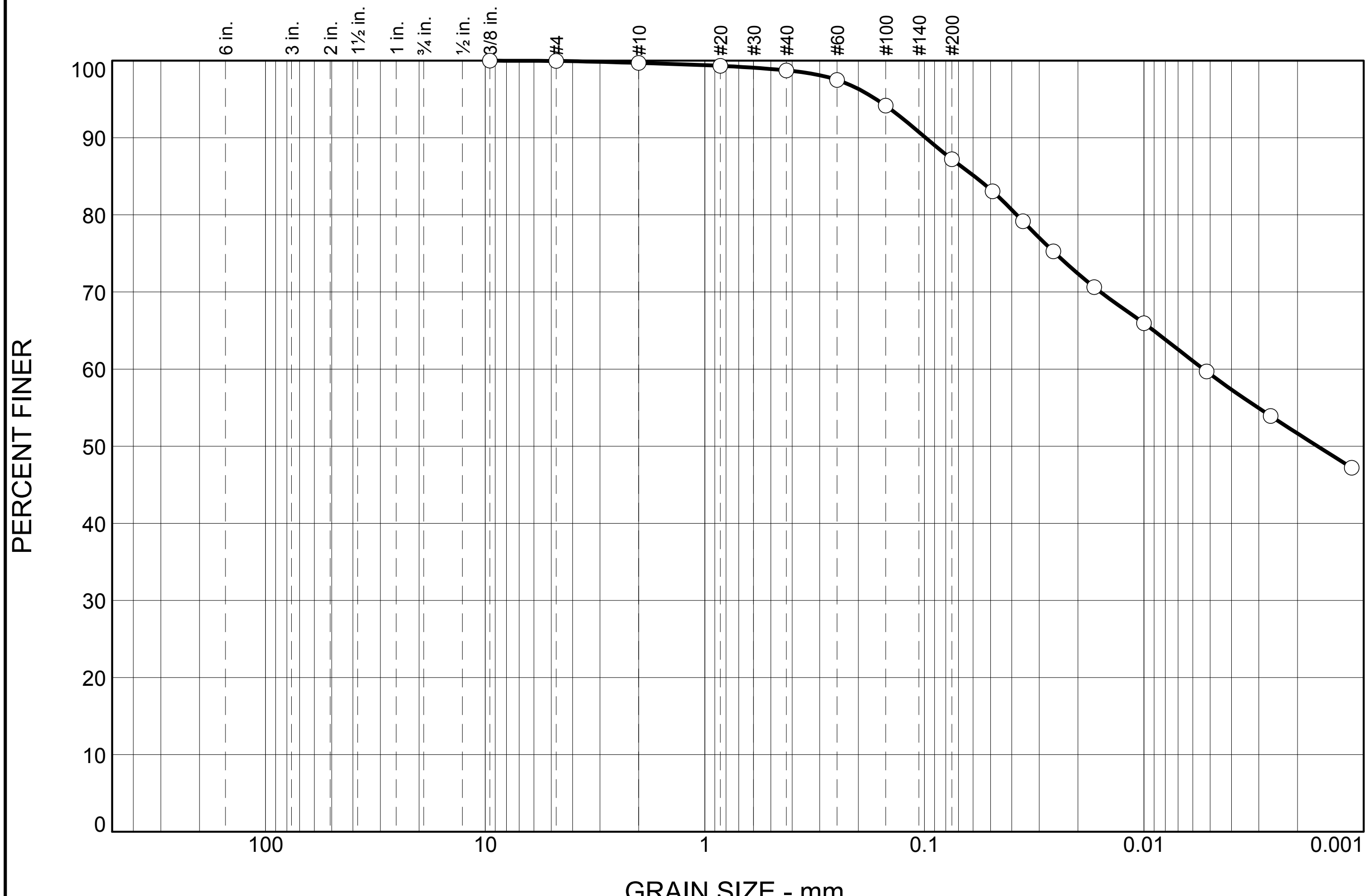
Location: TP05
Depth: 7'

Date: 8/20/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	1.0	11.5	35.5	51.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	100.0		
#10	99.7		
#20	99.3		
#40	98.7		
#60	97.5		
#100	94.2		
#200	87.2		
0.0489 mm.	83.1		
0.0356 mm.	79.2		
0.0259 mm.	75.3		
0.0168 mm.	70.6		
0.0100 mm.	65.9		
0.0052 mm.	59.7		
0.0027 mm.	53.9		
0.0011 mm.	47.2		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 15 LL= 47 PI= 32

Coefficients

D_{90}= 0.0986 D_{85}= 0.0592 D_{60}= 0.0054
D_{50}= 0.0016 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(28)

Remarks

As received moisture 10.3%

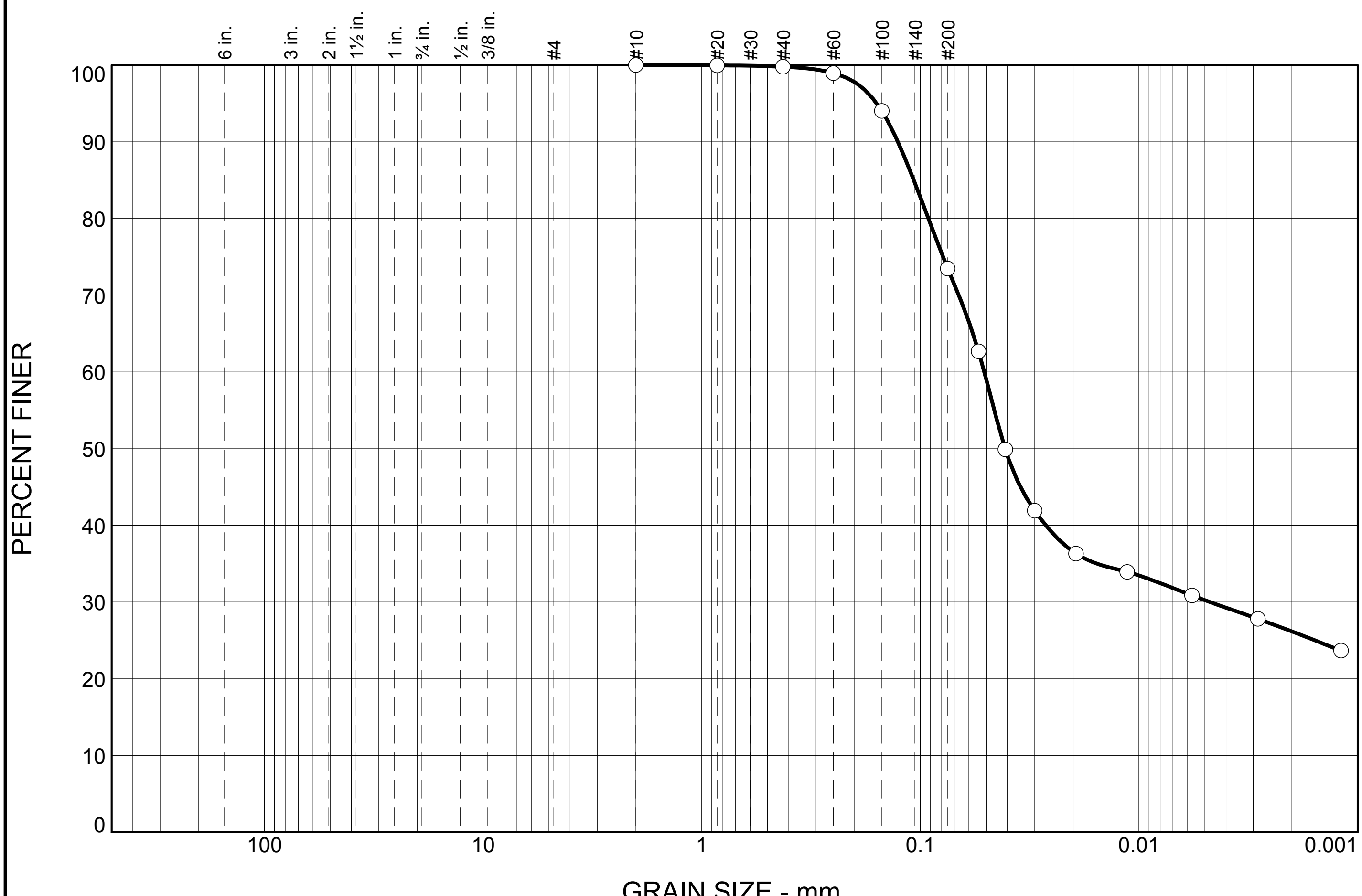
Location: TP06
Depth: 1'

Date: 8/20/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.2	26.3	47.3	26.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	99.8		
#60	98.9		
#100	94.0		
#200	73.5		
0.0541 mm.	62.7		
0.0409 mm.	49.9		
0.0300 mm.	41.9		
0.0194 mm.	36.3		
0.0113 mm.	33.9		
0.0057 mm.	30.9		
0.0029 mm.	27.8		
0.0012 mm.	23.7		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 13 LL= 30 PI= 17

Coefficients

D_{90}= 0.1267 D_{85}= 0.1071 D_{60}= 0.0510
D_{50}= 0.0410 D_{30}= 0.0047 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(10)

Remarks

As received moisture 6.0%. Natural dry density 110.1 pcf. Liner sample was damaged while attempting to extrude. No permeability values are reported.

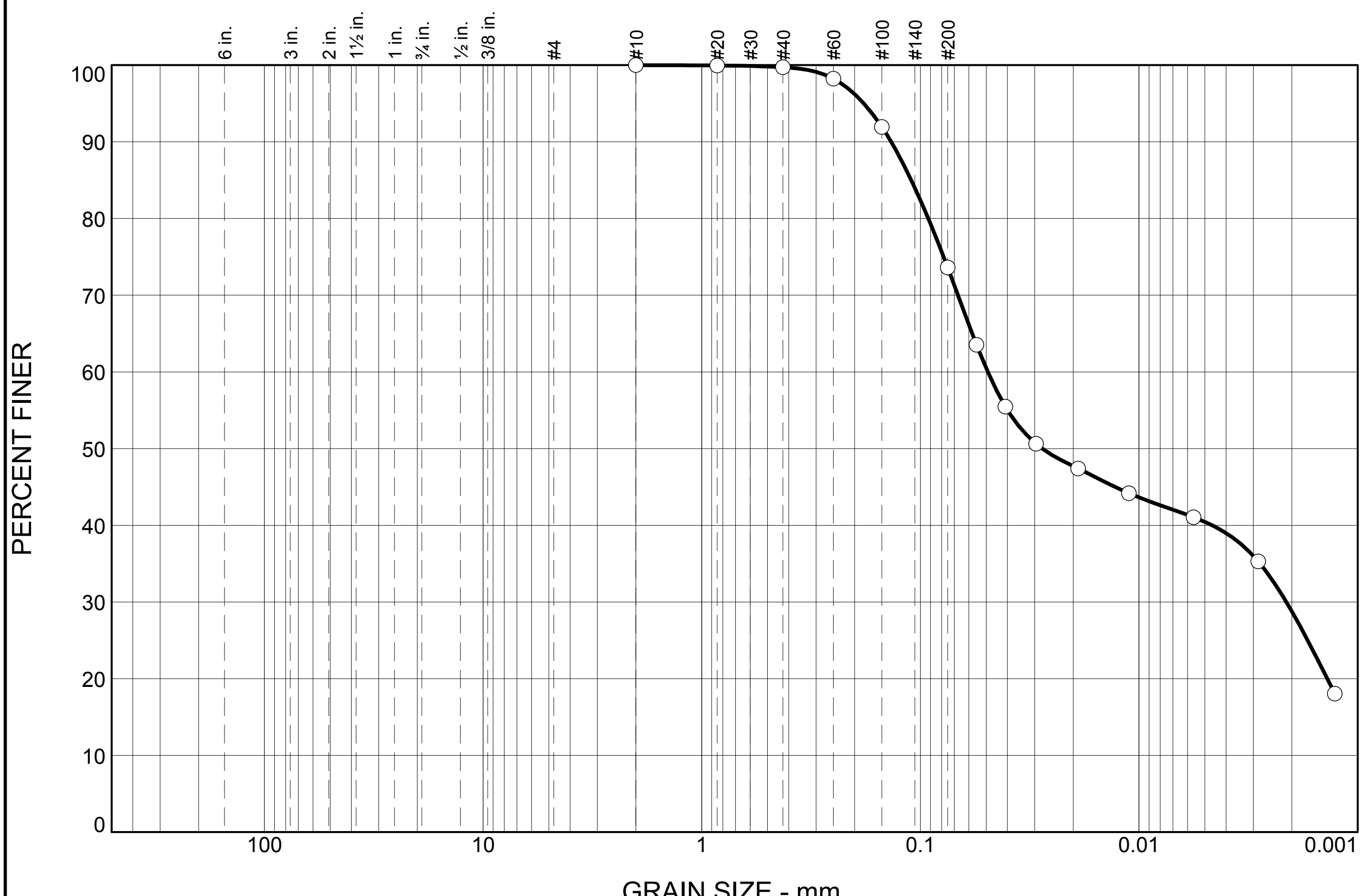
Location: TP06
Depth: 7'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.3	26.1	44.8	28.8

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#10	100.0		
#20	100.0		
#40	99.7		
#60	98.2		
#100	91.9		
#200	73.6		
0.0553 mm.	63.5		
0.0408 mm.	55.5		
0.0296 mm.	50.6		
0.0190 mm.	47.4		
0.0111 mm.	44.2		
0.0056 mm.	41.1		
0.0029 mm.	35.3		
0.0013 mm.	18.1		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 11 LL= 30 PI= 19

Coefficients

D_{90}= 0.1360 D_{85}= 0.1100 D_{60}= 0.0491
D_{50}= 0.0277 D_{30}= 0.0021 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(11)

Remarks

As received moisture 15.7%

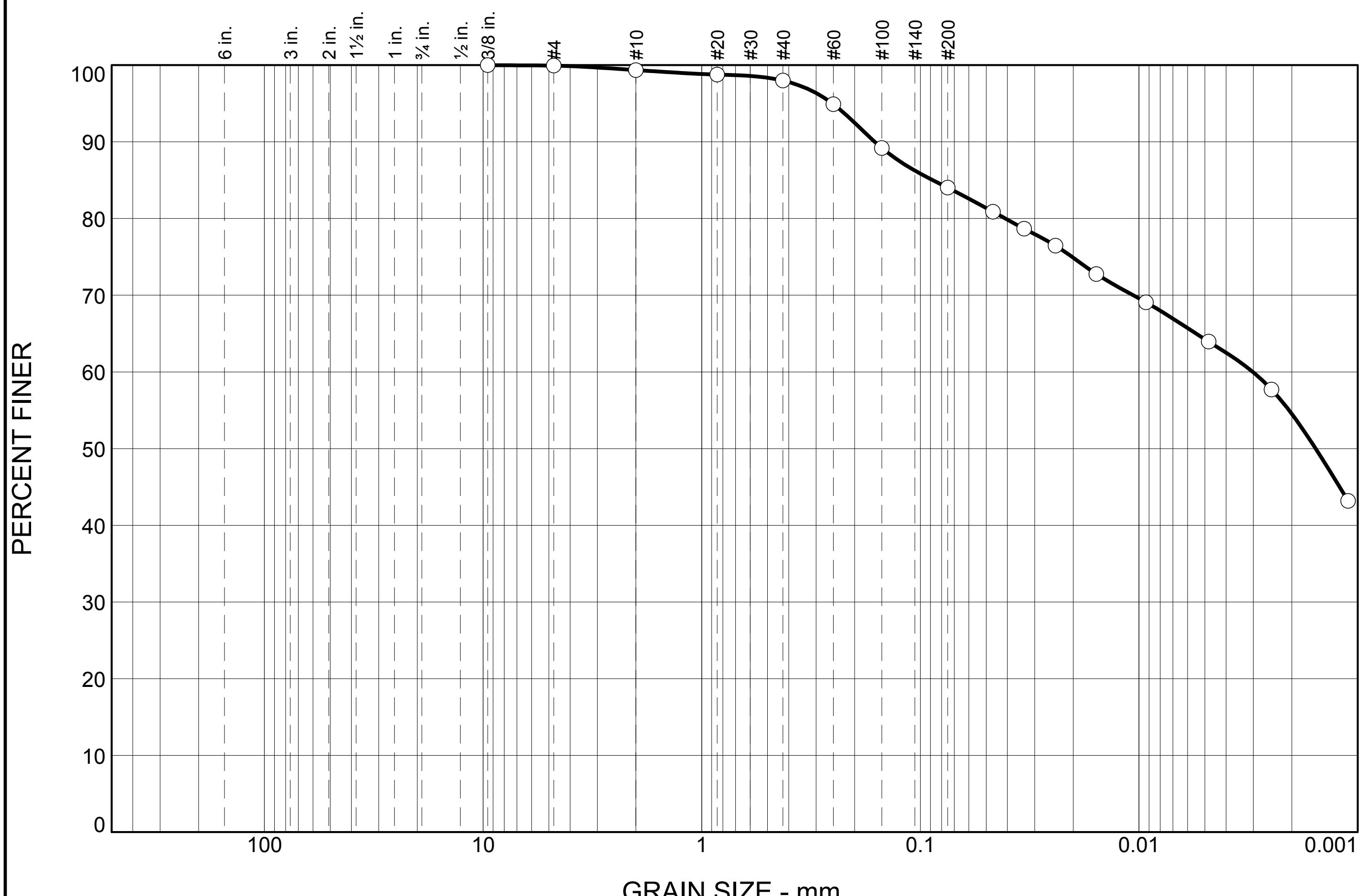
Location: TP06
Depth: 10'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	0.5	1.4	14.0	29.5	54.5

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	99.9		
#10	99.4		
#20	98.8		
#40	98.0		
#60	94.9		
#100	89.2		
#200	84.0		
0.0465 mm.	80.9		
0.0335 mm.	78.7		
0.0241 mm.	76.5		
0.0157 mm.	72.8		
0.0093 mm.	69.1		
0.0048 mm.	63.9		
0.0025 mm.	57.7		
0.0011 mm.	43.2		

* (no specification provided)

Soil Description

fat clay with sand

Atterberg Limits

PL= 17 LL= 52 PI= 35

Coefficients

D_{90}= 0.1616 D_{85}= 0.0877 D_{60}= 0.0030
D_{50}= 0.0016 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(30)

Remarks

As received moisture 12.4%

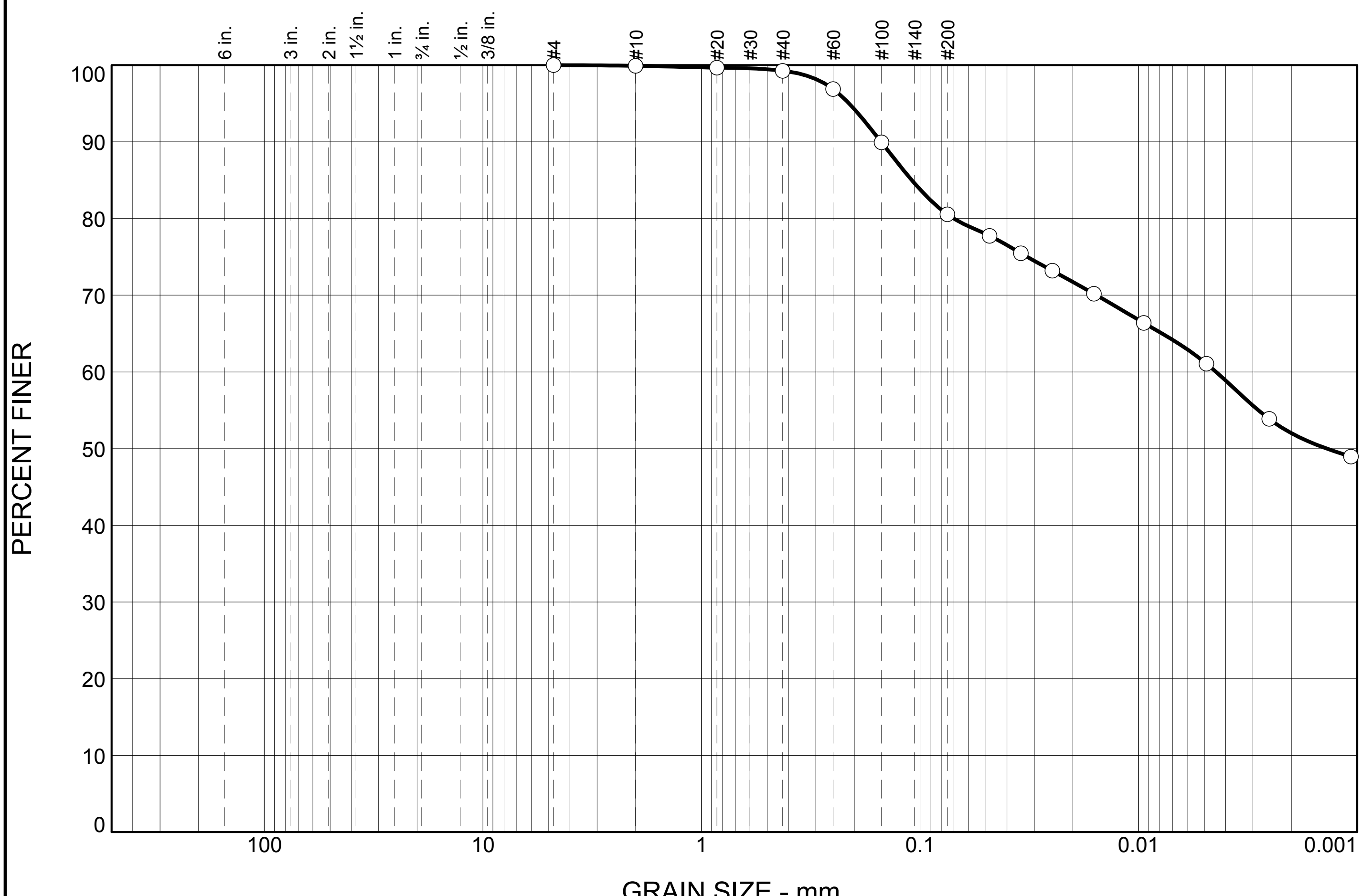
Location: TP07
Depth: 1'

Date: 8/20/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.6	18.8	28.5	52.0

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.7		
#40	99.3		
#60	96.9		
#100	89.9		
#200	80.5		
0.0480 mm.	77.7		
0.0345 mm.	75.5		
0.0248 mm.	73.2		
0.0160 mm.	70.2		
0.0095 mm.	66.4		
0.0049 mm.	61.1		
0.0025 mm.	53.9		
0.0011 mm.	49.0		

* (no specification provided)

Soil Description

fat clay with sand

Atterberg Limits

PL= 15 LL= 53 PI= 38

Coefficients

D_{90}= 0.1507 D_{85}= 0.1089 D_{60}= 0.0044
D_{50}= 0.0014 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(30)

Remarks

As received moisture 15.28%

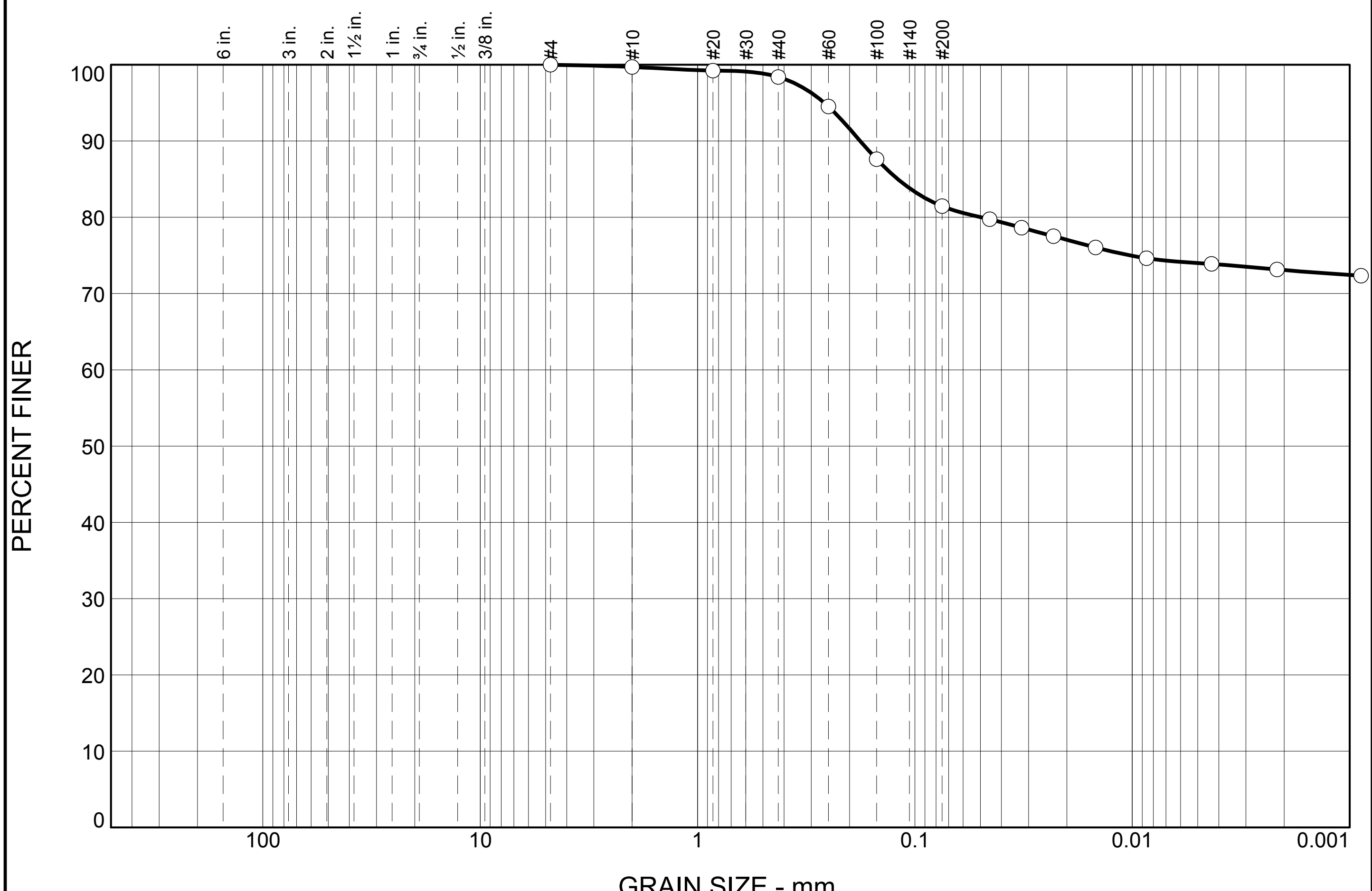
Location: TP07
Depth: 6'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	1.3	16.9	8.4	73.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	99.2		
#40	98.4		
#60	94.5		
#100	87.6		
#200	81.5		
0.0453 mm.	79.7		
0.0323 mm.	78.6		
0.0231 mm.	77.5		
0.0147 mm.	76.0		
0.0086 mm.	74.6		
0.0043 mm.	73.9		
0.0022 mm.	73.2		
0.0009 mm.	72.3		

* (no specification provided)

Soil Description

fat clay with sand

Atterberg Limits

PL= 15 LL= 55 PI= 40

Coefficients

D_{90}= 0.1784 D_{85}= 0.1198 D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CH AASHTO= A-7-6(33)

Remarks

As received moisture 19.3%

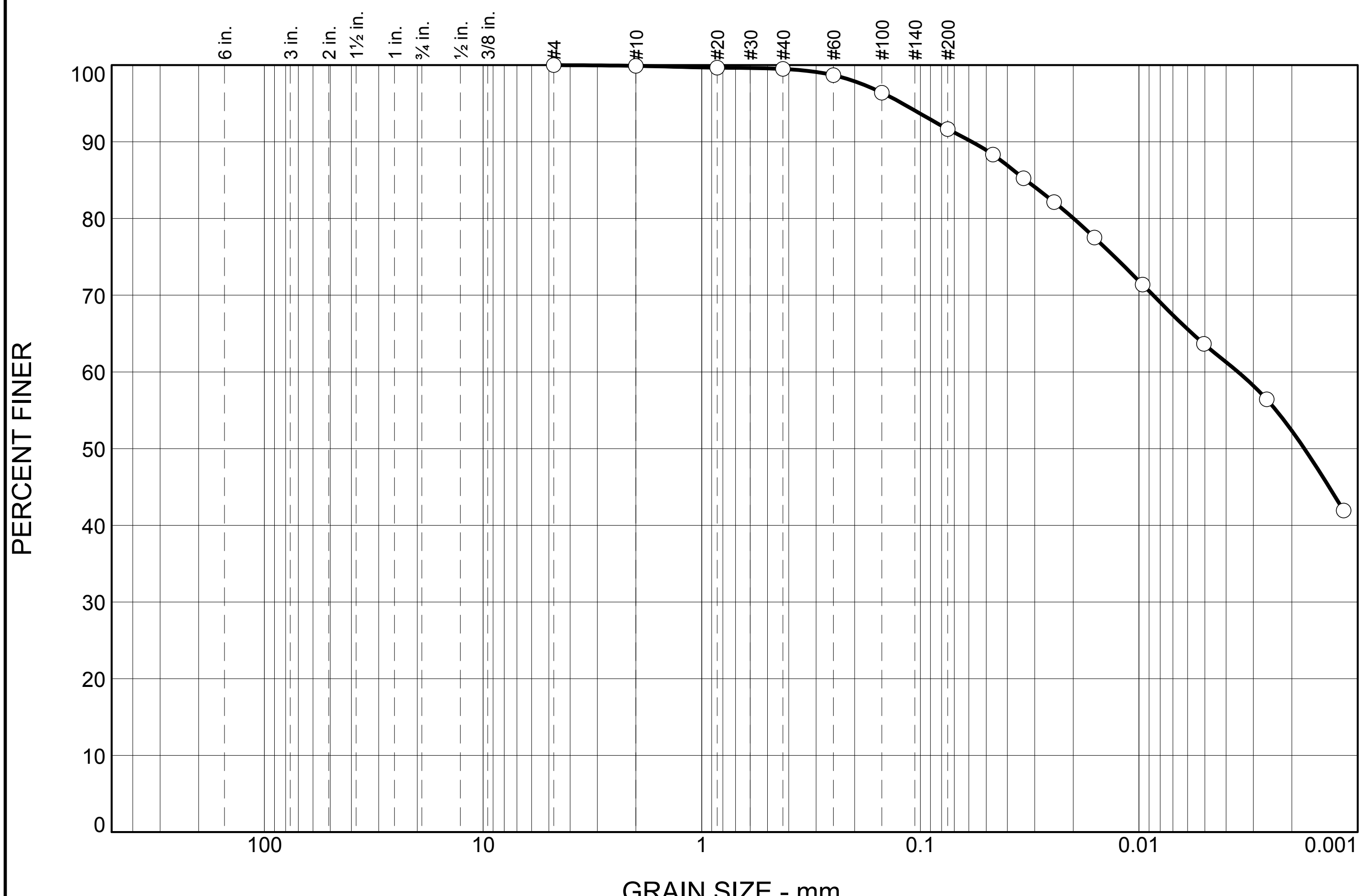
Location: TP07
Depth: 10'

Date: 7/18/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	0.4	7.8	39.4	52.3

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.9		
#20	99.7		
#40	99.5		
#60	98.7		
#100	96.4		
#200	91.7		
0.0465 mm.	88.3		
0.0337 mm.	85.2		
0.0244 mm.	82.1		
0.0160 mm.	77.5		
0.0096 mm.	71.4		
0.0050 mm.	63.6		
0.0026 mm.	56.4		
0.0012 mm.	41.9		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 19 LL= 49 PI= 30

Coefficients

D_{90}= 0.0581 D_{85}= 0.0329 D_{60}= 0.0035
D_{50}= 0.0018 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(29)

Remarks

As received moisture 10.9%

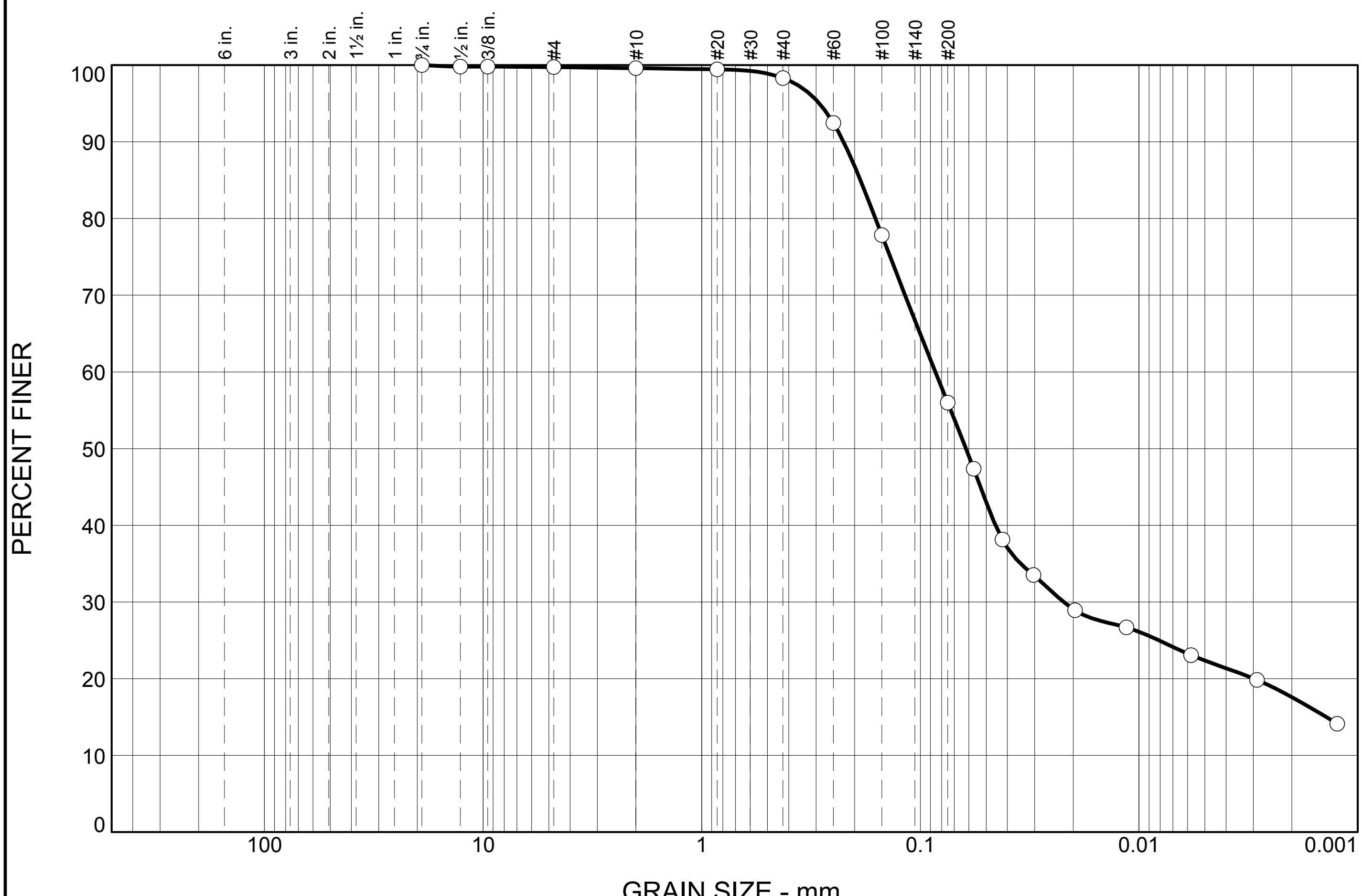
Location: TP08
Depth: 2'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.3	0.1	1.3	42.3	38.4	17.6

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
.75	100.0		
.5	99.8		
0.375	99.8		
#4	99.7		
#10	99.6		
#20	99.4		
#40	98.3		
#60	92.5		
#100	77.8		
#200	56.0		
0.0570 mm.	47.4		
0.0421 mm.	38.1		
0.0304 mm.	33.5		
0.0196 mm.	28.9		
0.0114 mm.	26.7		
0.0058 mm.	23.1		
0.0029 mm.	19.8		
0.0012 mm.	14.1		

* (no specification provided)

Soil Description

sandy lean clay

Atterberg Limits

PL= 12 LL= 21 PI= 9

Coefficients

D_{90}= 0.2247 D_{85}= 0.1880 D_{60}= 0.0854
D_{50}= 0.0619 D_{30}= 0.0221 D_{15}= 0.0014
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-4(2)

Remarks

As received moisture 4.3%

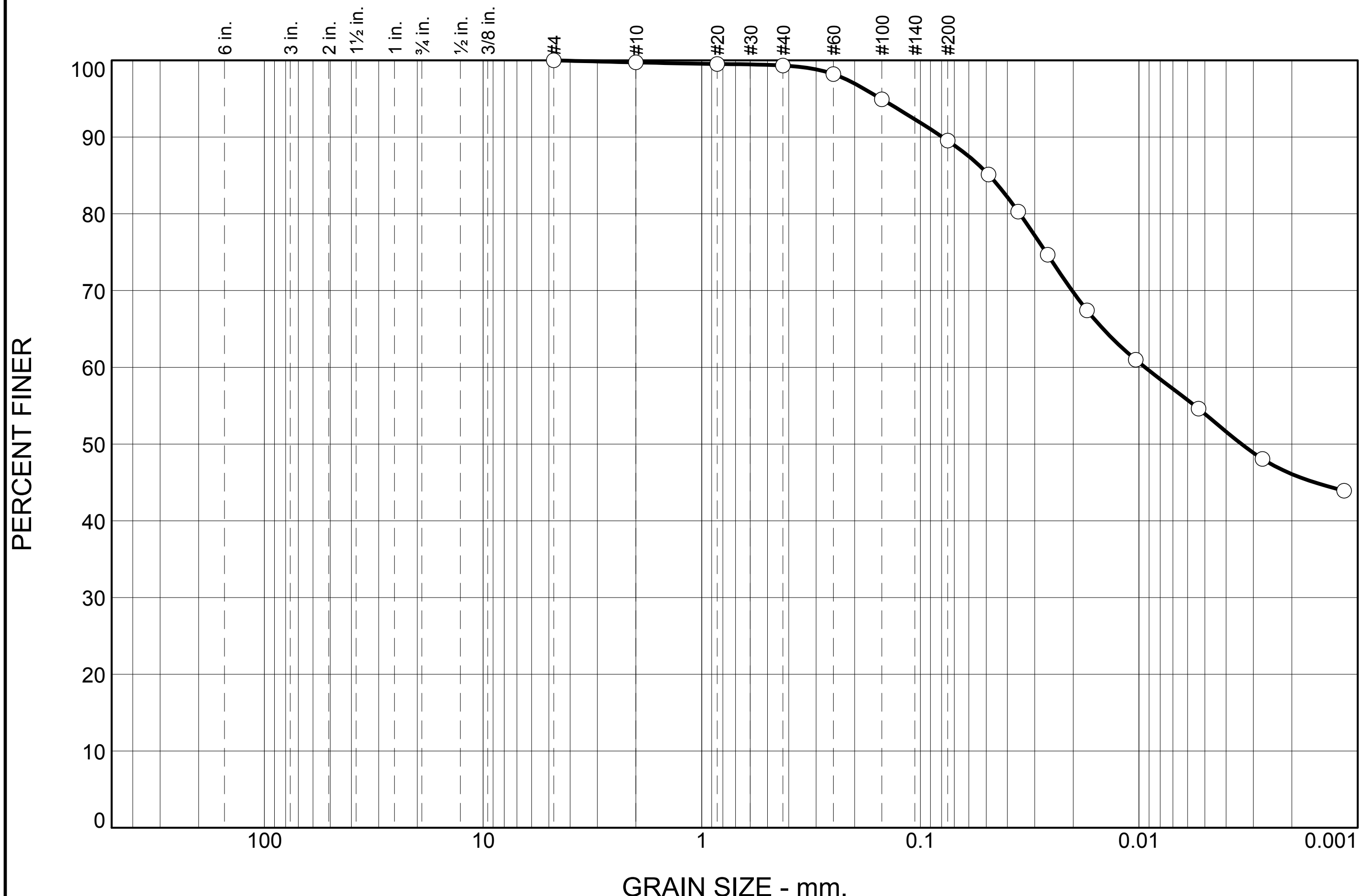
Location: TP08
Depth: 6'

Date: 7/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.3	0.4	9.8	43.4	46.1

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.7		
#20	99.5		
#40	99.3		
#60	98.2		
#100	94.9		
#200	89.5		
0.0488 mm.	85.1		
0.0357 mm.	80.3		
0.0262 mm.	74.7		
0.0173 mm.	67.4		
0.0103 mm.	61.0		
0.0053 mm.	54.6		
0.0027 mm.	48.1		
0.0012 mm.	43.9		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 14 LL= 44 PI= 30

Coefficients

D_{90}= 0.0792 D_{85}= 0.0483 D_{60}= 0.0094
D_{50}= 0.0034 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(27)

Remarks

As received moisture 8.9%

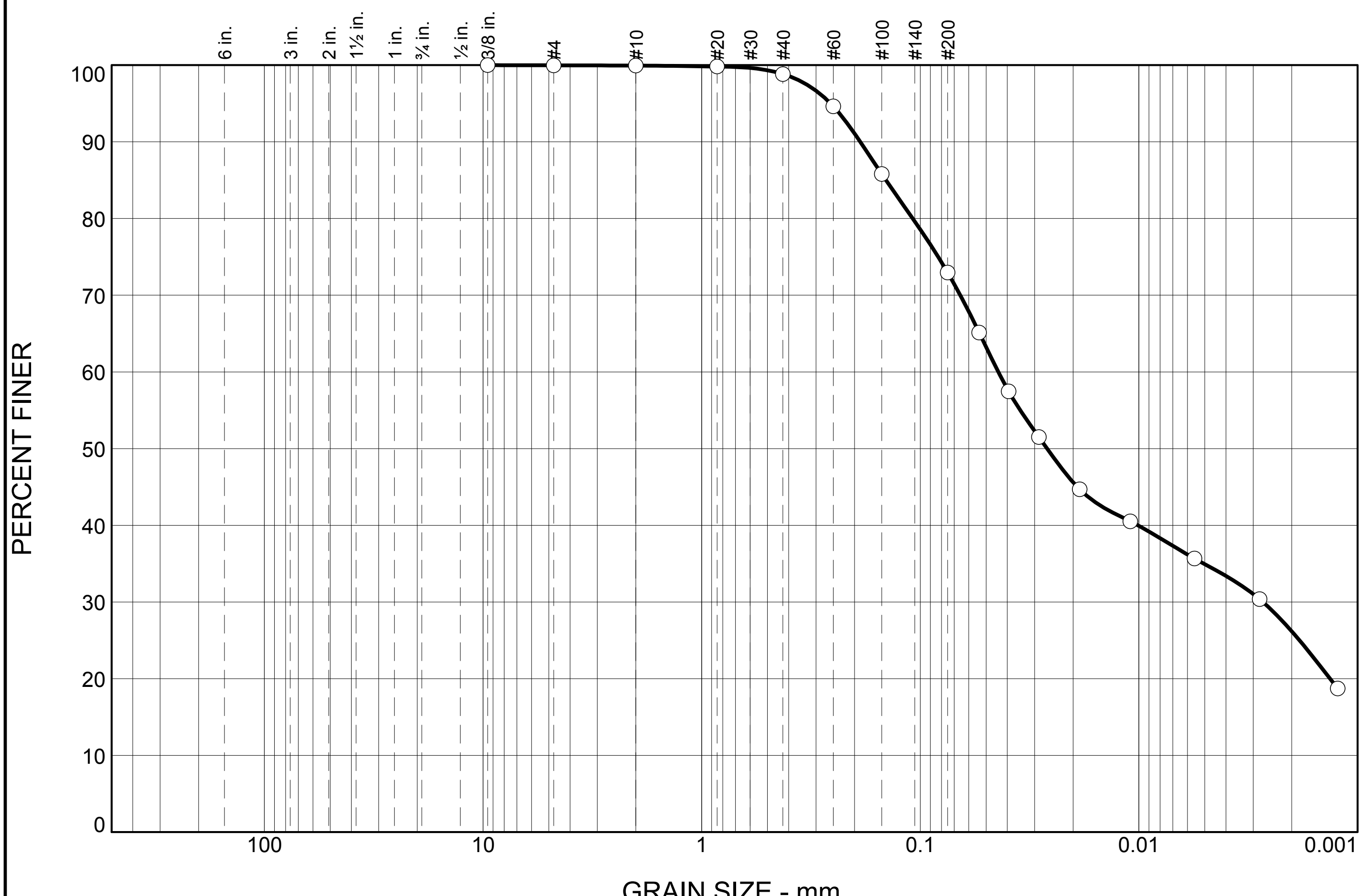
Location: TP09
Depth: 1'

Date: 8/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.1	1.1	25.8	46.8	26.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	100.0		
#10	99.9		
#20	99.8		
#40	98.8		
#60	94.6		
#100	85.8		
#200	73.0		
0.0538 mm.	65.1		
0.0395 mm.	57.5		
0.0287 mm.	51.5		
0.0187 mm.	44.7		
0.0109 mm.	40.5		
0.0056 mm.	35.7		
0.0028 mm.	30.4		
0.0012 mm.	18.7		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 10 LL= 33 PI= 23

Coefficients

D_{90}= 0.1881 D_{85}= 0.1436 D_{60}= 0.0440
D_{50}= 0.0263 D_{30}= 0.0027 D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(14)

Remarks

As received moisture 12.2%

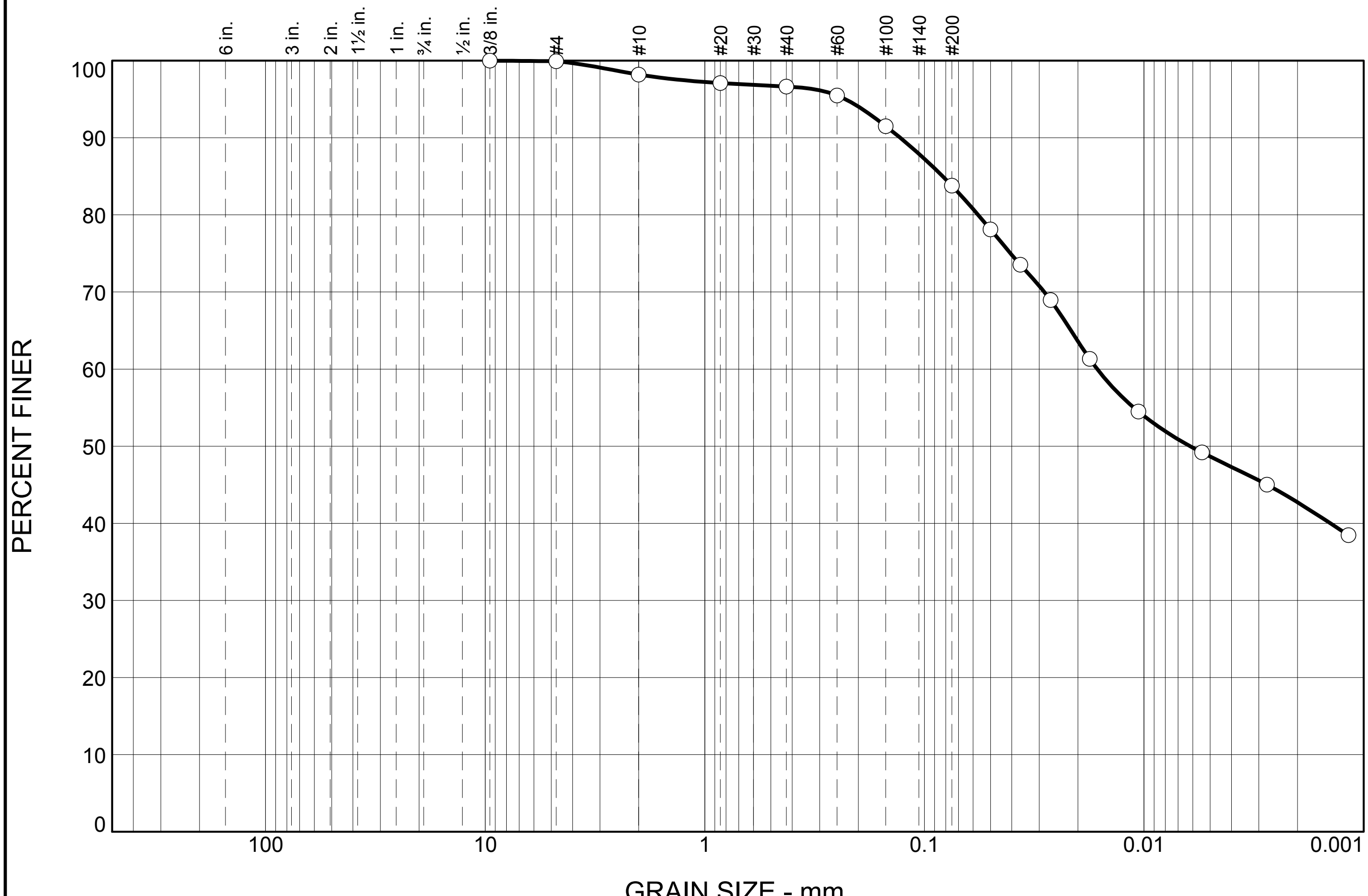
Location: TP09
Depth: 4'

Date: 7/21/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.1	1.7	1.6	12.8	41.1	42.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
0.375	100.0		
#4	99.9		
#10	98.2		
#20	97.1		
#40	96.6		
#60	95.5		
#100	91.5		
#200	83.8		
0.0500 mm.	78.1		
0.0365 mm.	73.5		
0.0266 mm.	68.9		
0.0177 mm.	61.3		
0.0106 mm.	54.5		
0.0054 mm.	49.2		
0.0028 mm.	45.0		
0.0012 mm.	38.5		

* (no specification provided)

Soil Description

lean clay with sand

Atterberg Limits

PL= 14 LL= 43 PI= 29

Coefficients

D_{90}= 0.1289 D_{85}= 0.0825 D_{60}= 0.0163
D_{50}= 0.0062 D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(24)

Remarks

As received moisture 10.9%

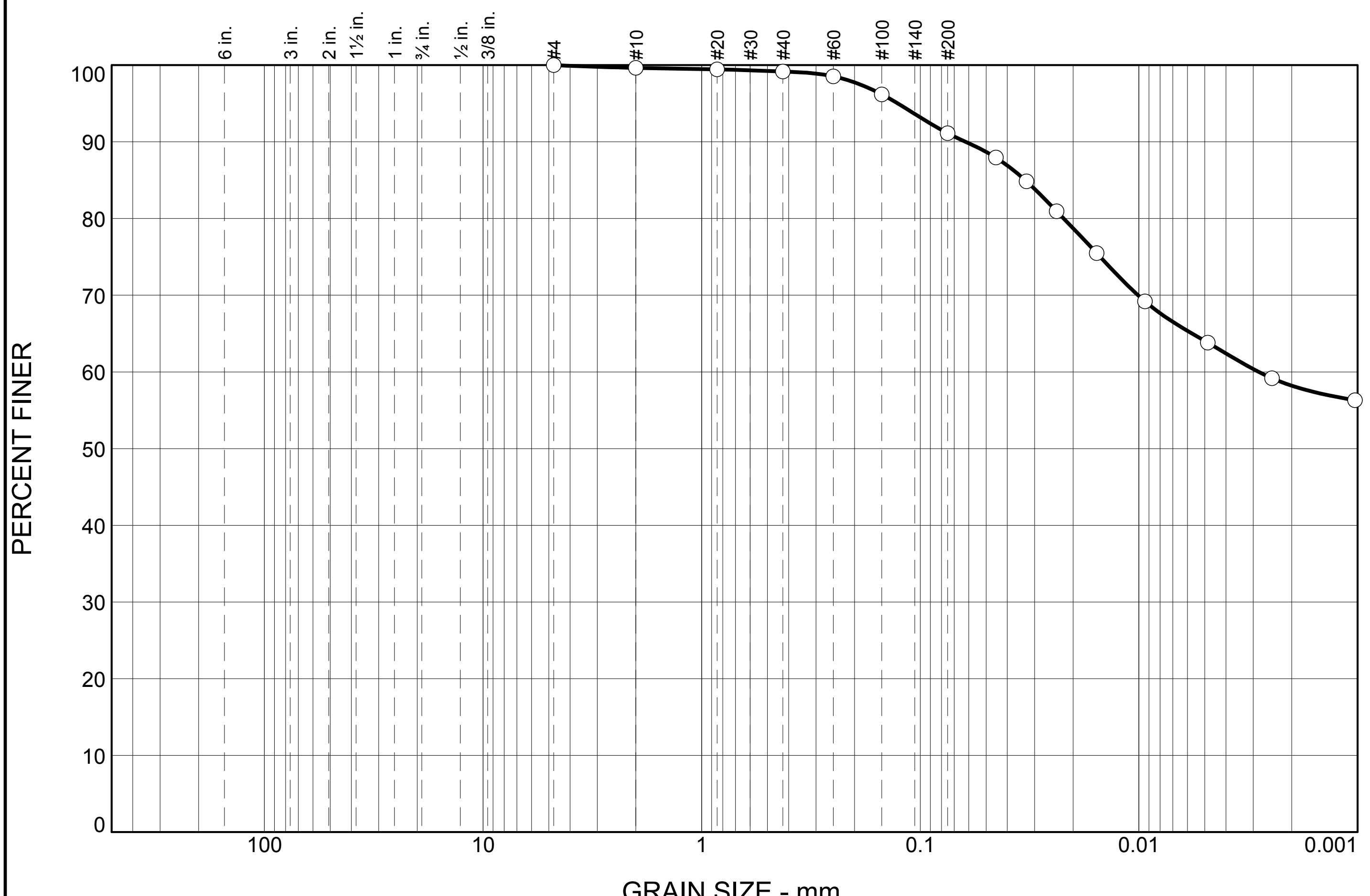
Location: TP10
Depth: 1'

Date: 8/20/08

Knight Piésold CONSULTING

Client:
Project: Powertech
Project No: DV102-279.02 **Fig.**

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.4	0.4	8.1	32.9	58.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.6		
#20	99.4		
#40	99.2		
#60	98.5		
#100	96.2		
#200	91.1		
0.0451 mm.	88.0		
0.0327 mm.	84.8		
0.0238 mm.	80.9		
0.0156 mm.	75.5		
0.0094 mm.	69.2		
0.0048 mm.	63.8		
0.0025 mm.	59.2		
0.0010 mm.	56.3		

* (no specification provided)

Soil Description

lean clay

Atterberg Limits

PL= 11 LL= 42 PI= 31

Coefficients

D_{90}= 0.0621 D_{85}= 0.0331 D_{60}= 0.0028
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Classification

USCS= CL AASHTO= A-7-6(28)

Remarks

As received moisture 19.2%

Location: TP10
Depth: 7'

Date: 7/18/08

Knight Piésold CONSULTING

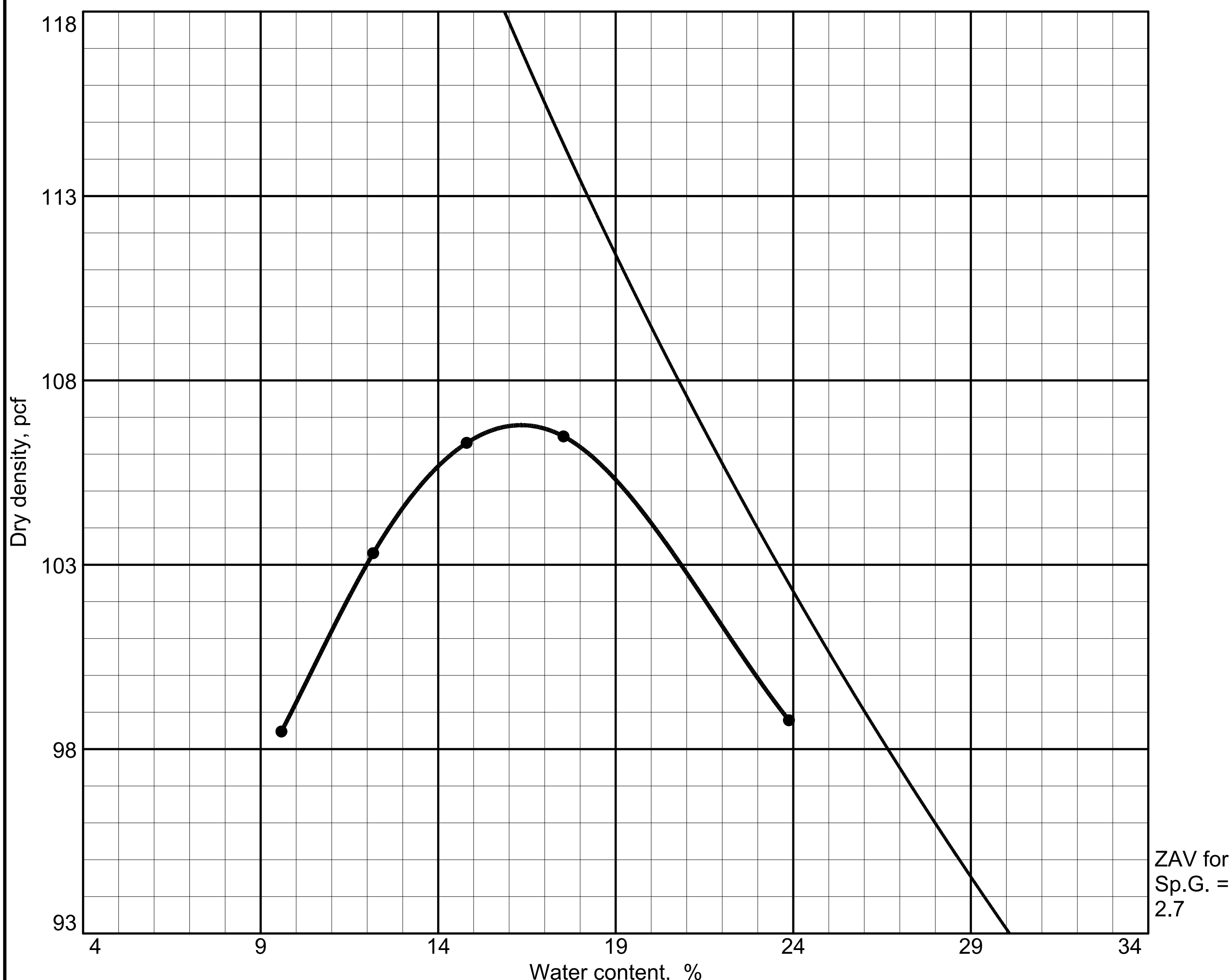
Client:
Project: Powertech

Project No: DV102-279.02 **Fig.**

Appendix C-2

Compaction Test Results

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
7'	CL	A-7-6(23)		2.7	43	32	0.0	77.5

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 106.8 pcf Optimum moisture = 16.3 %	lean clay with sand

Project No. DV102- **Client:**

Project: Powertech

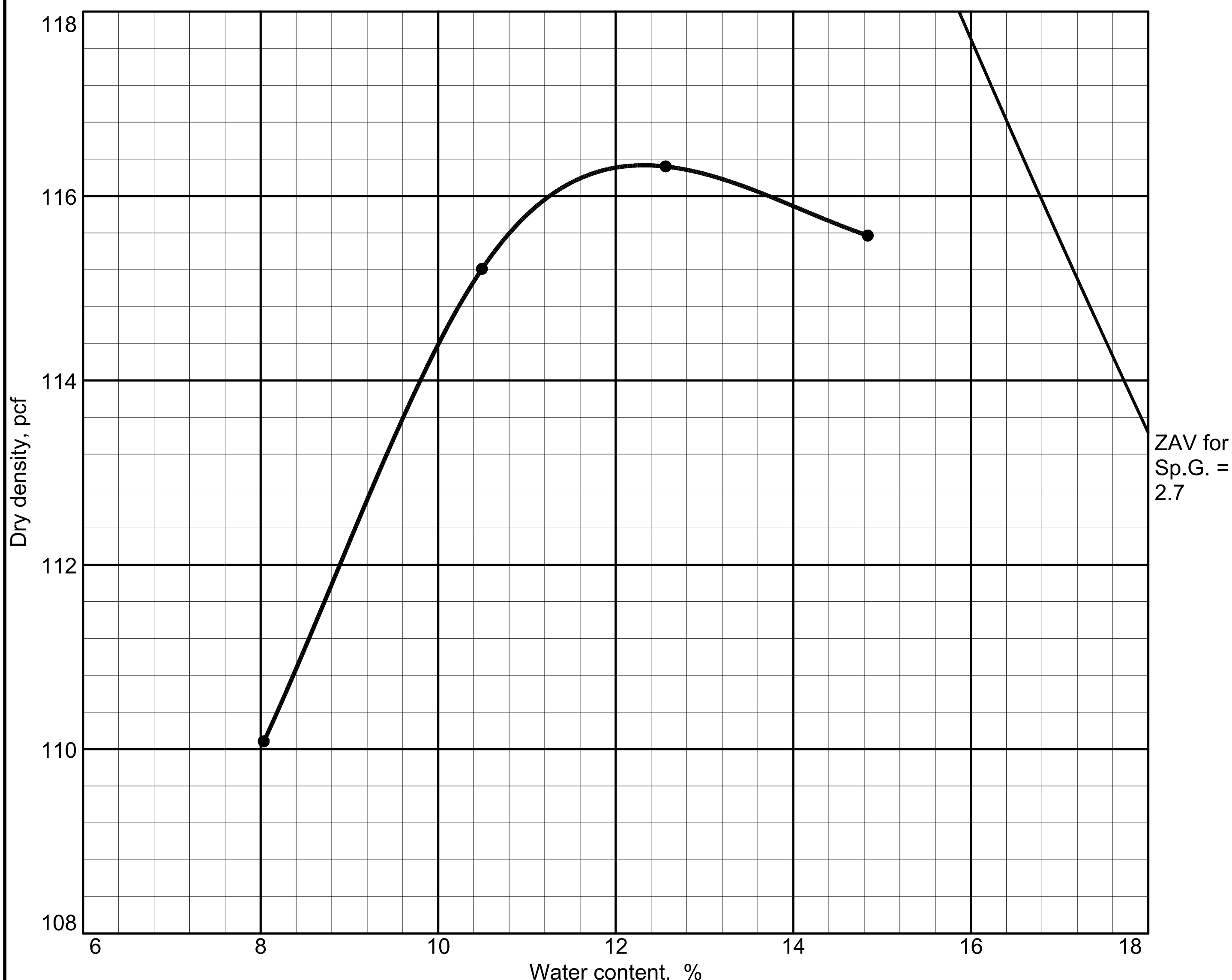
● **Location:** TP02

Remarks:

Knight Piésold CONSULTING

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
6'	CL	A-4(2)		2.7	21	9	0.3	56.0

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 116.3 pcf Optimum moisture = 12.3 %	sandy lean clay

Project No. DV102- **Client:**

Project: Powertech

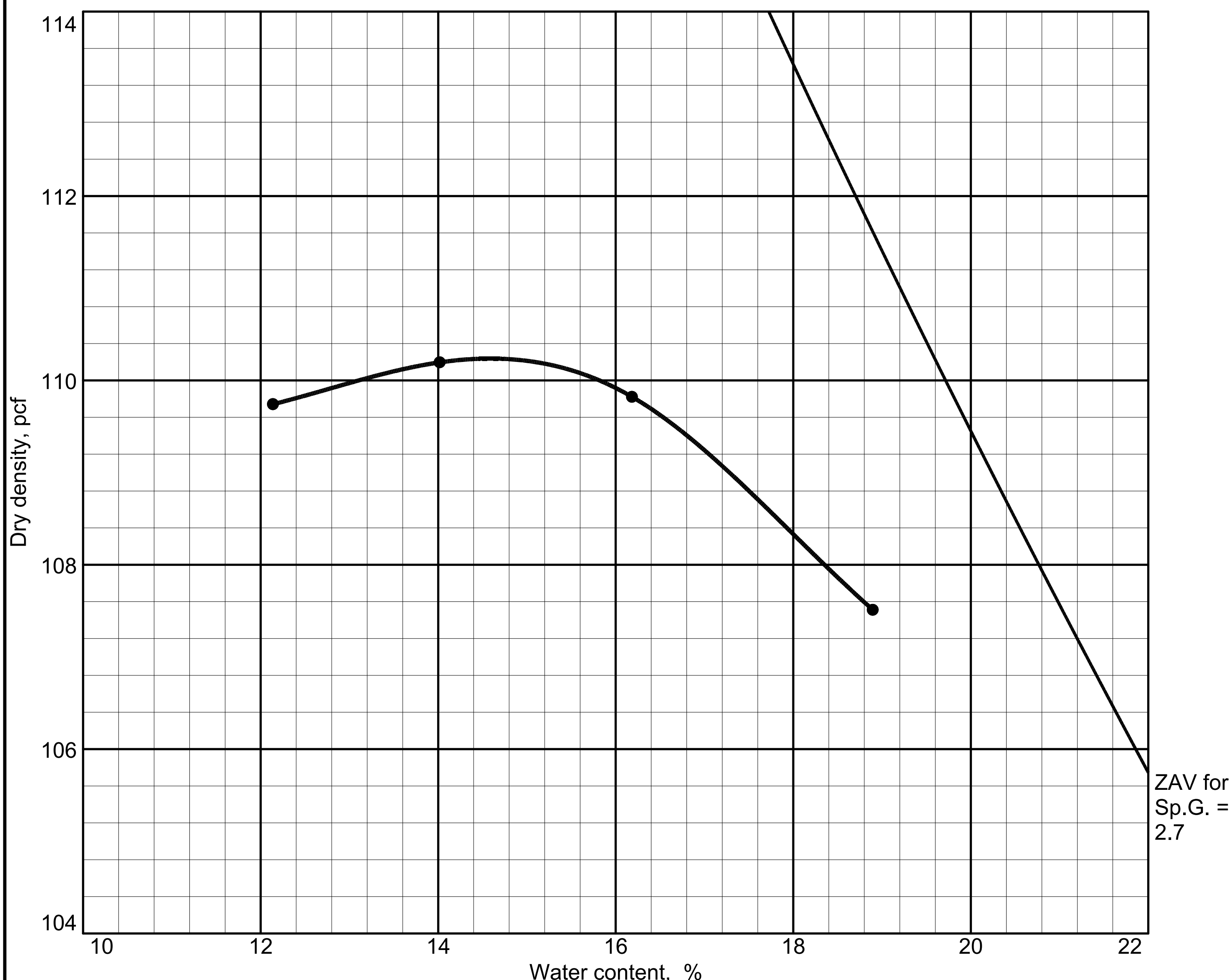
● **Location:** TP08

Knight Piésold CONSULTING

Remarks:

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > No.4	% < No.200
	USCS	AASHTO						
4'	CL	A-6(14)		2.7	33	23	0.0	73.0

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 110.2 pcf Optimum moisture = 14.6 %	lean clay with sand

Project No. DV102- **Client:**

Project: Powertech

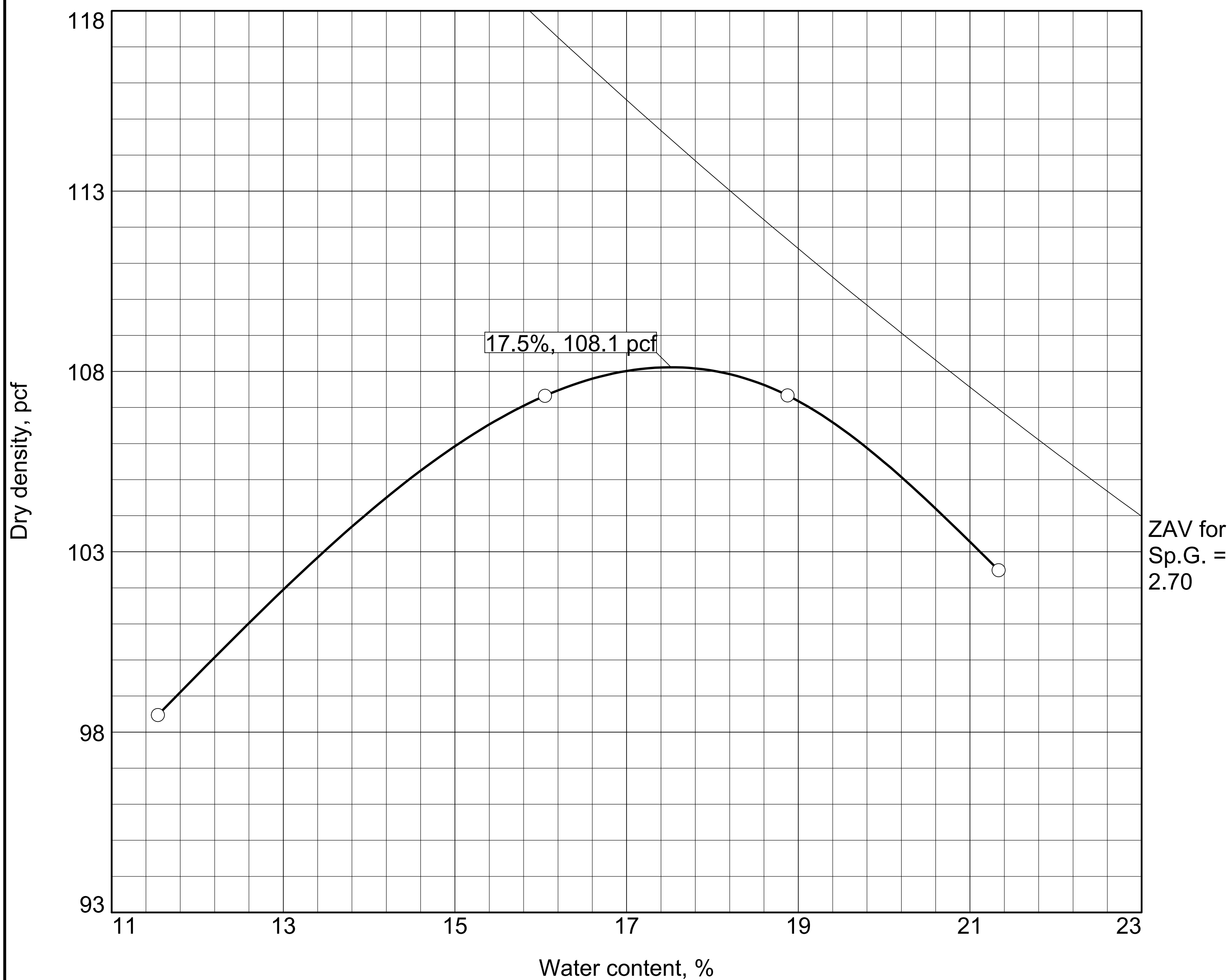
● **Location:** TP09

Remarks:

Knight Piésold CONSULTING

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
1'	CL	A-7-6(27)		2.7	44	30	0.0	89.5

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 108.1 pcf Optimum moisture = 17.5 %	lean clay

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

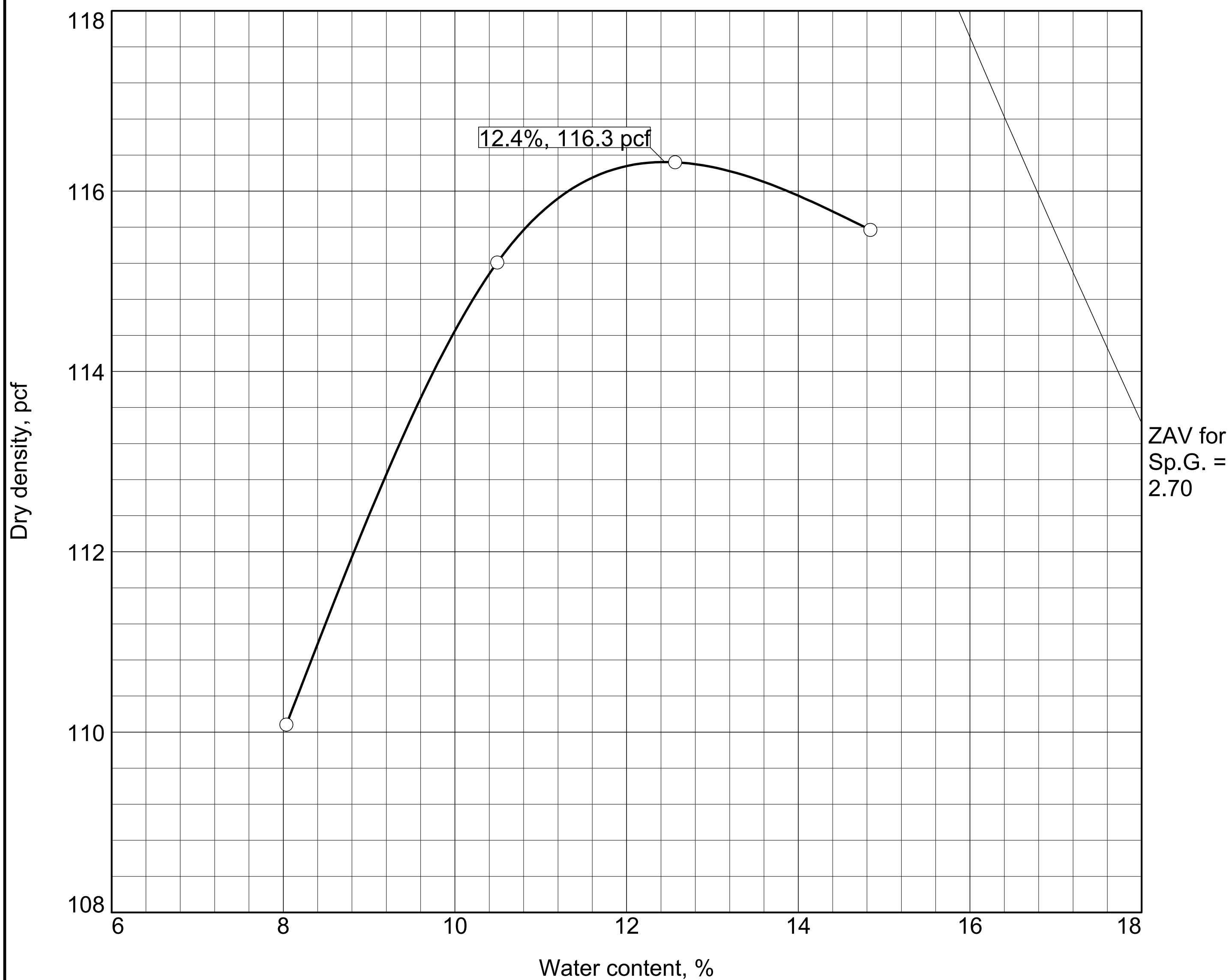
○ **Location:** TP09 @ 1' **Depth:** 1'

Remarks:

Knight Piésold CONSULTING

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
6'	CL	A-4(2)		2.7	21	9	0.3	56.0

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 116.3 pcf Optimum moisture = 12.4 %	sandy lean clay

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

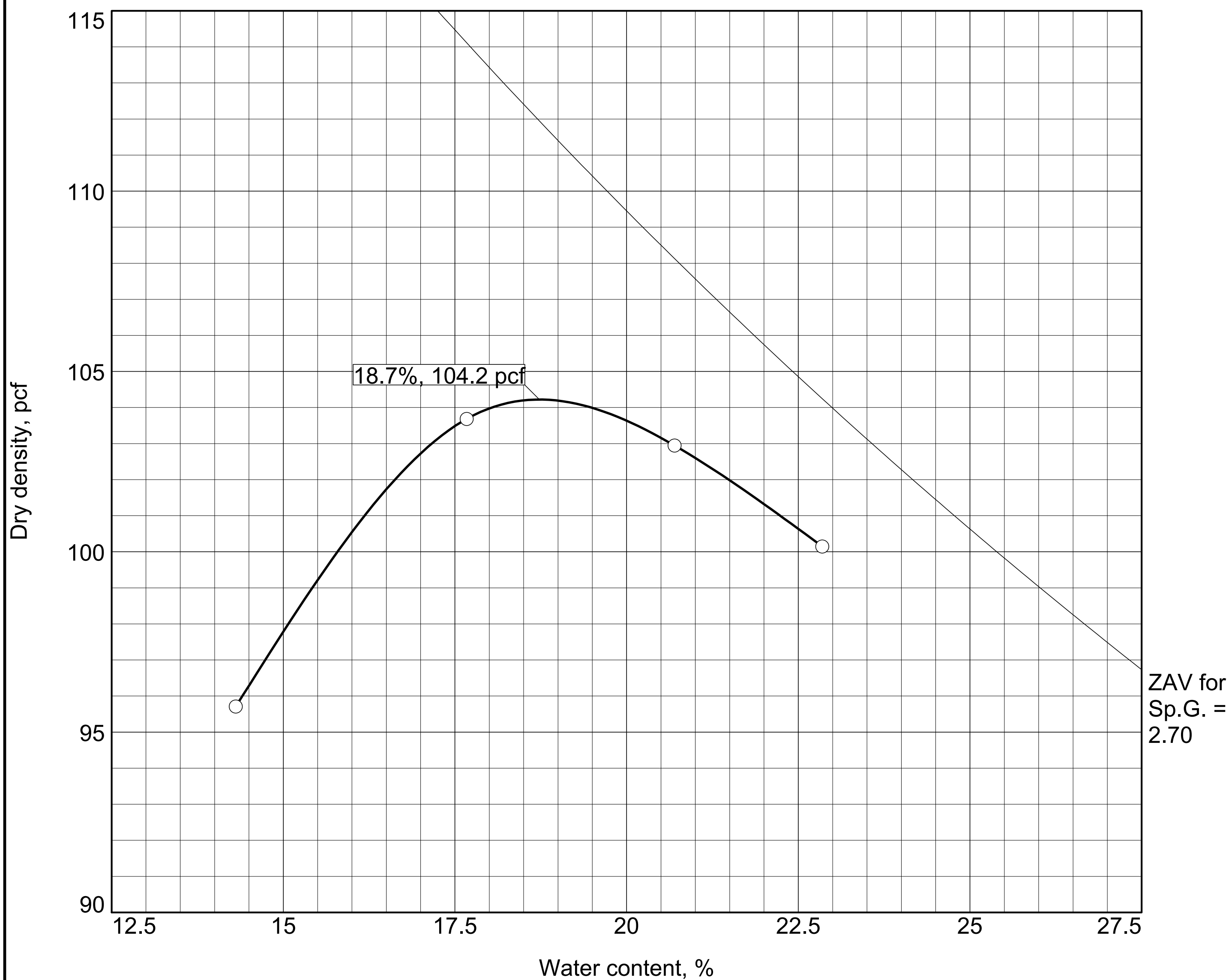
○ **Location:** TP08 @ 6' **Depth:** 6'

Knight Piésold CONSULTING

Remarks:

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
2'	CL	A-7-6(29)		2.7	49	30	0.0	91.7

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 104.2 pcf Optimum moisture = 18.7 %	lean clay

Project No. DV102279.02**Client:** Powertech Uranium

Project: DEWEY BURDOCK

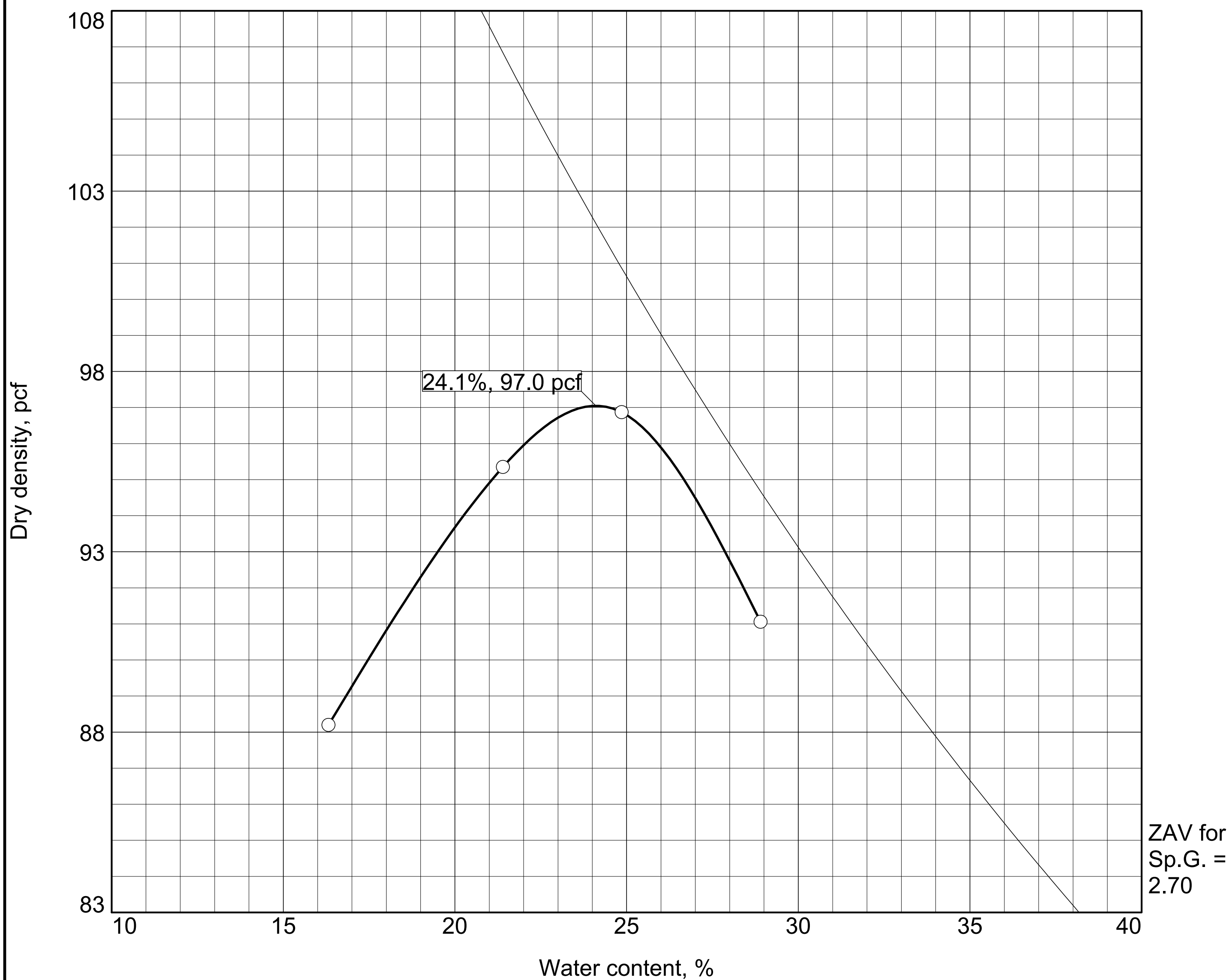
○ **Location:** TP08 @ 2' **Depth:** 2'

Knight Piésold CONSULTING

Remarks:

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
7'	CH	A-7-6(57)		2.7	69	52	0.0	98.1

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 97.0 pcf Optimum moisture = 24.1 %	fat clay

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

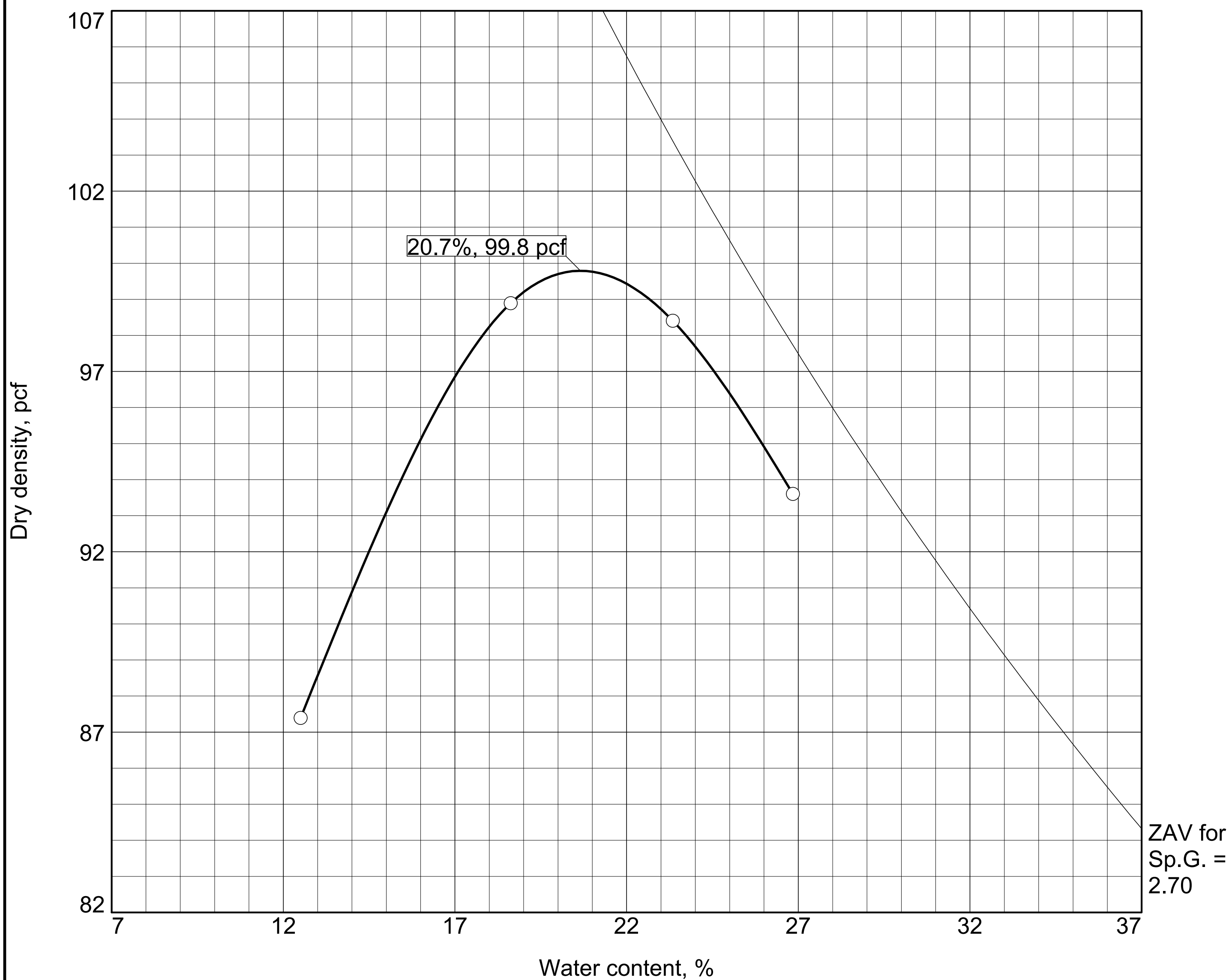
○ **Location:** TP03 @ 7' **Depth:** 7'

Remarks:

Knight Piésold CONSULTING

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
1'	CH	A-7-6(28)		2.7	50	35	0.0	79.5

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 99.8 pcf Optimum moisture = 20.7 %	fat clay with sand

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

○ **Location:** TP03 @ 1' **Depth:** 1'

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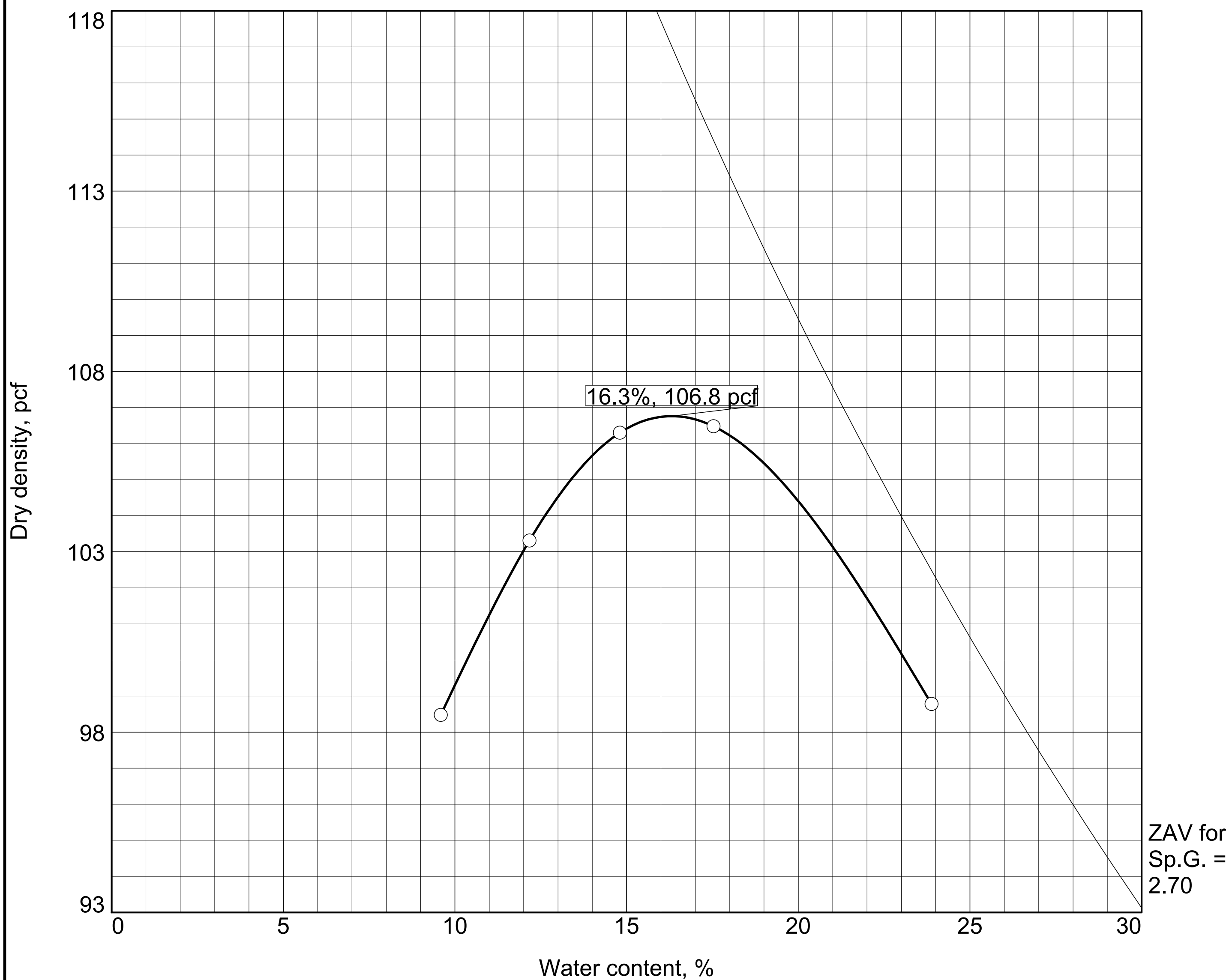
Remarks:

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
7'	CL	A-7-6(23)		2.7	43	32	0.0	77.5

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 106.8 pcf Optimum moisture = 16.3 %	lean clay with sand

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

○ **Location:** TP02 @ 7' **Depth:** 7'

Remarks:

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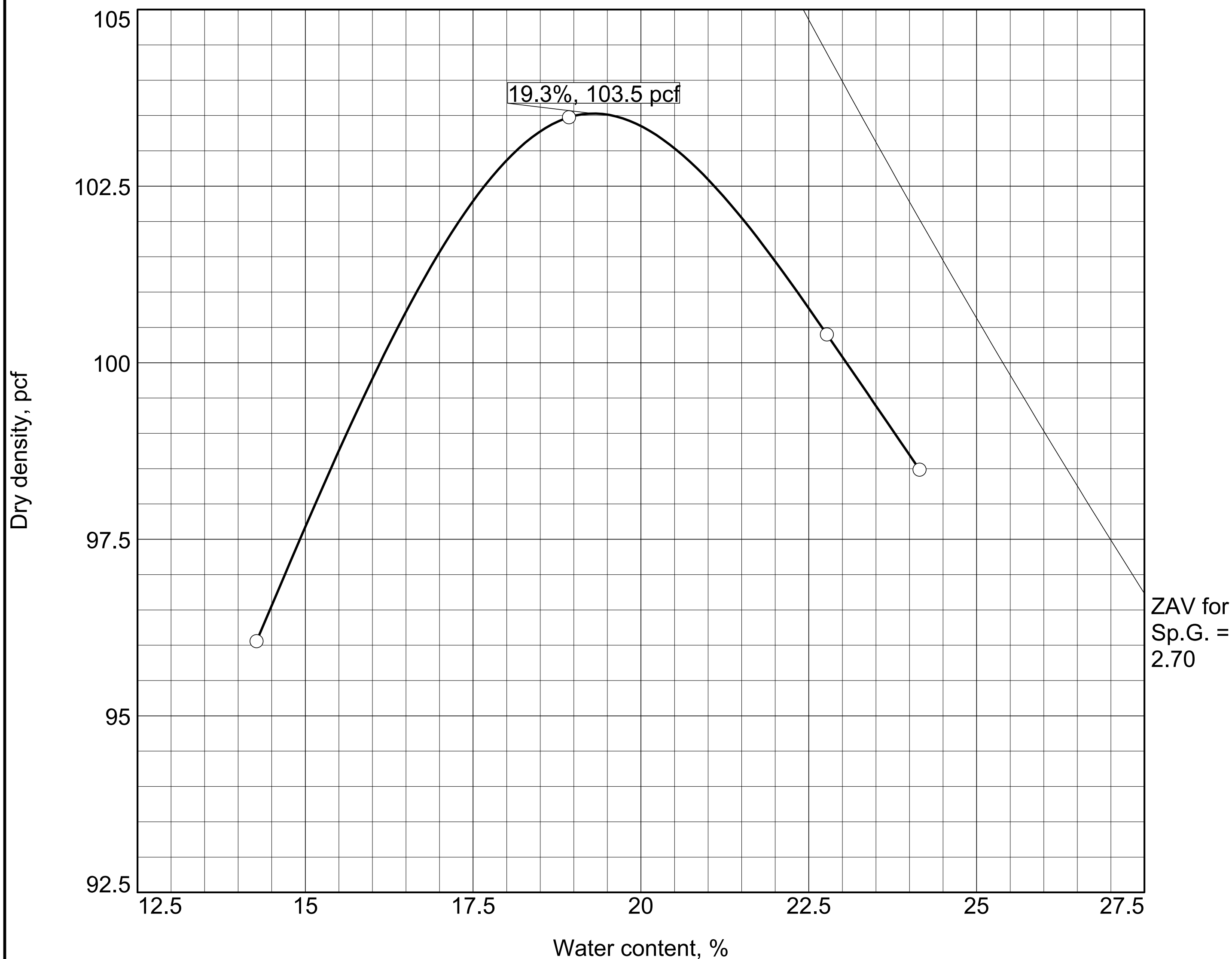
Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
1'	CL	A-7-6(27)		2.7	48	31	0.0	84.8

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 103.5 pcf Optimum moisture = 19.3 %	lean clay

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

○ **Location:** TP02 @ 1' **Depth:** 1'

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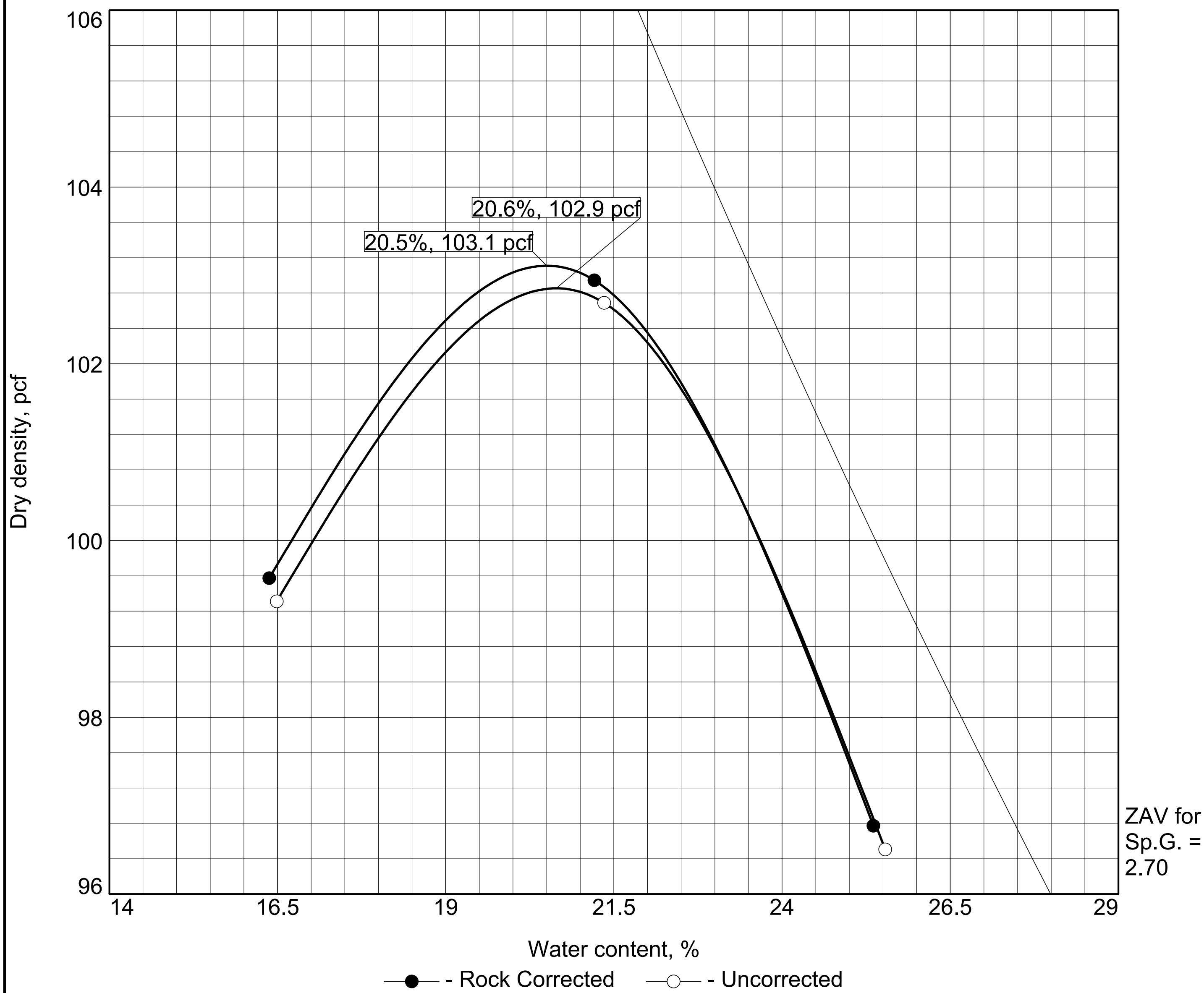
Remarks:

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
7'	CL	A-7-6(25)		2.7	42	25	0.7	95.1

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 103.1 pcf	102.9 pcf	lean clay
Optimum moisture = 20.5 %	20.6 %	

Project No. DV102279.02 **Client:** Powertech Uranium
Project: DEWEY BURDOCK

○ **Location:** TP01 @ 7' **Depth:** 7'

Remarks:

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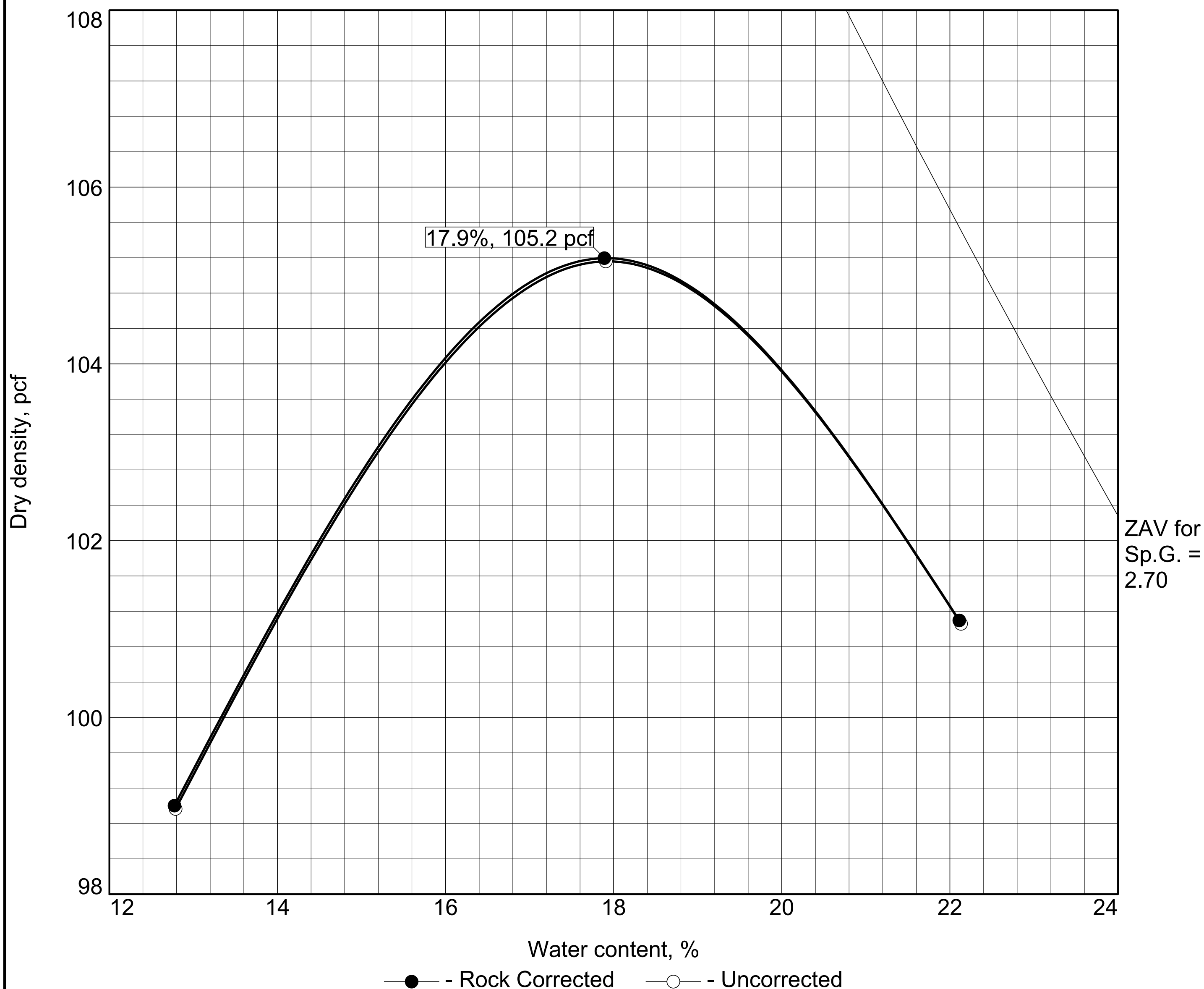
Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard
ASTM D 4718-87 Oversize Corr. Applied to Each Test Point

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
1'	CL	A-7-6(22)		2.7	43	28	0.1	80.8

ROCK CORRECTED TEST RESULTS	UNCORRECTED	MATERIAL DESCRIPTION
Maximum dry density = 105.2 pcf	105.2 pcf	lean clay with sand
Optimum moisture = 17.9 %	17.9 %	

Project No. DV102279.02 **Client:** Powertech Uranium
Project: DEWEY BURDOCK

○ **Location:** TP01 @ 1' **Depth:** 1'

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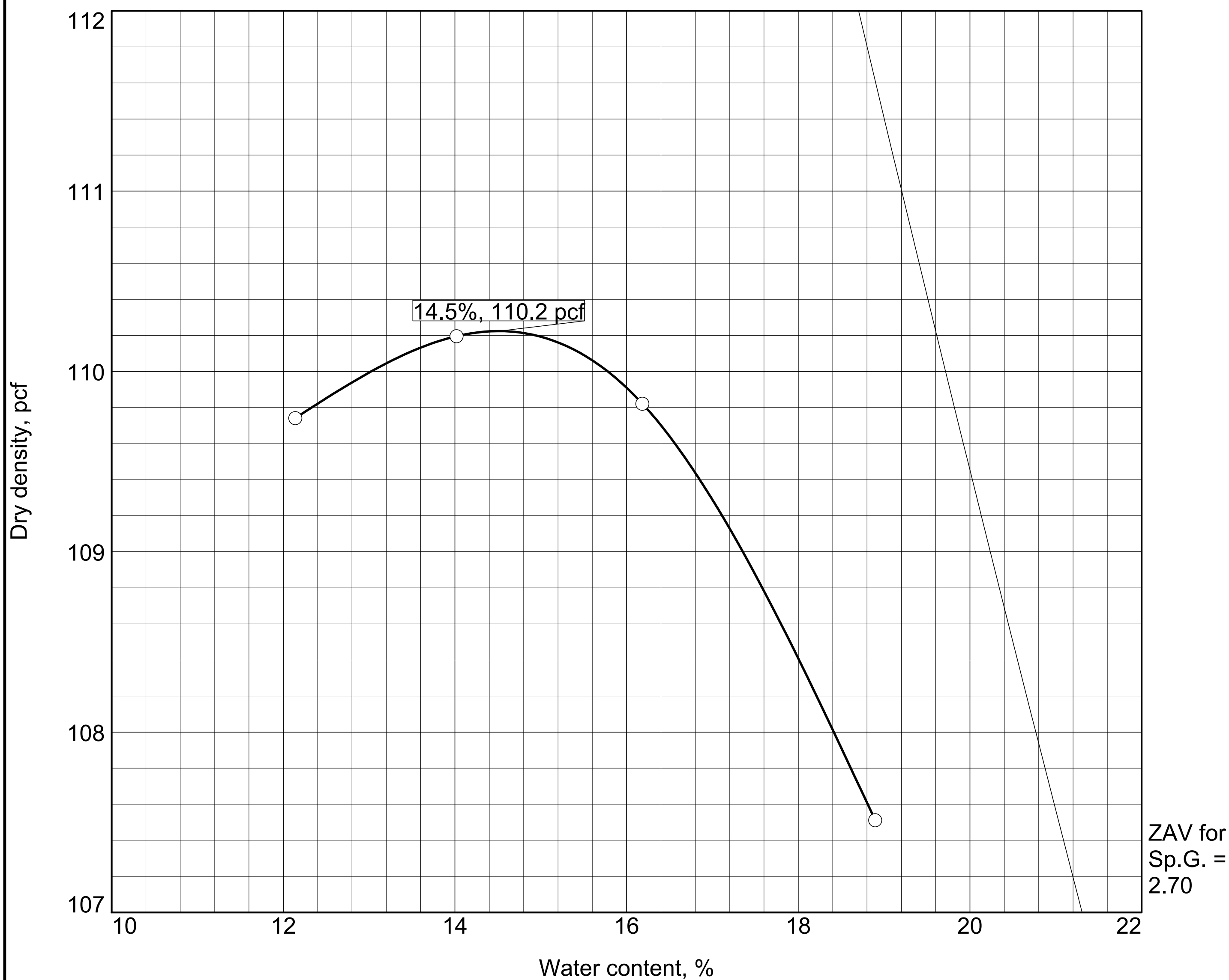
Remarks:

Fig.

COMPACTION TEST REPORT



Test specification: ASTM D 698-00a Method A Standard

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						
4'	CL	A-6(14)		2.7	33	23	0.0	73.0

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 110.2 pcf Optimum moisture = 14.5 %	lean clay with sand

Project No. DV102279.02 **Client:** Powertech Uranium

Project: DEWEY BURDOCK

○ **Location:** TP09 @ 4' **Depth:** 4'

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Remarks:

Fig.

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Appendix C-3

Specific Gravities

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Specific Gravity - Soil
ASTM D 854

Project	Powertech	Project No.	DV102-279.02
Date Staged	7/24/2008	Act. Code	500
Date Completed	7/28/2008	Lab No.	L28068
Tested By	jk	Checked By	spb

Sample No.	TP07 @ 10'		TP03 @ 7'		TP03 @ 1'		TP04 @ 7'		TP01 @ 3'	
Sample Prep. (Wet or Dry)	wet		wet		wet		wet		wet	
Flask No.	116	44	1	113	113	42	110	1	10	115
1) Wt. of Flask + Soil										
2) Wt. of Flask										
3) Wt. of Soil (1-2)	30.13	29.96	31.96	32.20	30.21	30.27	30.07	31.21	30.31	30.61
4) Calibrated Wt. of Flask + Water	353.61	354.62	362.23	344.35	344.40	351.35	343.15	362.18	362.27	343.24
5) #3 + #4	383.74	384.58	394.19	376.55	374.61	381.62	373.22	393.39	392.58	373.85
6) Wt. of Flask + Water + Soil	373.07	373.83	382.06	364.14	363.12	369.94	362.43	382.13	381.53	362.71
7) Volume of Soil (5 - 6)	10.67	10.75	12.13	12.41	11.49	11.68	10.79	11.26	11.05	11.14
8) Test Temperature, deg. C	26.6	26.8	25.9	26	25.3	26.6	26.7	26.6	25.2	25.2
9) Temperature Correction, k	0.998419	0.998363	0.998604	0.998577	0.998760	0.998419	0.998391	0.998419	0.998786	0.998786
10) Specific Gravity ((3 / 7) * k)	2.819	2.782	2.632	2.590	2.626	2.587	2.782	2.767	2.739	2.743
Reported Average, G_s @ 20 deg.C	2.80		2.61		2.61		2.77		2.74	
Tare	possy	16	7	12	10	6	15	61	9	1
Dry Soil + tare, g	178.91	424.1	425.05	427.96	402.49	406.26	423.66	178.32	426.32	425.18
Tare, g	148.78	394.14	393.09	395.76	372.28	375.99	393.59	147.11	396.01	394.57

General Notes: Line 9, k, is determined by dividing the density of water at test temperature recorded by the density of water at 20 deg. C.

Wet prep samples soaked overnight prior to application of vacuum.

Knight Piésold

CONSULTING

Specific Gravity - Soil
ASTM D 854

Project	Powertech	Project No.	DV102-279.02
Date Staged	8/21/2008	Act. Code	500
Date Completed	8/25/2008	Lab No.	L28068
Tested By	jk	Checked By	spb

Sample No.	TP05 @ 7'		TP07 @ 6'		TP10 @ 1'		TP04 @ 1'		TP07 @ 1'	
Sample Prep. (Wet or Dry)	dry		dry		dry		dry		dry	
Flask No.	115	112	3	13	44	112	113	42	110	115
1) Wt. of Flask + Soil										
2) Wt. of Flask										
3) Wt. of Soil (1-2)	35.61	35.64	35.03	35.20	35.17	35.47	34.96	35.17	35.23	34.91
4) Calibrated Wt. of Flask + Water	352.28	346.37	365.26	364.22	354.75	346.47	344.44	351.40	343.29	352.39
5) #3 + #4	387.89	382.01	400.29	399.42	389.92	381.94	379.40	386.57	378.52	387.30
6) Wt. of Flask + Water + Soil	374.65	368.94	387.83	386.83	376.73	368.64	366.18	373.12	365.82	374.53
7) Volume of Soil (5 - 6)	13.24	13.07	12.46	12.59	13.19	13.30	13.22	13.45	12.70	12.77
8) Test Temperature, deg. C	26.2	26.2	24.6	24.5	24.8	24.7	24.7	24.5	24.5	24.6
9) Temperature Correction, k	0.998525	0.998525	0.998942	0.998968	0.998890	0.998916	0.998916	0.998968	0.998968	0.998942
10) Specific Gravity ((3 / 7) * k)	2.686	2.723	2.808	2.793	2.663	2.664	2.642	2.612	2.771	2.731
Reported Average, G_s @ 20 deg.C	2.70		2.80		2.66		2.63		2.75	
Tare	12	11	2	5	1	6	3	11	20	15
Dry Soil + tare, g	431.44	428.79	428.33	410.59	429.75	411.44	438.06	428.29	430.64	428.5
Tare, g	395.83	393.15	393.3	375.39	394.58	375.97	403.1	393.12	395.41	393.59

General Notes: Line 9, k, is determined by dividing the density of water at test temperature recorded by the density of water at 20 deg. C.

Wet prep samples soaked overnight prior to application of vacuum.

Knight Piésold

CONSULTING

Specific Gravity - Soil
ASTM D 854

Project	Powertech	Project No.	DV102-279.02
Date Staged	8/16/2008	Act. Code	500
Date Completed	8/21/2008	Lab No.	L28068
Tested By	rss	Checked By	spb

Sample No.	TP01 @ 7'		TP09 @ 1'		TP02 @ 4'		TP08 @ 2'		TP06 @ 1'	
Sample Prep. (Wet or Dry)	dry		dry		dry		dry		dry	
Flask No.	116	110	113	42	11	3	1	44	116	13
1) Wt. of Flask + Soil										
2) Wt. of Flask										
3) Wt. of Soil (1-2)	35.05	35.39	35.68	35.79	35.70	36.30	35.57	35.53	35.52	35.41
4) Calibrated Wt. of Flask + Water	353.83	343.37	344.35	351.30	359.05	365.15	362.21	354.65	353.65	364.13
5) #3 + #4	388.88	378.76	380.03	387.09	394.75	401.45	397.78	390.18	389.17	399.54
6) Wt. of Flask + Water + Soil	375.69	365.35	366.61	373.57	381.24	387.83	384.54	376.68	375.76	386.20
7) Volume of Soil (5 - 6)	13.19	13.41	13.42	13.52	13.51	13.62	13.24	13.50	13.41	13.34
8) Test Temperature, deg. C	23.2	23.2	26.1	26.1	23.5	26.3	26.2	26.4	26.1	25.9
9) Temperature Correction, k	0.999291	0.999291	0.998551	0.998551	0.999219	0.998499	0.998525	0.998473	0.998551	0.998604
10) Specific Gravity ((3 / 7) * k)	2.655	2.637	2.655	2.643	2.640	2.661	2.683	2.628	2.645	2.651
Reported Average, G_s @ 20 deg.C	2.65		2.65		2.65		2.66		2.65	
Tare	3	5	17	15	20	6	8	3	20	5
Dry Soil + tare, g	438.19	410.79	430.94	429.43	431.15	412.33	427.95	438.64	430.96	410.81
Tare, g	403.14	375.4	395.26	393.64	395.45	376.03	392.38	403.11	395.44	375.4

General Notes: Line 9, k, is determined by dividing the density of water at test temperature recorded by the density of water at 20 deg. C.

Wet prep samples soaked overnight prior to application of vacuum.

Knight Piésold

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Specific Gravity - Soil
ASTM D 854

Project	Powertech	Project No.	DV102-279.02
Date Staged	7/21/2008	Act. Code	500
Date Completed	7/24/2008	Lab No.	L28068
Tested By	jk	Checked By	spb

Sample No.	TP02 @ 7'		TP09 @ 4'		TP06 @ 10'		TP01 @ 1'		TP05 @ 1'	
Sample Prep. (Wet or Dry)	wet		wet		wet		wet		wet	
Flask No.	116	112	10	115	44	115	1	10	112	13
1) Wt. of Flask + Soil										
2) Wt. of Flask										
3) Wt. of Soil (1-2)	31.89	32.05	30.85	31.06	30.18	30.01	30.51	32.08	48.12	35.41
4) Calibrated Wt. of Flask + Water	353.70	346.43	363.76	352.35	354.83	352.46	362.39	363.85	346.57	364.28
5) #3 + #4	385.59	378.48	394.61	383.41	385.01	382.47	392.90	395.93	394.69	399.69
6) Wt. of Flask + Water + Soil	374.02	366.81	383.28	371.99	373.72	371.39	381.53	384.01	376.64	386.47
7) Volume of Soil (5 - 6)	11.57	11.67	11.33	11.42	11.29	11.08	11.37	11.92	18.05	13.22
8) Test Temperature, deg. C	25.2	25.2	25	25.1	23.5	23.3	23.3	23.5	23.1	23.5
9) Temperature Correction, k	0.998786	0.998786	0.998838	0.998812	0.999219	0.999267	0.999267	0.999219	0.999315	0.999219
10) Specific Gravity ((3 / 7) * k)	2.752	2.742	2.721	2.716	2.671	2.706	2.681	2.689	2.664	2.676
Reported Average, G_s @ 20 deg.C	2.75		2.72		2.69		2.69		2.67	
Tare	13	11	15	8	1	12	6	11	8	15
Dry Soil + tare, g	434.96	425.16	424.39	423.41	424.78	425.85	406.53	425.22	440.49	429.08
Tare, g	403.07	393.11	393.54	392.35	394.6	395.84	376.02	393.14	392.37	393.67

General Notes: Line 9, k, is determined by dividing the density of water at test temperature recorded by the density of water at 20 deg. C.

Wet prep samples soaked overnight prior to application of vacuum.

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Specific Gravity - Soil
ASTM D 854

Project	Powertech		Project No.	DV102-279.02
Date Staged	7/21/2008		Act. Code	500
Date Completed	7/24/2008		Lab No.	L28068
Tested By	jk		Checked By	spb

Sample No.	TP06 @ 7'		TP05 @ 4'		TP10-7'		TP03 @ 11'		TP08 @ 6'	
Sample Prep. (Wet or Dry)	wet		wet		wet		wet		wet	
Flask No.	3	116	13	1	112	44	115	13	13	44
1) Wt. of Flask + Soil										
2) Wt. of Flask										
3) Wt. of Soil (1-2)	31.23	31.21	29.86	30.51	33.94	33.56	50.78	33.70	29.50	29.04
4) Calibrated Wt. of Flask + Water	365.20	353.68	364.13	362.23	346.37	354.69	352.30	364.13	364.18	354.72
5) #3 + #4	396.43	384.89	393.99	392.74	380.31	388.25	403.08	397.83	393.68	383.76
6) Wt. of Flask + Water + Soil	384.85	373.38	383.08	381.38	367.79	375.81	384.42	385.50	382.87	373.05
7) Volume of Soil (5 - 6)	11.58	11.51	10.91	11.36	12.52	12.44	18.66	12.33	10.81	10.71
8) Test Temperature, deg. C	25.6	25.6	25.8	25.8	26.2	25.7	25.9	25.7	25.1	25.2
9) Temperature Correction, k	0.998682	0.998682	0.998630	0.998630	0.998525	0.998656	0.998604	0.998656	0.998812	0.998786
10) Specific Gravity ((3 / 7) * k)	2.693	2.708	2.733	2.682	2.707	2.694	2.718	2.731	2.726	2.707
Reported Average, G_s @ 20 deg.C	2.70		2.71		2.70		2.72		2.72	
Tare	26	rp	19	f	a	33	16	2	5	3
Dry Soil + tare, g	149.46	450.36	147.98	176.64	178.95	145.38	444.86	426.96	404.91	432.16
Tare, g	118.23	419.15	118.12	146.13	145.01	111.82	394.08	393.26	375.41	403.12

General Notes: Line 9, k, is determined by dividing the density of water at test temperature recorded by the density of water at 20 deg. C.

Wet prep samples soaked overnight prior to application of vacuum.

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Specific Gravity - Soil
ASTM D 854

Project	Powertech	Project No.	DV102-279.02
Date Staged	8/22/2008	Act. Code	500
Date Completed	8/26/2008	Lab No.	L28068
Tested By	rss	Checked By	spb

Sample No.	TP02 @ 1'									
Sample Prep. (Wet or Dry)	dry									
Flask No.	110	10								
1) Wt. of Flask + Soil										
2) Wt. of Flask										
3) Wt. of Soil (1-2)	35.53	35.88								
4) Calibrated Wt. of Flask + Water	343.18	363.67								
5) #3 + #4	378.71	399.55								
6) Wt. of Flask + Water + Soil	365.55	386.28								
7) Volume of Soil (5 - 6)	13.16	13.27								
8) Test Temperature, deg. C	26.2	26.3								
9) Temperature Correction, k	0.998525	0.998499								
10) Specific Gravity ((3 / 7) * k)	2.696	2.700								
Reported Average, G_s @ 20 deg.C	2.70									
Tare	2	1								
Dry Soil + tare, g	428.92	430.48								
Tare, g	393.39	394.6								

General Notes: Line 9, k, is determined by dividing the density of water at test temperature recorded by the density of water at 20 deg. C.

Wet prep samples soaked overnight prior to application of vacuum.

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Appendix C-4

Flexible Wall Permeability Test Results

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP01	LAB NO. :	
DEPTH	3'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/18/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	07/25/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	398.03	422.74
Wt. Wet Soil & Pan (g)	398.03	615.46
Wt. Dry Soil & Pan (g)	335.14	527.86
Wt. Moisture Lost (g)	62.89	87.60
Wt. of Pan Only (g)	0.00	192.72
Wt. of Dry Soil (g)	335.14	335.14
Moisture Content %	18.8	26.1
Wet Density (pcf)	120.2	125.7
Dry Density (pcf)	101.2	99.7

Init. Diameter (in)	1.928	(cm)	4.897
Init. Area (sq in)	2.919	(sq cm)	18.835
Init. Height (in)	4.320	(cm)	10.973
Height Change (in)	-0.110	(cm)	-0.279
Consol. Height (in)	4.430	(cm)	11.252
Area After Consol. (sq in)	2.891	(sq cm)	18.652

Vol. Before Consol. (cu ft)	0.00730	Specific Gravity	2.74
Vol. Before Consol. (cc)	206.7	Assumed?	No
Change in Vol. (cc)	-3.2		
Cell Exp. (cc)	0.0	Init. Saturation	74.5
Vol. After Consol. (cc)	209.9	Init. Void Ratio	0.690
Vol. After Consol. (cu ft)	0.00741	Final Saturation	100.0
Effective Porosity %	40.82	Final Void Ratio	0.716
Pressure Difference (psi):	0.00		
C =	0.64021	Buret Constant, a	0.922
k, cm/s = C/t*log(h1/h2)		Buret Stand	3

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	48.5	3.2	45.3	45.3	
3.00	47.9	3.9	44.0	44.0	4.5E-05
8.00	46.0	5.7	40.3	40.3	5.1E-05
6.00	44.7	7.1	37.6	37.6	5.4E-05
22.00	40.6	11.2	29.4	29.4	5.2E-05
7.00	39.5	12.2	27.3	27.3	4.9E-05
			Avg.of Last 4 Rdgs.		**5.1E-05**
			Max.Hyd.Gradient:	4.0	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP01	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/15/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/19/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	234.61	259.21
Wt. Wet Soil & Pan (g)	234.61	372.26
Wt. Dry Soil & Pan (g)	200.54	313.59
Wt. Moisture Lost (g)	34.07	58.67
Wt. of Pan Only (g)	0.00	113.05
Wt. of Dry Soil (g)	200.54	200.54
Moisture Content %	17.0	29.3
Wet Density (pcf)	100.9	122.3
Dry Density (pcf)	86.3	94.6

Init. Diameter (in)	1.926	(cm)	4.892
Init. Area (sq in)	2.913	(sq cm)	18.796
Init. Height (in)	3.040	(cm)	7.722
Height Change (in)	-0.009	(cm)	-0.023
Consol. Height (in)	3.049	(cm)	7.744
Area After Consol. (sq in)	2.648	(sq cm)	17.088

Vol. Before Consol. (cu ft)	0.00513	Specific Gravity	2.65
Vol. Before Consol. (cc)	145.1	Assumed?	No
Change in Vol. (cc)	12.8		
Cell Exp. (cc)	0.0	Init. Saturation	49.0
Vol. After Consol. (cc)	132.3	Init. Void Ratio	0.918
Vol. After Consol. (cu ft)	0.00467	Final Saturation	100.0
Effective Porosity %	47.86	Final Void Ratio	0.749
Pressure Difference (psi):	0.00		
C =	0.16641	Buret Constant, a	0.319
k, cm/s = C/t*log(h1/h2)		Buret Stand	17

Permeability Test Trials

Time sec	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	35.0	4.8	30.2	30.2	
108.95	33.0	6.8	26.2	26.2	9.4E-05
0.00	35.0	1.0	34.0	34.0	
93.96	33.0	3.0	30.0	30.0	9.6E-05
0.00	35.0	0.8	34.2	34.2	
95.89	33.0	2.8	30.2	30.2	9.4E-05
0.00	35.0	1.0	34.0	34.0	
150.35	31.4	4.0	27.4	27.4	1.0E-04
			Avg.of Last 4 Rdgs.		**9.7E-05**
			Max.Hyd.Gradient:	4.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP02	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/15/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/19/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	288.54	334.29
Wt. Wet Soil & Pan (g)	288.54	450.68
Wt. Dry Soil & Pan (g)	257.15	373.54
Wt. Moisture Lost (g)	31.39	77.14
Wt. of Pan Only (g)	0.00	116.39
Wt. of Dry Soil (g)	257.15	257.15
Moisture Content %	12.2	30.0
Wet Density (pcf)	106.1	121.8
Dry Density (pcf)	94.5	93.7

Init. Diameter (in)	1.890	(cm)	4.801
Init. Area (sq in)	2.806	(sq cm)	18.100
Init. Height (in)	3.694	(cm)	9.383
Height Change (in)	-0.052	(cm)	-0.132
Consol. Height (in)	3.746	(cm)	9.515
Area After Consol. (sq in)	2.791	(sq cm)	18.006

Vol. Before Consol. (cu ft)	0.00600	Specific Gravity	2.70
Vol. Before Consol. (cc)	169.8	Assumed?	No
Change in Vol. (cc)	-1.5		
Cell Exp. (cc)	0.0	Init. Saturation	42.1
Vol. After Consol. (cc)	171.3	Init. Void Ratio	0.783
Vol. After Consol. (cu ft)	0.00605	Final Saturation	100.0
Effective Porosity %	43.92	Final Void Ratio	0.799
Pressure Difference (psi):	0.00		
C =	0.19402	Buret Constant, a	0.319
k, cm/s = C/t*log(h1/h2)		Buret Stand	17

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	45.3	4.3	41.0	41.0	
0.25	44.9	4.6	40.3	40.3	9.7E-05
0.25	44.5	4.9	39.6	39.6	9.8E-05
0.50	43.8	5.6	38.2	38.2	1.0E-04
0.50	43.2	6.3	36.9	36.9	9.7E-05
1.00	41.9	7.6	34.3	34.3	1.0E-04
			Avg.of Last 4 Rdgs.		**1.0E-04**
			Max.Hyd.Gradient:	4.3	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP02	LAB NO. :	
DEPTH	4'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/15/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/19/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	242.87	265.20
Wt. Wet Soil & Pan (g)	242.87	378.18
Wt. Dry Soil & Pan (g)	209.93	322.91
Wt. Moisture Lost (g)	32.94	55.27
Wt. of Pan Only (g)	0.00	112.98
Wt. of Dry Soil (g)	209.93	209.93
Moisture Content %	15.7	26.3
Wet Density (pcf)	117.4	125.2
Dry Density (pcf)	101.5	99.1

Init. Diameter (in)	1.916	(cm)	4.867
Init. Area (sq in)	2.883	(sq cm)	18.601
Init. Height (in)	2.733	(cm)	6.942
Height Change (in)	-0.065	(cm)	-0.165
Consol. Height (in)	2.798	(cm)	7.107
Area After Consol. (sq in)	2.884	(sq cm)	18.606

Vol. Before Consol. (cu ft)	0.00456	Specific Gravity	2.65
Vol. Before Consol. (cc)	129.1	Assumed?	No
Change in Vol. (cc)	-3.1		
Cell Exp. (cc)	0.0	Init. Saturation	66.0
Vol. After Consol. (cc)	132.2	Init. Void Ratio	0.630
Vol. After Consol. (cu ft)	0.00467	Final Saturation	100.0
Effective Porosity %	38.65	Final Void Ratio	0.669
Pressure Difference (psi):	0.00		
C =	0.13893	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)		Buret Stand	12

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	34.0	2.1	31.9	31.9	
39.00	24.2	11.7	12.5	12.5	2.4E-05
0.00	40.1	2.5	37.6	37.6	
0.50	39.9	2.8	37.1	37.1	2.7E-05
0.50	39.6	3.0	36.6	36.6	2.7E-05
1.00	39.2	3.4	35.8	35.8	2.2E-05
2.00	38.3	4.2	34.1	34.1	2.4E-05
4.00	36.8	5.7	31.1	31.1	2.3E-05
			Avg.of Last 4 Rdgs.		**2.4E-05**
			Max.Hyd.Gradient:	5.3	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Constant Volume

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP02	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/18/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	07/25/08
CONF. PRESSURE. (psi)	6	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	450.18	465.03
Wt. Wet Soil & Pan (g)	450.18	576.85
Wt. Dry Soil & Pan (g)	354.47	466.29
Wt. Moisture Lost (g)	95.71	110.56
Wt. of Pan Only (g)	0.00	111.82
Wt. of Dry Soil (g)	354.47	354.47
Moisture Content %	27.0	31.2
Wet Density (pcf)	117.5	121.2
Dry Density (pcf)	92.5	92.4

Init. Diameter (in)	1.932	(cm)	4.907
Init. Area (sq in)	2.932	(sq cm)	18.913
Init. Height (in)	4.980	(cm)	12.649
Height Change (in)	-0.080	(cm)	-0.203
Consol. Height (in)	5.060	(cm)	12.852
Area After Consol. (sq in)	2.887	(sq cm)	18.630

Vol. Before Consol. (cu ft)	0.00845	Specific Gravity	2.75
Vol. Before Consol. (cc)	239.2	Assumed?	No
Change in Vol. (cc)	-0.2		
Cell Exp. (cc)	0.0	Init. Saturation	86.7
Vol. After Consol. (cc)	239.4	Init. Void Ratio	0.856
Vol. After Consol. (cu ft)	0.00846	Final Saturation	100.0
Effective Porosity %	46.12	Final Void Ratio	0.858
Pressure Difference (psi):	0.00		
Gradient			

Permeability Flow Trials

Time min.	Pipette Elevation cm	Annulus Elevation cm	Z1 cm	D zp cm	Permeability k cm/sec
0.0	23.70	0.30	23.4		
1.0	23.40	0.30	23.1	0.3	3.7E-07
1.0	23.20	0.30	22.9	0.2	2.5E-07
3.0	22.60	0.35	22.3	0.6	2.6E-07
4.0	22.00	0.40	21.6	0.6	2.0E-07
5.0	21.20	0.45	20.8	0.8	2.3E-07
8.0	19.90	0.50	19.4	1.3	2.5E-07
			Avg.of Last 4 Rdgs.		**2.3E-07**

General Test Notes:

1) Tap water was used as the permeant.

2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP03	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/17/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	07/25/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	355.76	400.49
Wt. Wet Soil & Pan (g)	355.76	595.00
Wt. Dry Soil & Pan (g)	303.37	497.88
Wt. Moisture Lost (g)	52.39	97.12
Wt. of Pan Only (g)	0.00	194.51
Wt. of Dry Soil (g)	303.37	303.37
Moisture Content %	17.3	32.0
Wet Density (pcf)	105.5	117.2
Dry Density (pcf)	90.0	88.8

Init. Diameter (in)	1.927	(cm)	4.895
Init. Area (sq in)	2.916	(sq cm)	18.816
Init. Height (in)	4.405	(cm)	11.189
Height Change (in)	-0.140	(cm)	-0.356
Consol. Height (in)	4.545	(cm)	11.544
Area After Consol. (sq in)	2.864	(sq cm)	18.479

Vol. Before Consol. (cu ft)	0.00743	Specific Gravity	2.61
Vol. Before Consol. (cc)	210.5	Assumed?	No
Change in Vol. (cc)	-2.8		
Cell Exp. (cc)	0.0	Init. Saturation	55.6
Vol. After Consol. (cc)	213.3	Init. Void Ratio	0.811
Vol. After Consol. (cu ft)	0.00753	Final Saturation	100.0
Effective Porosity %	44.79	Final Void Ratio	0.835
Pressure Difference (psi):	0.00		
C =	0.66298	Buret Constant, a	0.922
k, cm/s = C/t*log(h1/h2)		Buret Stand	2

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	46.1	4.0	42.1	42.1	
3.00	44.8	5.2	39.6	39.6	9.8E-05
3.00	43.7	6.4	37.3	37.3	9.6E-05
6.00	41.8	8.4	33.4	33.4	8.8E-05
4.00	40.5	9.6	30.9	30.9	9.3E-05
6.00	39.0	11.2	27.8	27.8	8.5E-05
19.00	35.3	15.0	20.3	20.3	7.9E-05
12.00	33.6	16.8	16.8	16.8	7.6E-05
			Avg.of Last 4 Rdgs.		**8.3E-05**
			Max.Hyd.Gradient:	3.5	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP03	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/17/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	07/24/08
CONF. PRESSURE. (	6	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	436.02	474.76
Wt. Wet Soil & Pan (g)	436.02	668.60
Wt. Dry Soil & Pan (g)	380.93	574.77
Wt. Moisture Lost (g)	55.09	93.83
Wt. of Pan Only (g)	0.00	193.84
Wt. of Dry Soil (g)	380.93	380.93
Moisture Content %	14.5	24.6
Wet Density (pcf)	119.8	123.8
Dry Density (pcf)	104.6	99.3

Init. Diameter (in)	1.930	(cm)	4.902
Init. Area (sq in)	2.926	(sq cm)	18.874
Init. Height (in)	4.740	(cm)	12.040
Height Change (in)	-0.250	(cm)	-0.635
Consol. Height (in)	4.990	(cm)	12.675
Area After Consol. (sq in)	2.928	(sq cm)	18.891

Vol. Before Consol. (cu ft)	0.00802	Specific Gravity	2.61
Vol. Before Consol. (cc)	227.2	Assumed?	No
Change in Vol. (cc)	-12.2		
Cell Exp. (cc)	0.0	Init. Saturation	67.8
Vol. After Consol. (cc)	239.4	Init. Void Ratio	0.557
Vol. After Consol. (cu ft)	0.00846	Final Saturation	100.0
Effective Porosity %	35.77	Final Void Ratio	0.641
Pressure Difference (psi):	0.00		
C =	0.71200	Buret Constant, a	0.922
k, cm/s = C/t*log(h1/h2)		Buret Stand	3

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	48.8	0.9	47.9	47.9	
23.00	42.0	7.6	34.4	34.4	7.4E-05
50.00	40.3	9.4	30.9	30.9	1.1E-05
89.00	36.5	12.1	24.4	24.4	1.4E-05
0.00	50.0	3.3	46.7	46.7	
3.00	49.7	3.5	46.2	46.2	1.8E-05
8.00	49.2	4.0	45.2	45.2	1.4E-05
29.00	47.6	5.5	42.1	42.1	1.3E-05
			Avg.of Last 4 Rdgs.		**1.5E-05**
			Max.Hyd.Gradient:	3.2	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP04	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/18/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/25/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	201.79	232.22
Wt. Wet Soil & Pan (g)	661.20	426.02
Wt. Dry Soil & Pan (g)	642.30	379.40
Wt. Moisture Lost (g)	18.90	46.62
Wt. of Pan Only (g)	394.58	193.80
Wt. of Dry Soil (g)	247.72	185.60
Moisture Content %	7.6	25.1
Wet Density (pcf)	105.6	123.7
Dry Density (pcf)	98.1	98.9

Init. Diameter (in)	1.919	(cm)	4.874
Init. Area (sq in)	2.892	(sq cm)	18.660
Init. Height (in)	2.517	(cm)	6.393
Height Change (in)	-0.122	(cm)	-0.310
Consol. Height (in)	2.639	(cm)	6.703
Area After Consol. (sq in)	2.710	(sq cm)	17.484

Vol. Before Consol. (cu ft)	0.00421	Specific Gravity	2.63
Vol. Before Consol. (cc)	119.3	Assumed?	No
Change in Vol. (cc)	2.1		
Cell Exp. (cc)	0.0	Init. Saturation	33.2
Vol. After Consol. (cc)	117.2	Init. Void Ratio	0.690
Vol. After Consol. (cu ft)	0.00414	Final Saturation	100.0
Effective Porosity %	40.24	Final Void Ratio	0.661
Pressure Difference (psi):	0.00		
C =	0.14077	Buret Constant, a	0.319
k, cm/s = C/t*log(h1/h2)		Buret Stand	17

Permeability Test Trials

Time sec	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	40.0	1.0	39.0	39.0	
36.83	35.0	6.0	29.0	29.0	4.9E-04
0.00	40.0	1.0	39.0	39.0	
36.77	35.0	6.0	29.0	29.0	4.9E-04
0.00	40.0	1.0	39.0	39.0	
37.37	35.0	6.0	29.0	29.0	4.8E-04
0.00	40.0	1.0	39.0	39.0	
37.10	35.0	6.0	29.0	29.0	4.9E-04
			Avg.of Last 4 Rdgs.		**4.9E-04**
			Max.Hyd.Gradient:	5.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP04	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/26/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	07/30/08
CONF. PRESSURE. (	6	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	317.46	345.97
Wt. Wet Soil & Pan (g)	317.46	739.60
Wt. Dry Soil & Pan (g)	287.97	681.60
Wt. Moisture Lost (g)	29.49	58.00
Wt. of Pan Only (g)	0.00	393.63
Wt. of Dry Soil (g)	287.97	287.97
Moisture Content %	10.2	20.1
Wet Density (pcf)	124.9	133.5
Dry Density (pcf)	113.3	111.1

Init. Diameter (in)	1.933	(cm)	4.910
Init. Area (sq in)	2.935	(sq cm)	18.933
Init. Height (in)	3.300	(cm)	8.382
Height Change (in)	-0.080	(cm)	-0.203
Consol. Height (in)	3.380	(cm)	8.585
Area After Consol. (sq in)	2.921	(sq cm)	18.846

Vol. Before Consol. (cu ft)	0.00560	Specific Gravity	2.77
Vol. Before Consol. (cc)	158.7	Assumed?	No
Change in Vol. (cc)	-3.1		
Cell Exp. (cc)	0.0	Init. Saturation	53.9
Vol. After Consol. (cc)	161.8	Init. Void Ratio	0.527
Vol. After Consol. (cu ft)	0.00571	Final Saturation	100.0
Effective Porosity %	34.49	Final Void Ratio	0.556
Pressure Difference (psi):	0.00		
C =	0.16726	Buret Constant, a	0.319
k, cm/s = C/t*log(h1/h2)		Buret Stand	17

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	45.7	5.8	39.9	39.9	
17.00	44.8	6.7	38.1	38.1	3.3E-06
31.00	43.3	8.0	35.3	35.3	3.0E-06
76.00	40.2	11.1	29.1	29.1	3.1E-06
185.00	34.8	16.1	18.7	18.7	2.9E-06
			Avg.of Last 4 Rdgs.		**3.1E-06**
			Max.Hyd.Gradient:	4.5	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP05	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/21/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/26/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	238.42	278.12
Wt. Wet Soil & Pan (g)	238.42	394.48
Wt. Dry Soil & Pan (g)	214.28	330.64
Wt. Moisture Lost (g)	24.14	63.84
Wt. of Pan Only (g)	0.00	116.36
Wt. of Dry Soil (g)	214.28	214.28
Moisture Content %	11.3	29.8
Wet Density (pcf)	107.9	120.5
Dry Density (pcf)	97.0	92.8

Init. Diameter (in)	1.934	(cm)	4.912
Init. Area (sq in)	2.938	(sq cm)	18.953
Init. Height (in)	2.865	(cm)	7.277
Height Change (in)	-0.160	(cm)	-0.406
Consol. Height (in)	3.025	(cm)	7.684
Area After Consol. (sq in)	2.907	(sq cm)	18.757

Vol. Before Consol. (cu ft)	0.00487	Specific Gravity	2.67
Vol. Before Consol. (cc)	137.9	Assumed?	No
Change in Vol. (cc)	-6.2		
Cell Exp. (cc)	0.0	Init. Saturation	41.9
Vol. After Consol. (cc)	144.1	Init. Void Ratio	0.719
Vol. After Consol. (cu ft)	0.00509	Final Saturation	100.0
Effective Porosity %	41.81	Final Void Ratio	0.796
Pressure Difference (psi):	0.00		
C =	0.14946	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time sec	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	30.0	5.0	25.0	25.0	
30.18	25.0	10.0	15.0	15.0	1.8E-05
0.00	30.0	5.0	25.0	25.0	
30.99	25.0	10.0	15.0	15.0	1.8E-05
0.00	30.0	5.0	25.0	25.0	
30.38	25.0	10.0	15.0	15.0	1.8E-05
0.00	30.0	5.0	25.0	25.0	
30.62	25.0	10.0	15.0	15.0	1.8E-05
			Avg.of Last 4 Rdgs.		**1.8E-05**
			Max.Hyd.Gradient:	2.6	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP05	LAB NO. :	
DEPTH	4'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/26/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	07/31/08
CONF. PRESSURE. (	5	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	286.03	325.14
Wt. Wet Soil & Pan (g)	286.03	520.81
Wt. Dry Soil & Pan (g)	256.01	451.68
Wt. Moisture Lost (g)	30.02	69.13
Wt. of Pan Only (g)	0.00	195.67
Wt. of Dry Soil (g)	256.01	256.01
Moisture Content %	11.7	27.0
Wet Density (pcf)	105.9	124.4
Dry Density (pcf)	94.8	98.0

Init. Diameter (in)	1.924	(cm)	4.887
Init. Area (sq in)	2.907	(sq cm)	18.757
Init. Height (in)	3.540	(cm)	8.992
Height Change (in)	0.090	(cm)	0.229
Consol. Height (in)	3.450	(cm)	8.763
Area After Consol. (sq in)	2.886	(sq cm)	18.619

Vol. Before Consol. (cu ft)	0.00596	Specific Gravity	2.71
Vol. Before Consol. (cc)	168.7	Assumed?	No
Change in Vol. (cc)	5.5		
Cell Exp. (cc)	0.0	Init. Saturation	40.5
Vol. After Consol. (cc)	163.2	Init. Void Ratio	0.785
Vol. After Consol. (cu ft)	0.00576	Final Saturation	100.0
Effective Porosity %	43.99	Final Void Ratio	0.727
Pressure Difference (psi):	0.00		
C =	0.17173	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	40.6	1.7	38.9	38.9	
0.50	40.4	2.0	38.4	38.4	3.2E-05
1.50	39.7	2.8	36.9	36.9	3.3E-05
5.00	37.3	5.1	32.2	32.2	3.4E-05
26.00	29.6	12.8	16.8	16.8	3.1E-05
51.00	23.7	18.5	5.2	5.2	2.9E-05
			Avg.of Last 4 Rdgs.		**3.2E-05**
			Max.Hyd.Gradient:	4.4	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP05	LAB NO. :	
DEPTH	8'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/21/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/26/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	337.81	368.50
Wt. Wet Soil & Pan (g)	337.81	564.36
Wt. Dry Soil & Pan (g)	292.11	487.97
Wt. Moisture Lost (g)	45.70	76.39
Wt. of Pan Only (g)	0.00	195.86
Wt. of Dry Soil (g)	292.11	292.11
Moisture Content %	15.6	26.2
Wet Density (pcf)	123.0	125.5
Dry Density (pcf)	106.3	99.5

Init. Diameter (in)	1.931	(cm)	4.905
Init. Area (sq in)	2.929	(sq cm)	18.894
Init. Height (in)	3.573	(cm)	9.075
Height Change (in)	-0.110	(cm)	-0.279
Consol. Height (in)	3.683	(cm)	9.355
Area After Consol. (sq in)	3.036	(sq cm)	19.591

Vol. Before Consol. (cu ft)	0.00606	Specific Gravity	2.70
Vol. Before Consol. (cc)	171.5	Assumed?	No
Change in Vol. (cc)	-11.8		
Cell Exp. (cc)	0.0	Init. Saturation	72.2
Vol. After Consol. (cc)	183.3	Init. Void Ratio	0.585
Vol. After Consol. (cu ft)	0.00647	Final Saturation	100.0
Effective Porosity %	36.91	Final Void Ratio	0.694
Pressure Difference (psi):	0.00		
C =	0.17423	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	50.7	1.5	49.2	49.2	
22.00	49.4	2.8	46.6	46.6	3.1E-06
30.00	48.0	4.3	43.7	43.7	2.7E-06
115.00	43.4	9.0	34.4	34.4	2.6E-06
64.00	41.3	11.1	30.2	30.2	2.6E-06
			Avg.of Last 4 Rdgs.		**2.8E-06**
			Max.Hyd.Gradient:	5.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP06	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/21/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/26/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	231.30	268.74
Wt. Wet Soil & Pan (g)	231.30	463.56
Wt. Dry Soil & Pan (g)	204.76	399.58
Wt. Moisture Lost (g)	26.54	63.98
Wt. of Pan Only (g)	194.86	194.82
Wt. of Dry Soil (g)	9.90	204.76
Moisture Content %	268.1	31.2
Wet Density (pcf)	104.9	118.8
Dry Density (pcf)	28.5	90.5

Init. Diameter (in)	1.920	(cm)	4.877
Init. Area (sq in)	2.895	(sq cm)	18.679
Init. Height (in)	2.900	(cm)	7.366
Height Change (in)	-0.162	(cm)	-0.411
Consol. Height (in)	3.062	(cm)	7.777
Area After Consol. (sq in)	2.814	(sq cm)	18.154

Vol. Before Consol. (cu ft)	0.00486	Specific Gravity	2.65
Vol. Before Consol. (cc)	137.6	Assumed?	No
Change in Vol. (cc)	-3.6		
Cell Exp. (cc)	0.0	Init. Saturation	44.0
Vol. After Consol. (cc)	141.2	Init. Void Ratio	0.781
Vol. After Consol. (cu ft)	0.00499	Final Saturation	100.0
Effective Porosity %	82.77	Final Void Ratio	0.827
Pressure Difference (psi):	0.00		
C =	0.15582	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)		Buret Stand	12

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	28.6	0.7	27.9	27.9	
3.00	28.4	0.9	27.5	27.5	5.4E-06
22.00	27.6	1.8	25.8	25.8	3.3E-06
30.00	26.5	2.6	23.9	23.9	2.9E-06
115.00	23.5	5.4	18.1	18.1	2.7E-06
64.00	22.2	6.5	15.7	15.7	2.5E-06
			Avg.of Last 4 Rdgs.		**2.8E-06**
			Max.Hyd.Gradient:	3.6	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP07	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/25/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	09/02/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	260.81	296.42
Wt. Wet Soil & Pan (g)	260.81	490.23
Wt. Dry Soil & Pan (g)	231.60	425.41
Wt. Moisture Lost (g)	29.21	64.82
Wt. of Pan Only (g)	0.00	193.81
Wt. of Dry Soil (g)	231.60	231.60
Moisture Content %	12.6	28.0
Wet Density (pcf)	118.6	124.4
Dry Density (pcf)	105.3	97.2

Init. Diameter (in)	1.922	(cm)	4.882
Init. Area (sq in)	2.901	(sq cm)	18.718
Init. Height (in)	2.888	(cm)	7.336
Height Change (in)	-0.100	(cm)	-0.254
Consol. Height (in)	2.988	(cm)	7.590
Area After Consol. (sq in)	3.037	(sq cm)	19.594

Vol. Before Consol. (cu ft)	0.00485	Specific Gravity	2.75
Vol. Before Consol. (cc)	137.3	Assumed?	No
Change in Vol. (cc)	-11.4		
Cell Exp. (cc)	0.0	Init. Saturation	55.0
Vol. After Consol. (cc)	148.7	Init. Void Ratio	0.630
Vol. After Consol. (cu ft)	0.00525	Final Saturation	100.0
Effective Porosity %	38.66	Final Void Ratio	0.766
Pressure Difference (psi):	2.00		
C =	0.14111	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	47.2	5.4	41.8	182.4	
93.0	46.7	5.7	41.0	181.6	4.8E-08
39.0	46.6	5.8	40.8	181.4	2.9E-08
37.0	46.5	6.0	40.5	181.1	4.6E-08
88.0	46.1	6.3	39.8	180.4	4.5E-08
127.0	45.5	6.8	38.8	179.4	4.7E-08
42.0	45.4	6.9	38.5	179.1	4.1E-08
142.0	44.9	7.3	37.6	178.2	3.4E-08
			Avg.of Last 4 Rdgs.		4.2E-08
			Max.Hyd.Gradient:	24.0	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP07	LAB NO. :	
DEPTH	6'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/27/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	09/03/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	243.01	271.19
Wt. Wet Soil & Pan (g)	243.01	466.02
Wt. Dry Soil & Pan (g)	212.83	407.66
Wt. Moisture Lost (g)	30.18	58.36
Wt. of Pan Only (g)	0.00	194.83
Wt. of Dry Soil (g)	212.83	212.83
Moisture Content %	14.2	27.4
Wet Density (pcf)	118.6	126.0
Dry Density (pcf)	103.9	98.9

Init. Diameter (in)	1.931	(cm)	4.905
Init. Area (sq in)	2.929	(sq cm)	18.894
Init. Height (in)	2.665	(cm)	6.769
Height Change (in)	-0.051	(cm)	-0.130
Consol. Height (in)	2.716	(cm)	6.899
Area After Consol. (sq in)	3.019	(sq cm)	19.481

Vol. Before Consol. (cu ft)	0.00452	Specific Gravity	2.80
Vol. Before Consol. (cc)	127.9	Assumed?	No
Change in Vol. (cc)	-6.5		
Cell Exp. (cc)	0.0	Init. Saturation	58.2
Vol. After Consol. (cc)	134.4	Init. Void Ratio	0.683
Vol. After Consol. (cu ft)	0.00475	Final Saturation	100.0
Effective Porosity %	40.57	Final Void Ratio	0.768
Pressure Difference (psi):	0.00		
C =	0.12900	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	40.3	0.9	39.4	39.4	
41.0	34.9	6.3	28.6	28.6	7.3E-06
17.0	33.4	7.8	25.6	25.6	6.1E-06
17.0	32.1	9.0	23.1	23.1	5.6E-06
18.0	30.9	10.2	20.7	20.7	5.7E-06
31.0	29.3	11.8	17.5	17.5	5.1E-06
			Avg.of Last 4 Rdgs.		**5.6E-06**
			Max.Hyd.Gradient:	4.9	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP07	LAB NO. :	
DEPTH	10'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/03/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/10/08
CONF. PRESSURE. (	8	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	144.55	151.22
Wt. Wet Soil & Pan (g)	144.55	347.12
Wt. Dry Soil & Pan (g)	121.17	317.07
Wt. Moisture Lost (g)	23.38	30.05
Wt. of Pan Only (g)	0.00	195.90
Wt. of Dry Soil (g)	121.17	121.17
Moisture Content %	19.3	24.8
Wet Density (pcf)	125.7	129.0
Dry Density (pcf)	105.4	103.4

Init. Diameter (in)	1.925	(cm)	4.890
Init. Area (sq in)	2.910	(sq cm)	18.777
Init. Height (in)	1.505	(cm)	3.823
Height Change (in)	-0.035	(cm)	-0.089
Consol. Height (in)	1.540	(cm)	3.912
Area After Consol. (sq in)	2.900	(sq cm)	18.708

Vol. Before Consol. (cu ft)	0.00253	Specific Gravity	2.80
Vol. Before Consol. (cc)	71.8	Assumed?	No
Change in Vol. (cc)	-1.4		
Cell Exp. (cc)	0.0	Init. Saturation	82.0
Vol. After Consol. (cc)	73.2	Init. Void Ratio	0.659
Vol. After Consol. (cu ft)	0.00258	Final Saturation	100.0
Effective Porosity %	39.71	Final Void Ratio	0.691
Pressure Difference (psi):	0.00		
C =	0.07617	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	79.9	0.8	79.1	79.1	
1263.0	66.5	12.2	54.3	54.3	1.6E-07
117.0	65.6	13.0	52.6	52.6	1.5E-07
122.0	64.8	13.8	51.0	51.0	1.4E-07
88.0	64.1	14.4	49.7	49.7	1.6E-07
1262.0	56.4	20.7	35.7	35.7	1.4E-07
			Avg.of Last 4 Rdgs.		1.5E-07
			Max.Hyd.Gradient:	17.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP08	LAB NO. :	
DEPTH	2'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/25/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/28/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	311.11	357.92
Wt. Wet Soil & Pan (g)	311.11	552.71
Wt. Dry Soil & Pan (g)	277.05	471.84
Wt. Moisture Lost (g)	34.06	80.87
Wt. of Pan Only (g)	0.00	194.79
Wt. of Dry Soil (g)	277.05	277.05
Moisture Content %	12.3	29.2
Wet Density (pcf)	106.9	121.4
Dry Density (pcf)	95.2	94.0

Init. Diameter (in)	1.927	(cm)	4.895
Init. Area (sq in)	2.916	(sq cm)	18.816
Init. Height (in)	3.802	(cm)	9.657
Height Change (in)	-0.093	(cm)	-0.236
Consol. Height (in)	3.895	(cm)	9.893
Area After Consol. (sq in)	2.883	(sq cm)	18.599

Vol. Before Consol. (cu ft)	0.00642	Specific Gravity	2.66
Vol. Before Consol. (cc)	181.7	Assumed?	No
Change in Vol. (cc)	-2.3		
Cell Exp. (cc)	0.0	Init. Saturation	43.9
Vol. After Consol. (cc)	184.0	Init. Void Ratio	0.745
Vol. After Consol. (cu ft)	0.00650	Final Saturation	100.0
Effective Porosity %	42.68	Final Void Ratio	0.767
Pressure Difference (psi):	0.00		
C =	0.56449	Buret Constant, a	0.922
k, cm/s = C/t*log(h1/h2)		Buret Stand	3

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	48.4	0.1	48.3	48.3	
1.00	47.8	1.0	46.8	46.8	1.3E-04
8.00	44.4	4.5	39.9	39.9	8.1E-05
3.00	43.3	5.6	37.7	37.7	7.7E-05
6.00	41.2	7.6	33.6	33.6	7.8E-05
8.00	38.8	10.1	28.7	28.7	8.1E-05
16.00	34.8	14.0	20.8	20.8	8.2E-05
			Avg.of Last 4 Rdgs.		**8.0E-05**
			Max.Hyd.Gradient:	4.8	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP08	LAB NO. :	
DEPTH	6'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/29/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/05/08
CONF. PRESSURE. (	5	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	375.45	441.82
Wt. Wet Soil & Pan (g)	375.45	636.80
Wt. Dry Soil & Pan (g)	360.13	555.11
Wt. Moisture Lost (g)	15.32	81.69
Wt. of Pan Only (g)	0.00	194.98
Wt. of Dry Soil (g)	360.13	360.13
Moisture Content %	4.3	22.7
Wet Density (pcf)	107.8	128.9
Dry Density (pcf)	103.4	105.0

Init. Diameter (in)	1.942	(cm)	4.933
Init. Area (sq in)	2.962	(sq cm)	19.110
Init. Height (in)	4.480	(cm)	11.379
Height Change (in)	-0.038	(cm)	-0.097
Consol. Height (in)	4.518	(cm)	11.476
Area After Consol. (sq in)	2.891	(sq cm)	18.653

Vol. Before Consol. (cu ft)	0.00768	Specific Gravity	2.72
Vol. Before Consol. (cc)	217.5	Assumed?	No
Change in Vol. (cc)	3.4		
Cell Exp. (cc)	0.0	Init. Saturation	18.0
Vol. After Consol. (cc)	214.1	Init. Void Ratio	0.642
Vol. After Consol. (cu ft)	0.00756	Final Saturation	100.0
Effective Porosity %	39.11	Final Void Ratio	0.617
Pressure Difference (psi):	0.00		
C =	0.22448	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	15

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	37.6	3.9	33.7	33.7	
0.25	36.3	5.3	31.0	31.0	5.4E-04
0.25	34.9	6.6	28.3	28.3	5.9E-04
0.25	33.7	7.8	25.9	25.9	5.8E-04
0.25	32.6	8.9	23.7	23.7	5.8E-04
0.50	30.8	10.8	20.0	20.0	5.5E-04
0.50	29.1	12.4	16.7	16.7	5.9E-04
			Avg.of Last 4 Rdgs.		**5.7E-04**
			Max.Hyd.Gradient:	2.8	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP09	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/18/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/25/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	238.19	271.28
Wt. Wet Soil & Pan (g)	238.19	466.86
Wt. Dry Soil & Pan (g)	210.93	406.51
Wt. Moisture Lost (g)	27.26	60.35
Wt. of Pan Only (g)	0.00	195.58
Wt. of Dry Soil (g)	210.93	210.93
Moisture Content %	12.9	28.6
Wet Density (pcf)	107.2	122.8
Dry Density (pcf)	94.9	95.5

Init. Diameter (in)	1.930	(cm)	4.902
Init. Area (sq in)	2.926	(sq cm)	18.874
Init. Height (in)	2.893	(cm)	7.348
Height Change (in)	-0.117	(cm)	-0.297
Consol. Height (in)	3.010	(cm)	7.645
Area After Consol. (sq in)	2.795	(sq cm)	18.036

Vol. Before Consol. (cu ft)	0.00490	Specific Gravity	2.65
Vol. Before Consol. (cc)	138.7	Assumed?	No
Change in Vol. (cc)	0.8		
Cell Exp. (cc)	0.0	Init. Saturation	46.1
Vol. After Consol. (cc)	137.9	Init. Void Ratio	0.742
Vol. After Consol. (cu ft)	0.00487	Final Saturation	100.0
Effective Porosity %	42.61	Final Void Ratio	0.732
Pressure Difference (psi):	0.00		
C =	0.15564	Buret Constant, a	0.319
k, cm/s = C/t*log(h1/h2)		Buret Stand	13

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	35.2	0.9	34.3	34.3	
0.5	34.8	1.3	33.5	33.5	5.3E-05
0.5	34.3	1.8	32.5	32.5	6.8E-05
0.5	33.9	2.2	31.7	31.7	5.6E-05
1.0	33.0	3.0	30.0	30.0	6.2E-05
3.0	31.0	5.1	25.9	25.9	5.5E-05
6.5	27.3	8.8	18.5	18.5	5.8E-05
			Avg.of Last 4 Rdgs.		**5.8E-05**
			Max.Hyd.Gradient:	4.4	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP09	LAB NO. :	
DEPTH	4'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/30/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/06/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	308.97	334.29
Wt. Wet Soil & Pan (g)	308.97	529.56
Wt. Dry Soil & Pan (g)	275.47	470.74
Wt. Moisture Lost (g)	33.50	58.82
Wt. of Pan Only (g)	0.00	195.27
Wt. of Dry Soil (g)	275.47	275.47
Moisture Content %	12.2	21.4
Wet Density (pcf)	122.9	130.5
Dry Density (pcf)	109.6	107.5

Init. Diameter (in)	1.937	(cm)	4.920
Init. Area (sq in)	2.947	(sq cm)	19.011
Init. Height (in)	3.250	(cm)	8.255
Height Change (in)	-0.008	(cm)	-0.020
Consol. Height (in)	3.258	(cm)	8.275
Area After Consol. (sq in)	2.996	(sq cm)	19.327

Vol. Before Consol. (cu ft)	0.00554	Specific Gravity	2.72
Vol. Before Consol. (cc)	156.9	Assumed?	No
Change in Vol. (cc)	-3.0		
Cell Exp. (cc)	0.0	Init. Saturation	60.2
Vol. After Consol. (cc)	159.9	Init. Void Ratio	0.550
Vol. After Consol. (cu ft)	0.00565	Final Saturation	100.0
Effective Porosity %	35.47	Final Void Ratio	0.579
Pressure Difference (psi):	0.00		
C =	0.15598	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	29.7	9.7	20.0	20.0	
15.0	28.4	10.8	17.6	17.6	9.6E-06
6.0	28.0	11.1	16.9	16.9	7.6E-06
6.0	27.6	11.5	16.1	16.1	9.1E-06
6.0	27.2	11.8	15.4	15.4	8.4E-06
6.0	26.8	12.2	14.6	14.6	1.0E-05
			Avg.of Last 4 Rdgs.		8.8E-06
			Max.Hyd.Gradient:	2.3	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP09	LAB NO. :	
DEPTH	4'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/30/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/06/08
CONF. PRESSURE. (	6	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	308.97	330.49
Wt. Wet Soil & Pan (g)	308.97	525.76
Wt. Dry Soil & Pan (g)	275.47	470.74
Wt. Moisture Lost (g)	33.50	55.02
Wt. of Pan Only (g)	0.00	195.27
Wt. of Dry Soil (g)	275.47	275.47
Moisture Content %	12.2	20.0
Wet Density (pcf)	122.9	132.1
Dry Density (pcf)	109.6	110.1

Init. Diameter (in)	1.937	(cm)	4.920
Init. Area (sq in)	2.947	(sq cm)	19.011
Init. Height (in)	3.250	(cm)	8.255
Height Change (in)	0.000	(cm)	0.000
Consol. Height (in)	3.250	(cm)	8.255
Area After Consol. (sq in)	2.932	(sq cm)	18.915

Vol. Before Consol. (cu ft)	0.00554	Specific Gravity	2.72
Vol. Before Consol. (cc)	156.9	Assumed?	No
Change in Vol. (cc)	0.8		
Cell Exp. (cc)	0.0	Init. Saturation	60.2
Vol. After Consol. (cc)	156.1	Init. Void Ratio	0.550
Vol. After Consol. (cu ft)	0.00551	Final Saturation	100.0
Effective Porosity %	35.47	Final Void Ratio	0.542
Pressure Difference (psi):	0.00		
C =	0.15899	Buret Constant, a	0.317
k, cm/s = C/t*log(h1/h2)		Buret Stand	11

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	37.4	0.3	37.2	37.2	
32.0	34.2	3.2	31.1	31.1	6.5E-06
47.0	30.7	6.2	24.5	24.5	5.8E-06
36.0	28.6	8.0	20.6	20.6	5.5E-06
23.0	27.3	9.0	18.3	18.3	5.9E-06
170.0	22.4	13.4	9.0	9.0	4.8E-06
			Avg.of Last 4 Rdgs.		5.5E-06
			Max.Hyd.Gradient:	4.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP10	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	08/18/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/25/08
CONF. PRESSURE. (	3	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	237.94	274.83
Wt. Wet Soil & Pan (g)	237.94	469.78
Wt. Dry Soil & Pan (g)	220.02	414.97
Wt. Moisture Lost (g)	17.92	54.81
Wt. of Pan Only (g)	0.00	194.95
Wt. of Dry Soil (g)	220.02	220.02
Moisture Content %	8.1	24.9
Wet Density (pcf)	107.2	124.9
Dry Density (pcf)	99.1	100.0

Init. Diameter (in)	1.927	(cm)	4.895
Init. Area (sq in)	2.916	(sq cm)	18.816
Init. Height (in)	2.900	(cm)	7.366
Height Change (in)	0.014	(cm)	0.036
Consol. Height (in)	2.886	(cm)	7.330
Area After Consol. (sq in)	2.905	(sq cm)	18.743

Vol. Before Consol. (cu ft)	0.00489	Specific Gravity	2.66
Vol. Before Consol. (cc)	138.6	Assumed?	No
Change in Vol. (cc)	1.2		
Cell Exp. (cc)	0.0	Init. Saturation	32.1
Vol. After Consol. (cc)	137.4	Init. Void Ratio	0.676
Vol. After Consol. (cu ft)	0.00485	Final Saturation	100.0
Effective Porosity %	40.32	Final Void Ratio	0.661
Pressure Difference (psi):	0.00		
C =	0.14225	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)		Buret Stand	15

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	39.5	1.9	37.6	37.6	
0.50	38.8	2.5	36.3	36.3	7.2E-05
0.50	38.1	3.2	34.9	34.9	8.1E-05
1.00	36.9	4.4	32.5	32.5	7.3E-05
1.00	35.8	5.5	30.3	30.3	7.2E-05
5.00	31.2	10.1	21.1	21.1	7.5E-05
			Avg.of Last 4 Rdgs.		**7.5E-05**
			Max.Hyd.Gradient:	5.0	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:			
PROJECT:	POWERTECH	PROJECT NO. :	DV102-00279.02
BORING NO.	TP10	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.		TEST STARTED :	07/30/08
SAMPLE TYPE	Undisturbed	TEST FINISHED :	08/05/08
CONF. PRESSURE. (	6	SATURATED TEST:	yes

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	305.05	317.61
Wt. Wet Soil & Pan (g)	322.58	429.82
Wt. Dry Soil & Pan (g)	289.25	369.48
Wt. Moisture Lost (g)	33.33	60.34
Wt. of Pan Only (g)	115.33	112.21
Wt. of Dry Soil (g)	173.92	257.27
Moisture Content %	19.2	23.5
Wet Density (pcf)	126.1	128.3
Dry Density (pcf)	105.8	103.9

Init. Diameter (in)	1.922	(cm)	4.882
Init. Area (sq in)	2.901	(sq cm)	18.718
Init. Height (in)	3.177	(cm)	8.070
Height Change (in)	-0.050	(cm)	-0.127
Consol. Height (in)	3.227	(cm)	8.197
Area After Consol. (sq in)	2.922	(sq cm)	18.855

Vol. Before Consol. (cu ft)	0.00533	Specific Gravity	2.70
Vol. Before Consol. (cc)	151.0	Assumed?	No
Change in Vol. (cc)	-3.5		
Cell Exp. (cc)	0.0	Init. Saturation	85.7
Vol. After Consol. (cc)	154.5	Init. Void Ratio	0.585
Vol. After Consol. (cu ft)	0.00546	Final Saturation	100.0
Effective Porosity %	37.23	Final Void Ratio	0.622
Pressure Difference (psi):	0.00		
C =	0.15961	Buret Constant, a	0.319
k, cm/s = C/t*log(h1/h2)		Buret Stand	12

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.00	43.2	0.3	42.9	42.9	
48.00	42.9	0.4	42.5	42.5	2.3E-07
57.00	42.7	0.6	42.1	42.1	1.9E-07
42.00	42.5	0.8	41.8	41.8	2.3E-07
76.00	42.3	0.9	41.4	41.4	1.3E-07
169.00	42.0	1.4	40.7	40.7	1.2E-07
736.00	39.9	2.9	37.1	37.1	1.5E-07
			Avg.of Last 4 Rdgs.		**1.6E-07**
			Max.Hyd.Gradient:	5.2	

General Test Notes:

1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP01-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/11/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/21/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	211.63	228.35
Wt. Wet Soil & Pan (g)	211.63	423.62
Wt. Dry Soil & Pan (g)	178.47	373.74
Wt. Moisture Lost (g)	33.16	49.88
Wt. of Pan Only (g)	0.00	195.27
Wt. of Dry Soil (g)	178.47	178.47
Moisture Content %	18.6	27.9
Wet Density (pcf)	118.0	124.0
Dry Density (pcf)	99.5	96.9

Init. Diameter (in)	1.932	(cm)	4.907
Init. Area (sq in)	2.932	(sq cm)	18.913
Init. Height (in)	2.330	(cm)	5.918
Height Change (in)	-0.068	(cm)	-0.173
Consol. Height (in)	2.398	(cm)	6.091
Area After Consol. (sq in)	2.925	(sq cm)	18.870

Vol. Before Consol. (cu ft)	0.00395	Specific Gravity	2.72
Vol. Before Consol. (cc)	111.9	Assumed?	Yes
Change in Vol. (cc)	-3.0		
Cell Exp. (cc)	0.0	Init. Saturation	71.6
Vol. After Consol. (cc)	114.9	Init. Void Ratio	0.706
Vol. After Consol. (cu ft)	0.0041	Final Saturation	100.0
Effective Porosity %	41.38	Final Void Ratio	0.752
Pressure Difference (psi):	0.00		
C =	0.11703	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	56.8	2.9	53.9	53.9	
31.0	52.2	7.4	44.8	44.8	5.1E-06
61.0	45.7	13.7	32.0	32.0	4.7E-06
47.0	42.1	16.9	25.2	25.2	4.3E-06
71.0	38.0	20.0	18.0	18.0	4.0E-06
104.0	36.1	21.3	14.8	14.8	1.6E-06
54.0	35.2	22.0	13.2	13.2	1.8E-06
			Avg.of Last 4 Rdgs.		**2.9E-06**
			Max.Hyd.Gradient:	8.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 99.9 pcf @ 17.9% moisture.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP01-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/11/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/21/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	211.63	224.35
Wt. Wet Soil & Pan (g)	211.63	419.62
Wt. Dry Soil & Pan (g)	178.47	373.74
Wt. Moisture Lost (g)	33.16	45.88
Wt. of Pan Only (g)	0.00	195.27
Wt. of Dry Soil (g)	178.47	178.47
Moisture Content %	18.6	25.7
Wet Density (pcf)	118.0	126.3
Dry Density (pcf)	99.5	100.4

Init. Diameter (in)	1.932	(cm)	4.907
Init. Area (sq in)	2.932	(sq cm)	18.913
Init. Height (in)	2.330	(cm)	5.918
Height Change (in)	-0.045	(cm)	-0.114
Consol. Height (in)	2.375	(cm)	6.033
Area After Consol. (sq in)	2.850	(sq cm)	18.389

Vol. Before Consol. (cu ft)	0.00395	Specific Gravity	2.72
Vol. Before Consol. (cc)	111.9	Assumed?	Yes
Change in Vol. (cc)	1.0		
Cell Exp. (cc)	0.0	Init. Saturation	71.6
Vol. After Consol. (cc)	110.9	Init. Void Ratio	0.706
Vol. After Consol. (cu ft)	0.0039	Final Saturation	100.0
Effective Porosity %	41.38	Final Void Ratio	0.691
Pressure Difference (psi):	0.00		
C =	0.11894	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	58.1	4.9	53.2	53.2	
40.0	57.3	5.6	51.7	51.7	6.2E-07
151.0	54.4	8.5	45.9	45.9	6.8E-07
945.0	44.1	17.7	26.4	26.4	5.0E-07
200.0	42.7	19.1	23.6	23.6	4.8E-07
166.0	41.7	20.2	21.5	21.5	4.8E-07
1166.0	36.1	24.2	11.9	11.9	4.4E-07
			Avg.of Last 4 Rdgs.		**4.8E-07**
			Max.Hyd.Gradient:	8.7	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 99.9 pcf @ 17.9% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP01-7	LAB NO. :	
DEPTH	4-8'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/28/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/15/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	579.10	607.99
Wt. Wet Soil & Pan (g)	579.10	718.20
Wt. Dry Soil & Pan (g)	478.18	588.39
Wt. Moisture Lost (g)	100.92	129.81
Wt. of Pan Only (g)	0.00	110.21
Wt. of Dry Soil (g)	478.18	478.18
Moisture Content %	21.1	27.1
Wet Density (pcf)	118.8	125.7
Dry Density (pcf)	98.1	98.9

Init. Diameter (in)	2.870	(cm)	7.290
Init. Area (sq in)	6.469	(sq cm)	41.737
Init. Height (in)	2.870	(cm)	7.290
Height Change (in)	-0.057	(cm)	-0.145
Consol. Height (in)	2.927	(cm)	7.435
Area After Consol. (sq in)	6.293	(sq cm)	40.601

Vol. Before Consol. (cu ft)	0.01074	Specific Gravity	2.75
Vol. Before Consol. (cc)	304.3	Assumed?	Yes
Change in Vol. (cc)	2.4		
Cell Exp. (cc)	0.0	Init. Saturation	77.4
Vol. After Consol. (cc)	301.9	Init. Void Ratio	0.750
Vol. After Consol. (cu ft)	0.0107	Final Saturation	100.0
Effective Porosity %	42.85	Final Void Ratio	0.736
Pressure Difference (psi):	0.00		
C =	0.06639	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	49.6	3.1	46.5	46.5	
63.0	47.9	4.9	43.0	43.0	6.0E-07
58.0	46.5	6.4	40.1	40.1	5.8E-07
1045.0	33.0	19.8	13.2	13.2	5.1E-07
0.0	50.5	3.7	46.8	46.8	
32.0	49.7	4.5	45.2	45.2	5.2E-07
63.0	48.2	6.1	42.1	42.1	5.4E-07
116.0	44.8	9.8	35.0	35.0	7.7E-07
			Avg.of Last 4 Rdgs.		**5.9E-07**
			Max.Hyd.Gradient:	6.2	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 97.7 pcf @ 20.8% moisture.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP01-7	LAB NO. :	
DEPTH	4-8'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/28/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/15/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	579.10	597.79
Wt. Wet Soil & Pan (g)	579.10	708.00
Wt. Dry Soil & Pan (g)	478.18	588.39
Wt. Moisture Lost (g)	100.92	119.61
Wt. of Pan Only (g)	0.00	110.21
Wt. of Dry Soil (g)	478.18	478.18
Moisture Content %	21.1	25.0
Wet Density (pcf)	118.8	128.0
Dry Density (pcf)	98.1	102.4

Init. Diameter (in)	2.870	(cm)	7.290
Init. Area (sq in)	6.469	(sq cm)	41.737
Init. Height (in)	2.870	(cm)	7.290
Height Change (in)	-0.034	(cm)	-0.086
Consol. Height (in)	2.904	(cm)	7.376
Area After Consol. (sq in)	6.128	(sq cm)	39.540

Vol. Before Consol. (cu ft)	0.01074	Specific Gravity	2.75
Vol. Before Consol. (cc)	304.3	Assumed?	Yes
Change in Vol. (cc)	12.6		
Cell Exp. (cc)	0.0	Init. Saturation	77.4
Vol. After Consol. (cc)	291.7	Init. Void Ratio	0.750
Vol. After Consol. (cu ft)	0.0103	Final Saturation	100.0
Effective Porosity %	42.85	Final Void Ratio	0.677
Pressure Difference (psi):	0.00		
C =	0.06764	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	59.7	2.7	57.0	57.0	
342.0	58.5	5.3	53.2	53.2	9.9E-08
1021.0	55.1	12.4	42.7	42.7	1.1E-07
1409.0	52.6	18.5	34.1	34.1	7.8E-08
421.0	52.2	20.2	32.0	32.0	7.4E-08
1031.0	50.3	23.9	26.4	26.4	9.1E-08
			Avg.of Last 4 Rdgs.		**8.7E-08**
			Max.Hyd.Gradient:	7.5	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 97.7 pcf @ 20.8% moisture.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP02-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/12/08
SAMPLE TYPE	Remolded	TEST FINISHED :	01/06/09
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	578.90	628.70
Wt. Wet Soil & Pan (g)	578.90	738.90
Wt. Dry Soil & Pan (g)	488.00	598.20
Wt. Moisture Lost (g)	90.90	140.70
Wt. of Pan Only (g)	0.00	110.20
Wt. of Dry Soil (g)	488.00	488.00
Moisture Content %	18.6	28.8
Wet Density (pcf)	116.6	125.6
Dry Density (pcf)	98.3	97.5

Init. Diameter (in)	2.877	(cm)	7.308
Init. Area (sq in)	6.501	(sq cm)	41.941
Init. Height (in)	2.909	(cm)	7.389
Height Change (in)	-0.074	(cm)	-0.188
Consol. Height (in)	2.983	(cm)	7.577
Area After Consol. (sq in)	6.394	(sq cm)	41.257

Vol. Before Consol. (cu ft)	0.01094	Specific Gravity	2.72
Vol. Before Consol. (cc)	309.9	Assumed?	Yes
Change in Vol. (cc)	-2.7		
Cell Exp. (cc)	0.0	Init. Saturation	69.7
Vol. After Consol. (cc)	312.6	Init. Void Ratio	0.727
Vol. After Consol. (cu ft)	0.0110	Final Saturation	100.0
Effective Porosity %	42.11	Final Void Ratio	0.742
Pressure Difference (psi):	0.00		
C =	0.06680	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	49.1	1.5	47.6	47.6	
32.0	48.2	2.8	45.4	45.4	7.1E-07
60.0	46.7	4.7	42.0	42.0	6.3E-07
47.0	45.6	6.1	39.5	39.5	6.3E-07
71.0	44.2	7.9	36.3	36.3	5.8E-07
44.0	43.4	9.0	34.4	34.4	5.9E-07
			Avg.of Last 4 Rdgs.		**6.1E-07**
			Max.Hyd.Gradient:	6.1	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 98.4 pcf @ 19.4% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP02-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/12/08
SAMPLE TYPE	Remolded	TEST FINISHED :	01/06/09
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	578.90	613.70
Wt. Wet Soil & Pan (g)	578.90	723.90
Wt. Dry Soil & Pan (g)	488.00	598.20
Wt. Moisture Lost (g)	90.90	125.70
Wt. of Pan Only (g)	0.00	110.20
Wt. of Dry Soil (g)	488.00	488.00
Moisture Content %	18.6	25.8
Wet Density (pcf)	116.6	129.3
Dry Density (pcf)	98.3	102.9

Init. Diameter (in)	2.877	(cm)	7.308
Init. Area (sq in)	6.501	(sq cm)	41.941
Init. Height (in)	2.909	(cm)	7.389
Height Change (in)	-0.034	(cm)	-0.086
Consol. Height (in)	2.943	(cm)	7.475
Area After Consol. (sq in)	6.141	(sq cm)	39.624

Vol. Before Consol. (cu ft)	0.01094	Specific Gravity	2.72
Vol. Before Consol. (cc)	309.9	Assumed?	Yes
Change in Vol. (cc)	13.7		
Cell Exp. (cc)	0.0	Init. Saturation	69.7
Vol. After Consol. (cc)	296.2	Init. Void Ratio	0.727
Vol. After Consol. (cu ft)	0.0105	Final Saturation	100.0
Effective Porosity %	42.11	Final Void Ratio	0.651
Pressure Difference (psi):	1.90		
C =	0.06862	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	52.5	1.4	51.1	184.7	
242.0	52.0	1.7	50.3	183.9	8.9E-09
1086.0	50.2	2.7	47.5	181.1	7.0E-09
416.0	49.6	3.4	46.2	179.8	8.6E-09
993.0	48.1	4.4	43.7	177.3	7.0E-09
1476.0	46.4	5.4	41.0	174.6	5.2E-09
2935.0	42.2	7.7	34.5	168.1	6.4E-09
			Avg.of Last 4 Rdgs.		**6.8E-09**
			Max.Hyd.Gradient:	24.7	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 98.4 pcf @ 19.4% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP02-7	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/20/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/06/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	581.50	630.30
Wt. Wet Soil & Pan (g)	581.56	825.60
Wt. Dry Soil & Pan (g)	496.90	692.20
Wt. Moisture Lost (g)	84.66	133.40
Wt. of Pan Only (g)	0.00	195.30
Wt. of Dry Soil (g)	496.90	496.90
Moisture Content %	17.0	26.8
Wet Density (pcf)	118.2	126.9
Dry Density (pcf)	101.0	100.1

Init. Diameter (in)	2.873	(cm)	7.297
Init. Area (sq in)	6.483	(sq cm)	41.824
Init. Height (in)	2.890	(cm)	7.341
Height Change (in)	-0.106	(cm)	-0.269
Consol. Height (in)	2.996	(cm)	7.610
Area After Consol. (sq in)	6.314	(sq cm)	40.739

Vol. Before Consol. (cu ft)	0.01084	Specific Gravity	2.72
Vol. Before Consol. (cc)	307.0	Assumed?	Yes
Change in Vol. (cc)	-3.0		
Cell Exp. (cc)	0.0	Init. Saturation	68.0
Vol. After Consol. (cc)	310.0	Init. Void Ratio	0.681
Vol. After Consol. (cu ft)	0.0109	Final Saturation	100.0
Effective Porosity %	40.50	Final Void Ratio	0.697
Pressure Difference (psi):	0.00		
C =	0.06794	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	47.8	3.3	44.5	44.5	
23.0	46.5	4.8	41.7	41.7	1.4E-06
10.0	45.9	5.3	40.6	40.6	1.3E-06
18.0	45.1	6.3	38.8	38.8	1.2E-06
17.0	44.3	7.1	37.2	37.2	1.2E-06
20.0	43.5	8.0	35.5	35.5	1.2E-06
46.0	41.4	10.0	31.4	31.4	1.3E-06
			Avg.of Last 4 Rdgs.		**1.2E-06**
			Max.Hyd.Gradient:	5.7	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 101.5 pcf @ 16.3% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP02-7	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/20/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/06/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	581.50	620.30
Wt. Wet Soil & Pan (g)	581.56	815.60
Wt. Dry Soil & Pan (g)	496.90	692.20
Wt. Moisture Lost (g)	84.66	123.40
Wt. of Pan Only (g)	0.00	195.30
Wt. of Dry Soil (g)	496.90	496.90
Moisture Content %	17.0	24.8
Wet Density (pcf)	118.2	129.1
Dry Density (pcf)	101.0	103.4

Init. Diameter (in)	2.873	(cm)	7.297
Init. Area (sq in)	6.483	(sq cm)	41.824
Init. Height (in)	2.890	(cm)	7.341
Height Change (in)	-0.054	(cm)	-0.137
Consol. Height (in)	2.944	(cm)	7.478
Area After Consol. (sq in)	6.218	(sq cm)	40.121

Vol. Before Consol. (cu ft)	0.01084	Specific Gravity	2.72
Vol. Before Consol. (cc)	307.0	Assumed?	Yes
Change in Vol. (cc)	7.0		
Cell Exp. (cc)	0.0	Init. Saturation	68.0
Vol. After Consol. (cc)	300.0	Init. Void Ratio	0.681
Vol. After Consol. (cu ft)	0.0106	Final Saturation	100.0
Effective Porosity %	40.50	Final Void Ratio	0.642
Pressure Difference (psi):	2.30		
C =	0.06779	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	53.7	2.9	50.8	212.5	
198.0	53.0	4.1	48.9	210.6	2.2E-08
1049.0	49.1	8.2	40.9	202.6	1.8E-08
112.0	48.7	8.7	40.0	201.7	2.0E-08
123.0	48.3	9.1	39.2	200.9	1.6E-08
1170.0	44.2	13.0	31.2	192.9	1.7E-08
			Avg.of Last 4 Rdgs.		**1.8E-08**
			Max.Hyd.Gradient:	28.3	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 101.5 pcf @ 16.3% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP03-7	LAB NO. :	
DEPTH	7'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/19/08
SAMPLE TYPE	Remolded	TEST FINISHED :	01/06/09
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	558.93	603.20
Wt. Wet Soil & Pan (g)	558.93	755.10
Wt. Dry Soil & Pan (g)	453.30	605.20
Wt. Moisture Lost (g)	105.63	149.90
Wt. of Pan Only (g)	0.00	151.90
Wt. of Dry Soil (g)	453.30	453.30
Moisture Content %	23.3	33.1
Wet Density (pcf)	113.9	119.7
Dry Density (pcf)	92.4	90.0

Init. Diameter (in)	2.874	(cm)	7.300
Init. Area (sq in)	6.487	(sq cm)	41.853
Init. Height (in)	2.882	(cm)	7.320
Height Change (in)	-0.024	(cm)	-0.061
Consol. Height (in)	2.906	(cm)	7.381
Area After Consol. (sq in)	6.605	(sq cm)	42.619

Vol. Before Consol. (cu ft)	0.01082	Specific Gravity	2.72
Vol. Before Consol. (cc)	306.4	Assumed?	Yes
Change in Vol. (cc)	-8.2		
Cell Exp. (cc)	0.0	Init. Saturation	75.6
Vol. After Consol. (cc)	314.6	Init. Void Ratio	0.838
Vol. After Consol. (cu ft)	0.0111	Final Saturation	100.0
Effective Porosity %	45.61	Final Void Ratio	0.888
Pressure Difference (psi):	2.20		
C =	0.06299	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	72.9	2.8	70.1	224.8	
262.0	72.7	3.0	69.7	224.4	3.1E-09
1085.0	70.9	3.7	67.2	221.9	4.7E-09
416.0	70.4	4.0	66.4	221.1	4.0E-09
993.0	69.2	4.7	64.6	219.3	3.9E-09
1478.0	67.2	5.4	61.8	216.5	3.9E-09
2933.0	64.8	7.3	57.5	212.2	3.1E-09
			Avg.of Last 4 Rdgs.		**3.7E-09**
			Max.Hyd.Gradient:	30.4	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 92.3 pcf @ 24.0% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Constant Volume

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP03-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	01/05/09
SAMPLE TYPE	Remolded	TEST FINISHED :	01/14/09
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	560.60	595.70
Wt. Wet Soil & Pan (g)	560.60	790.50
Wt. Dry Soil & Pan (g)	469.40	664.20
Wt. Moisture Lost (g)	91.20	126.30
Wt. of Pan Only (g)	0.00	194.80
Wt. of Dry Soil (g)	469.40	469.40
Moisture Content %	19.4	26.9
Wet Density (pcf)	113.8	123.9
Dry Density (pcf)	95.3	97.6

Init. Diameter (in)	2.870	(cm)	7.290
Init. Area (sq in)	6.469	(sq cm)	41.737
Init. Height (in)	2.900	(cm)	7.366
Height Change (in)	-0.013	(cm)	-0.033
Consol. Height (in)	2.913	(cm)	7.399
Area After Consol. (sq in)	6.287	(sq cm)	40.564

Vol. Before Consol. (cu ft)	0.01086	Specific Gravity	2.70
Vol. Before Consol. (cc)	307.4	Assumed?	Yes
Change in Vol. (cc)	7.3		
Cell Exp. (cc)	0.0	Init. Saturation	68.3
Vol. After Consol. (cc)	300.1	Init. Void Ratio	0.768
Vol. After Consol. (cu ft)	0.0106	Final Saturation	100.0
Effective Porosity %	43.45	Final Void Ratio	0.726
Pressure Difference (psi):	0.00		
Gradient			

Permeability Flow Trials

Time min.	Pipette Elevation cm	Annulus Elevation cm	Z1 cm	D zp cm	Permeability k cm/sec
0.0	16.25	0.90	15.4		
0.5	16.15	0.90	15.3	0.1	1.0E-07
0.5	16.05	0.90	15.2	0.1	1.0E-07
1.0	15.90	0.95	15.0	0.2	7.6E-08
2.0	15.55	1.00	14.6	0.4	9.2E-08
10.0	13.90	1.10	12.8	1.7	1.0E-07
39.0	12.80	1.20	11.6	1.1	1.9E-08
			Avg.of Last 4 Rdgs.		**7.3E-08**

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Constant Volume

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP03-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	01/05/09
SAMPLE TYPE	Remolded	TEST FINISHED :	01/14/09
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	560.60	590.70
Wt. Wet Soil & Pan (g)	560.60	785.50
Wt. Dry Soil & Pan (g)	469.40	664.20
Wt. Moisture Lost (g)	91.20	121.30
Wt. of Pan Only (g)	0.00	194.80
Wt. of Dry Soil (g)	469.40	469.40
Moisture Content %	19.4	25.8
Wet Density (pcf)	113.8	124.9
Dry Density (pcf)	95.3	99.3

Init. Diameter (in)	2.870	(cm)	7.290
Init. Area (sq in)	6.469	(sq cm)	41.737
Init. Height (in)	2.900	(cm)	7.366
Height Change (in)	-0.003	(cm)	-0.008
Consol. Height (in)	2.903	(cm)	7.374
Area After Consol. (sq in)	6.204	(sq cm)	40.026

Vol. Before Consol. (cu ft)	0.01086	Specific Gravity	2.70
Vol. Before Consol. (cc)	307.4	Assumed?	Yes
Change in Vol. (cc)	12.3		
Cell Exp. (cc)	0.0	Init. Saturation	68.3
Vol. After Consol. (cc)	295.1	Init. Void Ratio	0.768
Vol. After Consol. (cu ft)	0.0104	Final Saturation	100.0
Effective Porosity %	43.45	Final Void Ratio	0.698
Pressure Difference (psi):	0.00		
Gradient			

Permeability Flow Trials

Time min.	Pipette Elevation cm	Annulus Elevation cm	Z1 cm	D zp cm	Permeability k cm/sec
0.0	18.20	0.55	17.7		
1.0	18.10	0.60	17.5	0.1	4.4E-08
2.0	17.90	0.65	17.3	0.2	4.5E-08
4.0	17.60	0.70	16.9	0.3	3.4E-08
12.0	17.10	0.75	16.4	0.5	2.0E-08
15.0	16.40	0.80	15.6	0.7	2.3E-08
19.0	15.70	0.90	14.8	0.7	2.0E-08
29.0	14.70	1.00	13.7	1.0	2.0E-08
			Avg.of Last 4 Rdgs.		**2.1E-08**

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP08-2	LAB NO. :	
DEPTH	2'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/05/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/29/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST		
Wt. Soil + Moisture (g)	575.85	632.29		
Wt. Wet Soil & Pan (g)	575.85	742.40		
Wt. Dry Soil & Pan (g)	492.19	602.30		
Wt. Moisture Lost (g)	83.66	140.10		
Wt. of Pan Only (g)	0.00	110.11		
Wt. of Dry Soil (g)	492.19	492.19		
Moisture Content %	17.0	28.5		
Wet Density (pcf)	118.2	123.3		
Dry Density (pcf)	101.0	95.9		
Init. Diameter (in)	2.870		(cm)	7.290
Init. Area (sq in)	6.469		(sq cm)	41.737
Init. Height (in)	2.870		(cm)	7.290
Height Change (in)	-0.113		(cm)	-0.287
Consol. Height (in)	2.983		(cm)	7.577
Area After Consol. (sq in)	6.551		(sq cm)	42.268
Vol. Before Consol. (cu ft)	0.01074		Specific Gravity	2.72
Vol. Before Consol. (cc)	304.3		Assumed?	Yes
Change in Vol. (cc)	-16.0			
Cell Exp. (cc)	0.0		Init. Saturation	67.8
Vol. After Consol. (cc)	320.3		Init. Void Ratio	0.681
Vol. After Consol. (cu ft)	0.0113		Final Saturation	100.0
Effective Porosity %	40.53		Final Void Ratio	0.770
Pressure Difference (psi):	0.00			
C =	0.06520		Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)				

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	49.8	0.8	49.0	49.0	
82.0	43.9	6.8	37.1	37.1	1.6E-06
25.0	42.4	8.2	34.2	34.2	1.5E-06
37.0	40.7	10.0	30.7	30.7	1.4E-06
40.0	39.1	11.6	27.5	27.5	1.3E-06
84.0	36.3	14.6	21.7	21.7	1.3E-06
			Avg.of Last 4 Rdgs.		**1.4E-06**
			Max.Hyd.Gradient:	5.7	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 99.1 pcf @ 18.7% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP08-2	LAB NO. :	
DEPTH	2'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/05/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/29/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	575.85	618.29
Wt. Wet Soil & Pan (g)	575.85	728.40
Wt. Dry Soil & Pan (g)	492.19	602.30
Wt. Moisture Lost (g)	83.66	126.10
Wt. of Pan Only (g)	0.00	110.11
Wt. of Dry Soil (g)	492.19	492.19
Moisture Content %	17.0	25.6
Wet Density (pcf)	118.2	126.0
Dry Density (pcf)	101.0	100.3

Init. Diameter (in)	2.870	(cm)	7.290
Init. Area (sq in)	6.469	(sq cm)	41.737
Init. Height (in)	2.870	(cm)	7.290
Height Change (in)	-0.070	(cm)	-0.178
Consol. Height (in)	2.940	(cm)	7.468
Area After Consol. (sq in)	6.356	(sq cm)	41.011

Vol. Before Consol. (cu ft)	0.01074	Specific Gravity	2.72
Vol. Before Consol. (cc)	304.3	Assumed?	Yes
Change in Vol. (cc)	-2.0		
Cell Exp. (cc)	0.0	Init. Saturation	67.8
Vol. After Consol. (cc)	306.3	Init. Void Ratio	0.681
Vol. After Consol. (cu ft)	0.0108	Final Saturation	100.0
Effective Porosity %	40.53	Final Void Ratio	0.692
Pressure Difference (psi):	0.00		
C =	0.06623	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	66.0	1.6	64.4	64.4	
58.0	65.8	1.8	64.0	64.0	5.1E-08
1212.0	61.4	6.5	54.9	54.9	6.1E-08
338.0	60.5	7.6	52.9	52.9	5.3E-08
1122.0	57.3	10.7	46.6	46.6	5.4E-08
1272.0	53.5	13.1	40.4	40.4	5.4E-08
1620.0	50.0	16.0	34.0	34.0	5.1E-08
			Avg.of Last 4 Rdgs.		**5.3E-08**
			Max.Hyd.Gradient:	8.6	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 99.1 pcf @ 18.7% moisture.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP08-6	LAB NO. :	
DEPTH	6'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/20/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/15/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	608.80	644.30
Wt. Wet Soil & Pan (g)	608.80	789.50
Wt. Dry Soil & Pan (g)	538.60	683.80
Wt. Moisture Lost (g)	70.20	105.70
Wt. of Pan Only (g)	0.00	145.20
Wt. of Dry Soil (g)	538.60	538.60
Moisture Content %	13.0	19.6
Wet Density (pcf)	123.8	132.5
Dry Density (pcf)	109.6	110.8

Init. Diameter (in)	2.875	(cm)	7.303
Init. Area (sq in)	6.492	(sq cm)	41.883
Init. Height (in)	2.885	(cm)	7.328
Height Change (in)	0.027	(cm)	0.069
Consol. Height (in)	2.858	(cm)	7.259
Area After Consol. (sq in)	6.480	(sq cm)	41.810

Vol. Before Consol. (cu ft)	0.01084	Specific Gravity	2.72
Vol. Before Consol. (cc)	306.9	Assumed?	Yes
Change in Vol. (cc)	3.4		
Cell Exp. (cc)	0.0	Init. Saturation	64.5
Vol. After Consol. (cc)	303.5	Init. Void Ratio	0.550
Vol. After Consol. (cu ft)	0.0107	Final Saturation	100.0
Effective Porosity %	35.48	Final Void Ratio	0.533
Pressure Difference (psi):	0.00		
C =	0.06315	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	25.5	0.5	25.0	25.0	
0.5	24.4	1.9	22.5	22.5	9.6E-05
0.5	23.2	3.0	20.2	20.2	9.9E-05
0.5	22.2	3.9	18.3	18.3	9.0E-05
0.5	21.2	4.7	16.5	16.5	9.5E-05
0.5	20.4	5.4	15.0	15.0	8.7E-05
			Avg.of Last 4 Rdgs.		**9.3E-05**
			Max.Hyd.Gradient:	3.3	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 110.5 pcf @ 12.3% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP08-6	LAB NO. :	
DEPTH	6'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/20/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/15/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	608.80	638.30
Wt. Wet Soil & Pan (g)	608.80	783.50
Wt. Dry Soil & Pan (g)	538.60	683.80
Wt. Moisture Lost (g)	70.20	99.70
Wt. of Pan Only (g)	0.00	145.20
Wt. of Dry Soil (g)	538.60	538.60
Moisture Content %	13.0	18.5
Wet Density (pcf)	123.8	133.9
Dry Density (pcf)	109.6	113.0

Init. Diameter (in)	2.875	(cm)	7.303
Init. Area (sq in)	6.492	(sq cm)	41.883
Init. Height (in)	2.885	(cm)	7.328
Height Change (in)	0.065	(cm)	0.165
Consol. Height (in)	2.820	(cm)	7.163
Area After Consol. (sq in)	6.438	(sq cm)	41.536

Vol. Before Consol. (cu ft)	0.01084	Specific Gravity	2.72
Vol. Before Consol. (cc)	306.9	Assumed?	Yes
Change in Vol. (cc)	9.4		
Cell Exp. (cc)	0.0	Init. Saturation	64.5
Vol. After Consol. (cc)	297.5	Init. Void Ratio	0.550
Vol. After Consol. (cu ft)	0.0105	Final Saturation	100.0
Effective Porosity %	35.48	Final Void Ratio	0.502
Pressure Difference (psi):	0.00		
C =	0.06272	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	44.9	3.2	41.7	41.7	
0.5	43.6	4.4	39.2	39.2	5.6E-05
0.5	42.6	5.3	37.3	37.3	4.5E-05
0.5	41.5	6.4	35.1	35.1	5.5E-05
0.5	40.6	7.1	33.5	33.5	4.2E-05
1.0	38.9	8.7	30.2	30.2	4.7E-05
3.0	34.7	12.4	22.3	22.3	4.6E-05
			Avg.of Last 4 Rdgs.		**4.8E-05**
			Max.Hyd.Gradient:	5.6	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 110.5 pcf @ 12.3% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP09-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/05/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/29/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	594.17	624.30
Wt. Wet Soil & Pan (g)	594.17	819.90
Wt. Dry Soil & Pan (g)	504.10	699.70
Wt. Moisture Lost (g)	90.07	120.20
Wt. of Pan Only (g)	0.00	195.60
Wt. of Dry Soil (g)	504.10	504.10
Moisture Content %	17.9	23.8
Wet Density (pcf)	122.6	127.6
Dry Density (pcf)	104.0	103.0

Init. Diameter (in)	2.877	(cm)	7.308
Init. Area (sq in)	6.501	(sq cm)	41.941
Init. Height (in)	2.840	(cm)	7.214
Height Change (in)	-0.063	(cm)	-0.160
Consol. Height (in)	2.903	(cm)	7.374
Area After Consol. (sq in)	6.422	(sq cm)	41.437

Vol. Before Consol. (cu ft)	0.01068	Specific Gravity	2.72
Vol. Before Consol. (cc)	302.5	Assumed?	Yes
Change in Vol. (cc)	-3.0		
Cell Exp. (cc)	0.0	Init. Saturation	76.8
Vol. After Consol. (cc)	305.5	Init. Void Ratio	0.632
Vol. After Consol. (cu ft)	0.0108	Final Saturation	100.0
Effective Porosity %	38.74	Final Void Ratio	0.649
Pressure Difference (psi):	2.15		
C =	0.06472	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	66.3	4.7	61.6	212.8	
30.0	66.0	4.9	61.1	212.3	3.7E-08
109.0	65.1	5.8	59.3	210.5	3.7E-08
1387.0	55.6	13.7	41.9	193.1	2.9E-08
262.0	53.6	15.6	38.0	189.2	3.6E-08
			Avg.of Last 4 Rdgs.		**3.5E-08**
			Max.Hyd.Gradient:	28.8	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 102.8 pcf @ 17.5% moisture.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP09-1	LAB NO. :	
DEPTH	1'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	12/05/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/29/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	594.17	614.10
Wt. Wet Soil & Pan (g)	594.17	809.70
Wt. Dry Soil & Pan (g)	504.10	699.70
Wt. Moisture Lost (g)	90.07	110.00
Wt. of Pan Only (g)	0.00	195.60
Wt. of Dry Soil (g)	504.10	504.10
Moisture Content %	17.9	21.8
Wet Density (pcf)	122.6	129.8
Dry Density (pcf)	104.0	106.6

Init. Diameter (in)	2.877	(cm)	7.308
Init. Area (sq in)	6.501	(sq cm)	41.941
Init. Height (in)	2.840	(cm)	7.214
Height Change (in)	-0.022	(cm)	-0.056
Consol. Height (in)	2.862	(cm)	7.269
Area After Consol. (sq in)	6.297	(sq cm)	40.628

Vol. Before Consol. (cu ft)	0.01068	Specific Gravity	2.72
Vol. Before Consol. (cc)	302.5	Assumed?	Yes
Change in Vol. (cc)	7.2		
Cell Exp. (cc)	0.0	Init. Saturation	76.8
Vol. After Consol. (cc)	295.3	Init. Void Ratio	0.632
Vol. After Consol. (cu ft)	0.0104	Final Saturation	100.0
Effective Porosity %	38.74	Final Void Ratio	0.594
Pressure Difference (psi):	4.00		
C =	0.06508	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	61.8	7.2	54.6	335.9	
1006.0	58.3	9.1	49.2	330.5	7.6E-09
401.0	57.1	10.3	46.8	328.1	8.6E-09
1041.0	53.9	12.7	41.2	322.5	7.8E-09
2893.0	45.8	19.8	26.0	307.3	7.9E-09
1430.0	41.6	22.4	19.2	300.5	7.4E-09
			Avg.of Last 4 Rdgs.		**7.9E-09**
			Max.Hyd.Gradient:	45.8	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 102.8 pcf @ 17.5% moisture.

FLEXIBLE WALL PERMEABILITY TEST

ASTM D 5084-03

Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP09-4	LAB NO. :	
DEPTH	4'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/20/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/14/08
CONF. PRESSURE. (psi)	3	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	589.70	621.20
Wt. Wet Soil & Pan (g)	589.70	737.50
Wt. Dry Soil & Pan (g)	510.00	626.30
Wt. Moisture Lost (g)	79.70	111.20
Wt. of Pan Only (g)	0.00	116.30
Wt. of Dry Soil (g)	510.00	510.00
Moisture Content %	15.6	21.8
Wet Density (pcf)	120.8	130.0
Dry Density (pcf)	104.5	106.7

Init. Diameter (in)	2.877	(cm)	7.308
Init. Area (sq in)	6.501	(sq cm)	41.941
Init. Height (in)	2.860	(cm)	7.264
Height Change (in)	0.011	(cm)	0.028
Consol. Height (in)	2.849	(cm)	7.236
Area After Consol. (sq in)	6.388	(sq cm)	41.218

Vol. Before Consol. (cu ft)	0.01076	Specific Gravity	2.72
Vol. Before Consol. (cc)	304.7	Assumed?	Yes
Change in Vol. (cc)	6.4		
Cell Exp. (cc)	0.0	Init. Saturation	68.0
Vol. After Consol. (cc)	298.3	Init. Void Ratio	0.625
Vol. After Consol. (cu ft)	0.0105	Final Saturation	100.0
Effective Porosity %	38.46	Final Void Ratio	0.591
Pressure Difference (psi):	0.00		
C =	0.06386	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	42.8	9.5	33.3	33.3	
25.0	37.3	15.1	22.2	22.2	7.5E-06
9.0	35.9	16.5	19.4	19.4	6.9E-06
11.0	34.3	18.0	16.3	16.3	7.3E-06
6.0	33.7	18.7	15.0	15.0	6.4E-06
18.0	31.9	20.5	11.4	11.4	7.0E-06
			Avg.of Last 4 Rdgs.		**7.0E-06**
			Max.Hyd.Gradient:	3.8	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 104.7 pcf @ 14.6% moisture.

FLEXIBLE WALL PERMEABILITY TEST
ASTM D 5084-03
Falling Head / Increasing Tailwater Pressure

CLIENT:	POWERTECH		
PROJECT:	Dewey Burdock	PROJECT NO. :	DV102-279.2
BORING NO.	TP09-4	LAB NO. :	
DEPTH	4'	SAMPLE ID:	
SAMPLE NO.	1	TEST STARTED :	11/20/08
SAMPLE TYPE	Remolded	TEST FINISHED :	12/14/08
CONF. PRESSURE. (psi)	10	SATURATED TEST:	YES

MOISTURE/DENSITY DATA	BEFORE TEST	AFTER TEST
Wt. Soil + Moisture (g)	589.70	611.20
Wt. Wet Soil & Pan (g)	589.70	727.50
Wt. Dry Soil & Pan (g)	510.00	626.30
Wt. Moisture Lost (g)	79.70	101.20
Wt. of Pan Only (g)	0.00	116.30
Wt. of Dry Soil (g)	510.00	510.00
Moisture Content %	15.6	19.8
Wet Density (pcf)	120.8	132.4
Dry Density (pcf)	104.5	110.4

Init. Diameter (in)	2.877	(cm)	7.308
Init. Area (sq in)	6.501	(sq cm)	41.941
Init. Height (in)	2.860	(cm)	7.264
Height Change (in)	0.032	(cm)	0.081
Consol. Height (in)	2.828	(cm)	7.183
Area After Consol. (sq in)	6.220	(sq cm)	40.132

Vol. Before Consol. (cu ft)	0.01076	Specific Gravity	2.72
Vol. Before Consol. (cc)	304.7	Assumed?	Yes
Change in Vol. (cc)	16.4		
Cell Exp. (cc)	0.0	Init. Saturation	68.0
Vol. After Consol. (cc)	288.3	Init. Void Ratio	0.625
Vol. After Consol. (cu ft)	0.0102	Final Saturation	100.0
Effective Porosity %	38.46	Final Void Ratio	0.537
Pressure Difference (psi):	0.00		
C =	0.06510	Buret Constant, a	0.316
k, cm/s = C/t*log(h1/h2)			

Permeability Test Trials

Time min.	Cap Elevation cm	Pedestal Elevation cm	Elevation Head cm	Total Head cm	Permeability k cm/sec
0.0	59.4	1.8	57.6	57.6	
198.0	58.3	2.9	55.4	55.4	9.3E-08
1049.0	52.2	8.4	43.8	43.8	1.1E-07
112.0	51.6	9.0	42.6	42.6	1.2E-07
123.0	51.0	9.6	41.4	41.4	1.1E-07
			Avg.of Last 4 Rdgs.		**1.1E-07**
			Max.Hyd.Gradient:	7.9	

General Test Notes:
1) Tap water was used as the permeant.
2) Back pressure saturation continued until 'B' parameter a minimum of 0.95.
3) Target remolding parameters: 104.7 pcf @ 14.6% moisture.

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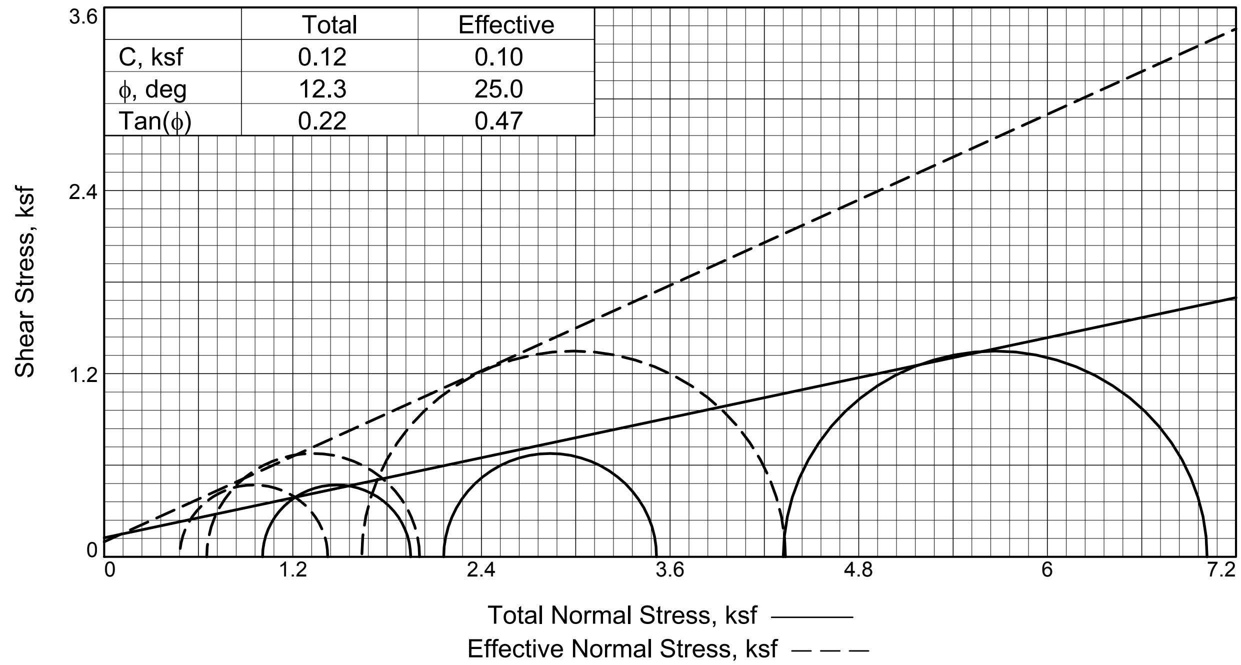
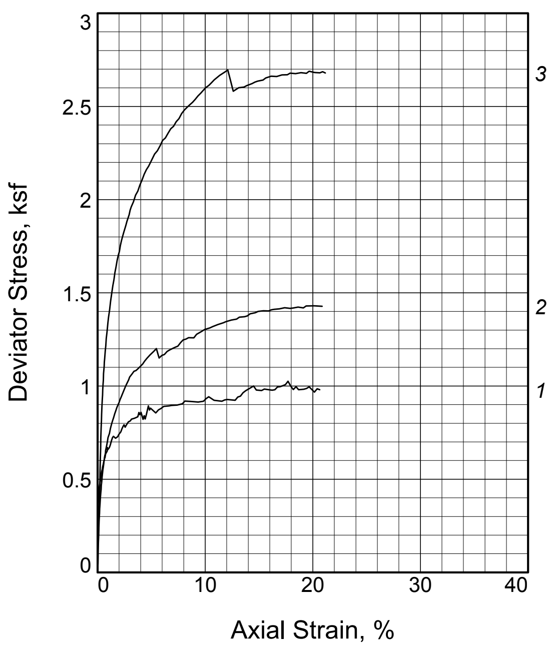
Appendix C-5

Triaxial Test Results



	Total	Effective
C, ksf	0.12	0.10
ϕ, deg	12.3	25.0
Tan(ϕ)	0.22	0.47



Sample No.		1	2	3
Initial	Water Content, %	16.8	17.9	17.7
	Dry Density, pcf	102.6	101.9	101.8
	Saturation, %	69.7	73.1	72.2
	Void Ratio	0.6543	0.6660	0.6687
	Diameter, in.	2.43	2.43	2.43
	Height, in.	4.90	4.90	4.90
At Test	Water Content, %	27.3	25.7	23.2
	Dry Density, pcf	97.5	100.0	104.2
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.7413	0.6987	0.6301
	Diameter, in.	2.47	2.44	2.41
	Height, in.	4.99	4.93	4.86
Strain rate, %/min.		0.03	0.03	0.03
Eff. Cell Pressure, psi		7.00	15.00	30.00
Fail. Stress, ksf		0.94	1.35	2.70
Excess Pore Pr., ksf		0.53	1.51	2.68
Strain, %		10.3	12.4	12.1
Ult. Stress, ksf				
Excess Pore Pr., ksf				
Strain, %				
$\bar{\sigma}_1$ Failure, ksf		1.42	2.01	4.33
$\bar{\sigma}_3$ Failure, ksf		0.48	0.65	1.64

Type of Test:
CU with Pore Pressures

Sample Type: Remolded, 95%MDD @ OMC

Description: lean clay with sand

LL= 43 **PL=** 11 **PI=** 32

Specific Gravity= 2.72

Remarks: Failure tangents drawn at approximately 15% strain.

Fig. _______

Client:

Project: Powertech

Location: TP02

Depth: 7'

Proj. No.: DV102-279.02

Date Sampled: 7/21/08

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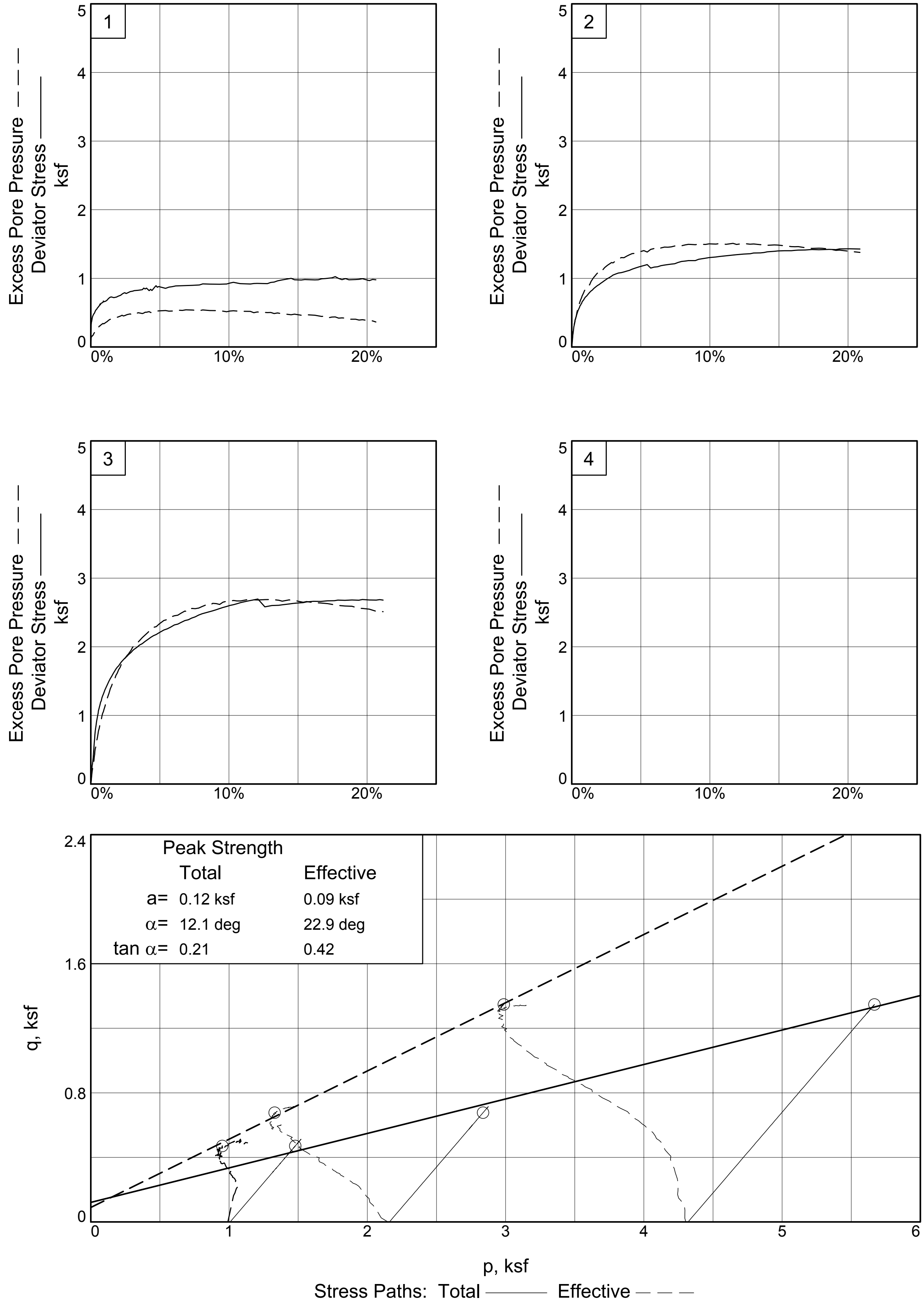
Tested By: jdb **Checked By:** spb



Client:

Project: Powertech

Location: TP02 **Depth:** 7'

Project No.: DV102-279.02 **Fig.** 15%

Knight Piesold Geotechnical Lab.

Tested By: jdb **Checked By:** spb

TRIAXIAL COMPRESSION TEST
CU with Pore Pressures

9/6/2008
2:23 PM

Date: 7/21/08
Client:
Project: Powertech
Project No.: DV102-279.02
Location: TP02
Depth: 7'
Description: lean clay with sand
Remarks: Failure tangents drawn at approximately 15% strain.
Type of Sample: Remolded, 95%MDD @ OMC
Specific Gravity=2.72 **LL=**43 **PL=**11 **PI=**32
Test Method: COE uniform strain

Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	715.000			920.700
Moisture content: Dry soil+tare, gms.	612.300			755.400
Moisture content: Tare, gms.	0.000			145.070
Moisture, %	16.8	24.1	27.3	27.1
Moist specimen weight, gms.	715.0			
Diameter, in.	2.43	2.43	2.47	
Area, in.²	4.64	4.64	4.80	
Height, in.	4.90	4.90	4.99	
Net decrease in height, in.		0.00	-0.09	
Wet Density, pcf	119.9	127.3	124.1	
Dry density, pcf	102.6	102.6	97.5	
Void ratio	0.6543	0.6543	0.7413	
Saturation, %	69.7	100.0	100.0	

Test Readings for Specimen No. 1

Membrane modulus = 0.124105 kN/cm²
Membrane thickness = 0.064 cm
Consolidation cell pressure = 47.00 psi (6.77 ksf)
Consolidation back pressure = 40.00 psi (5.76 ksf)
Consolidation effective confining stress = 1.01 ksf
Strain rate, %/min. = 0.03
Fail. Stress = 0.94 ksf **at reading no.** 67

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	-5.3826	3.016	0.0	0.0	0.00	0.99	0.99	1.00	40.11	0.99	0.00
1	-5.3813	13.875	10.9	0.0	0.33	0.87	1.20	1.37	40.96	1.03	0.16
2	-5.3801	15.018	12.0	0.0	0.36	0.86	1.22	1.42	41.01	1.04	0.18
3	-5.3789	15.732	12.7	0.1	0.38	0.86	1.24	1.45	41.06	1.05	0.19
4	-5.3777	16.862	13.8	0.1	0.42	0.85	1.26	1.49	41.12	1.05	0.21
5	-5.3764	17.667	14.7	0.1	0.44	0.84	1.28	1.52	41.13	1.06	0.22
6	-5.3740	18.603	15.6	0.2	0.47	0.83	1.30	1.56	41.23	1.07	0.23
7	-5.3715	19.146	16.1	0.2	0.48	0.81	1.30	1.59	41.36	1.05	0.24
8	-5.3691	19.614	16.6	0.3	0.50	0.80	1.29	1.62	41.47	1.05	0.25
9	-5.3679	20.083	17.1	0.3	0.51	0.79	1.30	1.64	41.49	1.05	0.26
10	-5.3654	20.737	17.7	0.3	0.53	0.78	1.31	1.68	41.60	1.04	0.26
11	-5.3642	21.050	18.0	0.4	0.54	0.77	1.31	1.70	41.66	1.04	0.27
12	-5.3605	21.607	18.6	0.4	0.56	0.75	1.30	1.74	41.81	1.02	0.28
13	-5.3593	21.905	18.9	0.5	0.56	0.74	1.31	1.76	41.83	1.03	0.28
14	-5.3556	22.518	19.5	0.5	0.58	0.72	1.31	1.80	41.97	1.01	0.29
15	-5.3544	22.841	19.8	0.6	0.59	0.72	1.31	1.82	42.01	1.01	0.30
16	-5.3519	23.135	20.1	0.6	0.60	0.70	1.30	1.85	42.11	1.00	0.30
17	-5.3507	23.430	20.4	0.6	0.61	0.70	1.31	1.87	42.13	1.01	0.30
18	-5.3495	24.026	21.0	0.7	0.63	0.70	1.33	1.90	42.14	1.01	0.31
19	-5.3482	23.680	20.7	0.7	0.62	0.70	1.31	1.88	42.16	1.00	0.31
20	-5.3458	24.338	21.3	0.7	0.64	0.69	1.32	1.93	42.23	1.00	0.32
21	-5.3384	24.896	21.9	0.9	0.65	0.67	1.32	1.98	42.38	0.99	0.33
22	-5.3372	25.534	22.5	0.9	0.67	0.67	1.34	2.00	42.35	1.01	0.33
23	-5.3348	25.186	22.2	1.0	0.66	0.67	1.33	1.99	42.36	1.00	0.33
24	-5.3286	25.563	22.5	1.1	0.67	0.65	1.32	2.03	42.48	0.99	0.33
25	-5.3237	26.047	23.0	1.2	0.68	0.64	1.32	2.07	42.57	0.98	0.34
26	-5.3188	26.818	23.8	1.3	0.71	0.62	1.33	2.14	42.69	0.97	0.35
27	-5.3139	27.441	24.4	1.4	0.72	0.61	1.33	2.19	42.78	0.97	0.36
28	-5.3090	27.720	24.7	1.5	0.73	0.60	1.33	2.22	42.83	0.97	0.37
29	-5.2992	27.415	24.4	1.7	0.72	0.59	1.31	2.22	42.90	0.95	0.36
30	-5.2894	27.753	24.7	1.9	0.73	0.58	1.31	2.26	43.00	0.94	0.36
31	-5.2845	28.149	25.1	2.0	0.74	0.57	1.31	2.30	43.04	0.94	0.37
32	-5.2747	28.703	25.7	2.2	0.75	0.56	1.31	2.36	43.14	0.93	0.38
33	-5.2698	29.284	26.3	2.3	0.77	0.54	1.32	2.41	43.22	0.93	0.39
34	-5.2649	29.753	26.7	2.4	0.78	0.56	1.34	2.41	43.14	0.95	0.39
35	-5.2600	30.070	27.1	2.5	0.79	0.55	1.34	2.44	43.18	0.95	0.40
36	-5.2551	29.664	26.6	2.6	0.78	0.54	1.32	2.44	43.24	0.93	0.39
37	-5.2502	30.011	27.0	2.7	0.79	0.53	1.32	2.47	43.29	0.93	0.39
38	-5.2404	30.704	27.7	2.9	0.81	0.53	1.33	2.53	43.35	0.93	0.40
39	-5.2306	30.975	28.0	3.0	0.81	0.54	1.36	2.50	43.23	0.95	0.41
40	-5.2257	31.284	28.3	3.1	0.82	0.53	1.35	2.55	43.32	0.94	0.41
41	-5.2110	31.561	28.5	3.4	0.83	0.51	1.34	2.62	43.46	0.92	0.41
42	-5.1963	31.909	28.9	3.7	0.83	0.52	1.35	2.61	43.39	0.94	0.42
43	-5.1914	32.763	29.7	3.8	0.86	0.51	1.37	2.67	43.44	0.94	0.43
44	-5.1865	32.350	29.3	3.9	0.85	0.50	1.35	2.68	43.51	0.92	0.42
45	-5.1816	32.834	29.8	4.0	0.86	0.50	1.36	2.71	43.52	0.93	0.43
46	-5.1718	33.152	30.1	4.2	0.82	0.49	1.31	2.67	43.59	0.90	0.41

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
47	-5.1669	33.894	30.9	4.3	0.84	0.51	1.35	2.66	43.49	0.93	0.42
48	-5.1620	33.321	30.3	4.4	0.82	0.51	1.33	2.62	43.48	0.92	0.41
49	-5.1571	34.180	31.2	4.5	0.85	0.50	1.35	2.69	43.53	0.92	0.42
50	-5.1522	35.167	32.2	4.6	0.87	0.49	1.36	2.78	43.61	0.92	0.44
51	-5.1473	36.004	33.0	4.7	0.89	0.49	1.38	2.83	43.61	0.93	0.45
52	-5.1424	35.286	32.3	4.8	0.87	0.48	1.35	2.80	43.64	0.92	0.44
53	-5.1375	35.708	32.7	4.9	0.88	0.48	1.36	2.83	43.65	0.92	0.44
54	-5.1130	35.163	32.1	5.4	0.86	0.48	1.33	2.79	43.69	0.90	0.43
55	-5.1007	35.934	32.9	5.7	0.87	0.48	1.36	2.80	43.63	0.92	0.44
56	-5.0884	36.377	33.4	5.9	0.88	0.48	1.36	2.82	43.64	0.92	0.44
57	-5.0762	36.938	33.9	6.1	0.89	0.47	1.36	2.90	43.74	0.91	0.45
58	-5.0517	37.397	34.4	6.6	0.89	0.47	1.37	2.88	43.70	0.92	0.45
59	-5.0394	37.682	34.7	6.9	0.90	0.47	1.36	2.92	43.76	0.91	0.45
60	-5.0149	38.122	35.1	7.4	0.90	0.47	1.37	2.91	43.74	0.92	0.45
61	-4.9904	38.731	35.7	7.9	0.90	0.48	1.38	2.89	43.67	0.93	0.45
62	-4.9782	39.455	36.4	8.1	0.92	0.47	1.39	2.96	43.75	0.93	0.46
63	-4.9537	39.763	36.7	8.6	0.92	0.48	1.39	2.93	43.69	0.93	0.46
64	-4.9169	40.230	37.2	9.3	0.91	0.48	1.39	2.91	43.67	0.94	0.46
65	-4.8924	40.779	37.8	9.8	0.92	0.49	1.41	2.86	43.57	0.95	0.46
66	-4.8801	41.487	38.5	10.1	0.93	0.48	1.42	2.93	43.64	0.95	0.47
67	-4.8679	42.073	39.1	10.3	0.94	0.48	1.42	2.96	43.66	0.95	0.47
68	-4.8434	41.778	38.8	10.8	0.92	0.49	1.41	2.90	43.62	0.95	0.46
69	-4.8066	42.224	39.2	11.6	0.92	0.49	1.41	2.88	43.61	0.95	0.46
70	-4.7944	42.686	39.7	11.8	0.93	0.51	1.43	2.82	43.47	0.97	0.46
71	-4.7821	42.983	40.0	12.0	0.93	0.50	1.43	2.86	43.54	0.96	0.46
72	-4.7453	43.450	40.4	12.8	0.92	0.51	1.43	2.82	43.48	0.97	0.46
73	-4.7331	44.342	41.3	13.0	0.94	0.50	1.44	2.87	43.50	0.97	0.47
74	-4.7208	44.758	41.7	13.3	0.95	0.52	1.47	2.82	43.39	0.99	0.47
75	-4.7086	45.653	42.6	13.5	0.96	0.51	1.47	2.88	43.45	0.99	0.48
76	-4.6963	46.311	43.3	13.8	0.97	0.52	1.49	2.88	43.39	1.01	0.49
77	-4.6596	47.974	45.0	14.5	1.00	0.54	1.54	2.86	43.26	1.04	0.50
78	-4.6473	47.361	44.3	14.7	0.98	0.53	1.51	2.85	43.32	1.02	0.49
79	-4.6228	47.702	44.7	15.2	0.98	0.55	1.52	2.79	43.22	1.03	0.49
80	-4.6105	48.262	45.2	15.5	0.98	0.54	1.52	2.83	43.27	1.03	0.49
81	-4.5738	48.728	45.7	16.2	0.98	0.55	1.52	2.79	43.21	1.03	0.49
82	-4.5615	49.063	46.0	16.5	0.98	0.55	1.53	2.77	43.15	1.04	0.49
83	-4.5493	49.869	46.9	16.7	0.99	0.56	1.56	2.77	43.09	1.06	0.50
84	-4.5370	50.203	47.2	17.0	1.00	0.56	1.55	2.79	43.13	1.06	0.50
85	-4.5248	50.651	47.6	17.2	1.00	0.58	1.58	2.72	42.96	1.08	0.50
86	-4.5125	51.133	48.1	17.5	1.01	0.57	1.58	2.76	43.03	1.08	0.50
87	-4.5003	52.099	49.1	17.7	1.03	0.57	1.59	2.80	43.05	1.08	0.51
88	-4.4880	51.276	48.3	17.9	1.00	0.59	1.59	2.70	42.92	1.09	0.50
89	-4.4758	50.792	47.8	18.2	0.98	0.58	1.56	2.68	42.95	1.07	0.49
90	-4.4635	51.698	48.7	18.4	1.00	0.59	1.58	2.70	42.92	1.09	0.50
91	-4.4512	51.281	48.3	18.7	0.98	0.60	1.58	2.62	42.81	1.09	0.49
92	-4.4267	51.881	48.9	19.2	0.98	0.60	1.59	2.63	42.81	1.09	0.49
93	-4.4145	52.327	49.3	19.4	0.99	0.62	1.60	2.61	42.73	1.11	0.49

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
94	-4.4022	52.931	49.9	19.7	1.00	0.61	1.61	2.63	42.76	1.11	0.50
95	-4.3777	52.270	49.3	20.2	0.97	0.63	1.59	2.55	42.66	1.11	0.48
96	-4.3655	53.278	50.3	20.4	0.98	0.63	1.61	2.57	42.64	1.12	0.49
97	-4.3535	53.343	50.3	20.6	0.98	0.64	1.62	2.52	42.53	1.13	0.49

Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	715.600			880.700
Moisture content: Dry soil+tare, gms.	607.000			725.000
Moisture content: Tare, gms.	0.000			118.000
Moisture, %	17.9	24.5	25.7	25.7
Moist specimen weight, gms.	715.6			
Diameter, in.	2.43	2.43	2.44	
Area, in.²	4.63	4.63	4.69	
Height, in.	4.90	4.90	4.93	
Net decrease in height, in.		0.00	-0.03	
Wet Density, pcf	120.2	126.9	125.6	
Dry density, pcf	101.9	101.9	100.0	
Void ratio	0.6660	0.6660	0.6987	
Saturation, %	73.1	100.0	100.0	

Test Readings for Specimen No. 2

Membrane modulus = 0.124105 kN/cm²

Membrane thickness = 0.064 cm

Consolidation cell pressure = 55.00 psi (7.92 ksf)

Consolidation back pressure = 40.00 psi (5.76 ksf)

Consolidation effective confining stress = 2.16 ksf

Strain rate, %/min. = 0.03

Fail. Stress = 1.35 ksf **at reading no.** 80

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0241	2.626	0.0	0.0	0.00	2.15	2.15	1.00	40.08	2.15	0.00
1	0.0253	4.268	1.6	0.0	0.05	2.07	2.13	1.02	40.59	2.10	0.03
2	0.0265	6.300	3.7	0.0	0.11	2.02	2.13	1.06	40.96	2.08	0.06
3	0.0277	7.892	5.3	0.1	0.16	1.98	2.14	1.08	41.25	2.06	0.08
4	0.0290	9.322	6.7	0.1	0.21	1.94	2.14	1.11	41.53	2.04	0.10
5	0.0302	10.493	7.9	0.1	0.24	1.90	2.14	1.13	41.82	2.02	0.12
6	0.0314	12.103	9.5	0.1	0.29	1.87	2.16	1.16	42.03	2.01	0.15
7	0.0326	12.927	10.3	0.2	0.32	1.84	2.15	1.17	42.24	1.99	0.16
8	0.0339	13.800	11.2	0.2	0.34	1.81	2.15	1.19	42.42	1.98	0.17
9	0.0351	14.605	12.0	0.2	0.37	1.79	2.16	1.21	42.58	1.97	0.18
10	0.0363	15.561	12.9	0.2	0.40	1.77	2.16	1.22	42.73	1.96	0.20
11	0.0376	15.921	13.3	0.3	0.41	1.75	2.16	1.23	42.85	1.95	0.20
12	0.0388	16.634	14.0	0.3	0.43	1.73	2.16	1.25	42.98	1.94	0.21
13	0.0400	17.148	14.5	0.3	0.44	1.71	2.16	1.26	43.09	1.94	0.22
14	0.0412	17.868	15.2	0.3	0.47	1.68	2.15	1.28	43.30	1.92	0.23
15	0.0425	18.338	15.7	0.4	0.48	1.65	2.14	1.29	43.51	1.89	0.24
16	0.0437	18.945	16.3	0.4	0.50	1.63	2.13	1.31	43.65	1.88	0.25

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
17	0.0449	19.337	16.7	0.4	0.51	1.62	2.13	1.32	43.77	1.87	0.26
18	0.0461	19.859	17.2	0.4	0.53	1.60	2.12	1.33	43.91	1.86	0.26
19	0.0486	20.669	18.0	0.5	0.55	1.56	2.11	1.35	44.14	1.84	0.28
20	0.0498	21.028	18.4	0.5	0.56	1.55	2.11	1.36	44.26	1.83	0.28
21	0.0523	21.657	19.0	0.6	0.58	1.52	2.10	1.38	44.48	1.81	0.29
22	0.0535	22.241	19.6	0.6	0.60	1.50	2.10	1.40	44.58	1.80	0.30
23	0.0560	22.718	20.1	0.6	0.61	1.47	2.08	1.42	44.78	1.78	0.31
24	0.0572	23.102	20.5	0.7	0.62	1.46	2.08	1.43	44.86	1.77	0.31
25	0.0596	23.630	21.0	0.7	0.64	1.43	2.07	1.45	45.04	1.75	0.32
26	0.0609	24.114	21.5	0.7	0.65	1.42	2.07	1.46	45.14	1.75	0.33
27	0.0633	24.609	22.0	0.8	0.67	1.40	2.07	1.48	45.29	1.73	0.33
28	0.0658	25.020	22.4	0.8	0.68	1.38	2.06	1.50	45.45	1.72	0.34
29	0.0695	25.833	23.2	0.9	0.71	1.34	2.05	1.53	45.68	1.70	0.35
30	0.0719	26.403	23.8	1.0	0.72	1.32	2.05	1.55	45.81	1.68	0.36
31	0.0780	27.185	24.6	1.1	0.75	1.28	2.03	1.58	46.11	1.65	0.37
32	0.0829	28.094	25.5	1.2	0.77	1.26	2.03	1.61	46.23	1.65	0.39
33	0.0878	28.877	26.3	1.3	0.80	1.25	2.05	1.63	46.29	1.65	0.40
34	0.0927	29.563	26.9	1.4	0.82	1.20	2.02	1.68	46.63	1.61	0.41
35	0.0976	30.076	27.4	1.5	0.83	1.17	2.00	1.71	46.84	1.59	0.42
36	0.1025	30.811	28.2	1.6	0.85	1.15	2.00	1.74	47.04	1.57	0.43
37	0.1075	31.404	28.8	1.7	0.87	1.12	1.99	1.77	47.21	1.56	0.43
38	0.1124	31.936	29.3	1.8	0.88	1.10	1.98	1.80	47.37	1.54	0.44
39	0.1173	32.444	29.8	1.9	0.90	1.08	1.98	1.83	47.51	1.53	0.45
40	0.1222	32.919	30.3	2.0	0.91	1.06	1.97	1.86	47.64	1.52	0.46
41	0.1271	33.455	30.8	2.1	0.93	1.04	1.97	1.89	47.77	1.50	0.46
42	0.1320	33.954	31.3	2.2	0.94	1.05	1.99	1.90	47.72	1.52	0.47
43	0.1418	34.933	32.3	2.4	0.97	1.00	1.97	1.97	48.04	1.49	0.48
44	0.1516	35.982	33.4	2.6	1.00	0.97	1.97	2.03	48.27	1.47	0.50
45	0.1565	36.377	33.8	2.7	1.01	0.96	1.96	2.06	48.36	1.46	0.50
46	0.1663	37.275	34.6	2.9	1.03	0.93	1.96	2.11	48.55	1.45	0.52
47	0.1712	37.797	35.2	3.0	1.05	0.93	1.98	2.12	48.52	1.46	0.52
48	0.1810	38.407	35.8	3.2	1.06	0.91	1.97	2.18	48.71	1.44	0.53
49	0.1908	38.992	36.4	3.4	1.08	0.88	1.96	2.23	48.89	1.42	0.54
50	0.2006	39.219	36.6	3.6	1.08	0.86	1.94	2.26	49.05	1.40	0.54
51	0.2104	39.659	37.0	3.8	1.09	0.86	1.95	2.27	49.04	1.41	0.55
52	0.2202	40.137	37.5	4.0	1.11	0.84	1.94	2.32	49.20	1.39	0.55
53	0.2300	40.606	38.0	4.2	1.12	0.82	1.93	2.37	49.33	1.37	0.56
54	0.2398	41.248	38.6	4.4	1.13	0.80	1.93	2.42	49.45	1.37	0.57
55	0.2496	41.796	39.2	4.6	1.15	0.80	1.94	2.44	49.47	1.37	0.57
56	0.2643	42.582	40.0	4.9	1.17	0.78	1.94	2.50	49.61	1.36	0.58
57	0.2814	43.391	40.8	5.2	1.19	0.75	1.94	2.57	49.76	1.35	0.59
58	0.2937	44.015	41.4	5.5	1.20	0.78	1.98	2.55	49.60	1.38	0.60
59	0.3059	44.467	41.8	5.7	1.15	0.74	1.89	2.56	49.88	1.31	0.57
60	0.3182	45.141	42.5	6.0	1.16	0.73	1.89	2.60	49.96	1.31	0.58
61	0.3305	45.541	42.9	6.2	1.17	0.74	1.91	2.58	49.87	1.32	0.58
62	0.3427	46.303	43.7	6.5	1.19	0.72	1.90	2.65	50.02	1.31	0.59
63	0.3550	46.814	44.2	6.7	1.19	0.70	1.90	2.70	50.11	1.30	0.60

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
64	0.3672	47.271	44.6	7.0	1.20	0.71	1.91	2.70	50.10	1.31	0.60
65	0.3795	47.713	45.1	7.2	1.21	0.70	1.91	2.72	50.13	1.31	0.60
66	0.3917	48.157	45.5	7.5	1.21	0.69	1.90	2.76	50.22	1.30	0.61
67	0.4040	49.044	46.4	7.7	1.23	0.68	1.91	2.81	50.28	1.30	0.62
68	0.4162	49.768	47.1	8.0	1.25	0.69	1.93	2.82	50.24	1.31	0.62
69	0.4285	50.144	47.5	8.2	1.25	0.67	1.92	2.86	50.33	1.30	0.63
70	0.4407	50.655	48.0	8.4	1.26	0.66	1.92	2.90	50.38	1.29	0.63
71	0.4652	51.063	48.4	8.9	1.26	0.67	1.93	2.88	50.35	1.30	0.63
72	0.4775	51.983	49.4	9.2	1.28	0.66	1.94	2.93	50.40	1.30	0.64
73	0.5020	53.032	50.4	9.7	1.29	0.67	1.96	2.95	50.38	1.31	0.65
74	0.5142	53.593	51.0	9.9	1.30	0.66	1.96	2.98	50.44	1.31	0.65
75	0.5387	54.399	51.8	10.4	1.31	0.66	1.97	2.98	50.41	1.32	0.66
76	0.5510	54.881	52.3	10.7	1.32	0.65	1.97	3.02	50.46	1.31	0.66
77	0.5755	55.785	53.2	11.2	1.33	0.66	1.99	3.00	50.39	1.33	0.66
78	0.6000	56.633	54.0	11.7	1.34	0.65	1.99	3.06	50.49	1.32	0.67
79	0.6122	57.097	54.5	11.9	1.35	0.67	2.01	3.02	50.38	1.34	0.67
80	0.6367	57.924	55.3	12.4	1.35	0.65	2.01	3.08	50.47	1.33	0.68
81	0.6612	58.636	56.0	12.9	1.36	0.66	2.02	3.05	50.40	1.34	0.68
82	0.6735	59.258	56.6	13.2	1.37	0.66	2.03	3.08	50.43	1.34	0.68
83	0.6980	59.894	57.3	13.7	1.37	0.67	2.04	3.05	50.36	1.35	0.69
84	0.7103	60.316	57.7	13.9	1.38	0.67	2.04	3.07	50.38	1.35	0.69
85	0.7225	61.012	58.4	14.2	1.39	0.68	2.06	3.05	50.30	1.37	0.69
86	0.7470	61.787	59.2	14.7	1.39	0.67	2.07	3.07	50.33	1.37	0.70
87	0.7593	62.328	59.7	14.9	1.40	0.68	2.08	3.07	50.31	1.38	0.70
88	0.7838	63.017	60.4	15.4	1.40	0.69	2.09	3.05	50.24	1.39	0.70
89	0.8083	63.545	60.9	15.9	1.40	0.70	2.10	3.01	50.15	1.40	0.70
90	0.8205	64.048	61.4	16.1	1.41	0.70	2.11	3.02	50.15	1.40	0.70
91	0.8328	64.441	61.8	16.4	1.41	0.70	2.11	3.02	50.16	1.40	0.71
92	0.8573	65.136	62.5	16.9	1.41	0.71	2.13	2.98	50.05	1.42	0.71
93	0.8818	65.948	63.3	17.4	1.42	0.72	2.14	2.96	49.98	1.43	0.71
94	0.9063	66.397	63.8	17.9	1.42	0.72	2.14	2.97	50.00	1.43	0.71
95	0.9185	66.782	64.2	18.1	1.42	0.72	2.14	2.97	49.99	1.43	0.71
96	0.9430	67.570	64.9	18.6	1.42	0.73	2.16	2.94	49.92	1.44	0.71
97	0.9675	68.032	65.4	19.1	1.42	0.75	2.17	2.89	49.78	1.46	0.71
98	0.9798	68.758	66.1	19.4	1.43	0.75	2.18	2.91	49.81	1.46	0.71
99	1.0165	69.738	67.1	20.1	1.43	0.77	2.20	2.87	49.69	1.48	0.72
100	1.0531	70.587	68.0	20.9	1.43	0.78	2.21	2.83	49.57	1.50	0.71

Parameters for Specimen No. 3

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	714.700			863.000
Moisture content: Dry soil+tare, gms.	607.000			725.400
Moisture content: Tare, gms.	0.000			118.400
Moisture, %	17.7	24.6	23.2	22.7
Moist specimen weight, gms.	714.7			
Diameter, in.	2.43	2.43	2.41	
Area, in.²	4.64	4.64	4.57	
Height, in.	4.90	4.90	4.86	
Net decrease in height, in.		0.00	0.04	
Wet Density, pcf	119.8	126.8	128.3	
Dry density, pcf	101.8	101.8	104.2	
Void ratio	0.6687	0.6687	0.6301	
Saturation, %	72.2	100.0	100.0	

Test Readings for Specimen No. 3

Membrane modulus = 0.124105 kN/cm²

Membrane thickness = 0.064 cm

Consolidation cell pressure = 70.00 psi (10.08 ksf)

Consolidation back pressure = 40.00 psi (5.76 ksf)

Consolidation effective confining stress = 4.32 ksf

Strain rate, %/min. = 0.03

Fail. Stress = 2.70 ksf **at reading no.** 86

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0616	2.926	0.0	0.0	0.00	4.30	4.30	1.00	40.12	4.30	0.00
1	0.0628	4.362	1.4	0.0	0.05	4.27	4.32	1.01	40.32	4.30	0.02
2	0.0640	7.571	4.6	0.1	0.15	4.22	4.37	1.03	40.67	4.30	0.07
3	0.0652	9.582	6.7	0.1	0.21	4.19	4.40	1.05	40.93	4.29	0.10
4	0.0665	11.271	8.3	0.1	0.26	4.14	4.40	1.06	41.27	4.27	0.13
5	0.0677	12.274	9.3	0.1	0.29	4.10	4.40	1.07	41.50	4.25	0.15
6	0.0689	13.711	10.8	0.2	0.34	4.07	4.41	1.08	41.71	4.24	0.17
7	0.0702	15.179	12.3	0.2	0.39	4.05	4.44	1.10	41.85	4.25	0.19
8	0.0714	17.840	14.9	0.2	0.47	4.01	4.48	1.12	42.13	4.25	0.23
9	0.0726	19.893	17.0	0.2	0.53	3.97	4.51	1.13	42.40	4.24	0.27
10	0.0738	22.324	19.4	0.3	0.61	3.92	4.53	1.16	42.76	4.23	0.31
11	0.0751	24.021	21.1	0.3	0.66	3.89	4.55	1.17	43.00	4.22	0.33
12	0.0763	25.897	23.0	0.3	0.72	3.84	4.56	1.19	43.34	4.20	0.36
13	0.0775	27.536	24.6	0.3	0.77	3.81	4.58	1.20	43.57	4.19	0.39
14	0.0787	28.841	25.9	0.4	0.81	3.79	4.60	1.21	43.69	4.20	0.41
15	0.0800	29.902	27.0	0.4	0.85	3.75	4.60	1.23	43.94	4.18	0.42
16	0.0812	31.249	28.3	0.4	0.89	3.71	4.60	1.24	44.23	4.16	0.44
17	0.0824	32.367	29.4	0.4	0.92	3.68	4.61	1.25	44.43	4.14	0.46
18	0.0837	33.218	30.3	0.5	0.95	3.67	4.62	1.26	44.53	4.14	0.48
19	0.0849	34.148	31.2	0.5	0.98	3.64	4.62	1.27	44.73	4.13	0.49
20	0.0861	35.092	32.2	0.5	1.01	3.61	4.62	1.28	44.95	4.11	0.50
21	0.0873	35.846	32.9	0.5	1.03	3.57	4.61	1.29	45.17	4.09	0.52
22	0.0886	36.942	34.0	0.6	1.07	3.55	4.62	1.30	45.36	4.08	0.53
23	0.0910	38.204	35.3	0.6	1.11	3.51	4.62	1.31	45.60	4.07	0.55
24	0.0922	38.901	36.0	0.6	1.13	3.49	4.62	1.32	45.78	4.05	0.56

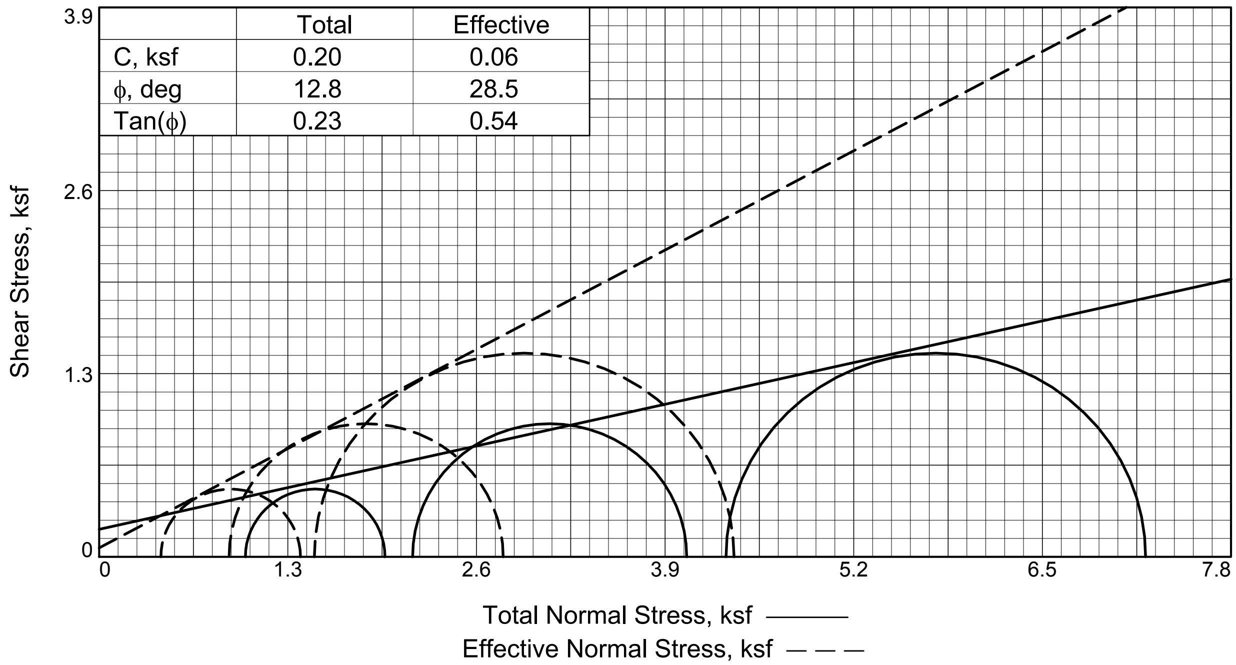
Test Readings for Specimen No. 3

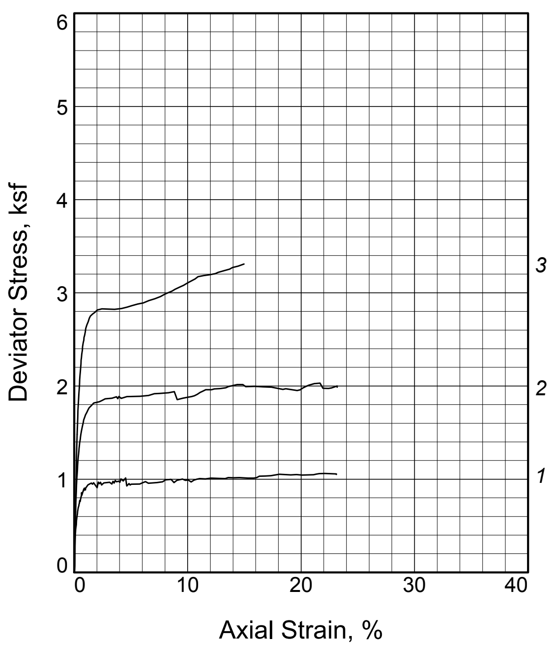
No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
25	0.0935	39.502	36.6	0.7	1.15	3.46	4.61	1.33	45.98	4.03	0.57
26	0.0959	40.951	38.0	0.7	1.19	3.41	4.60	1.35	46.30	4.01	0.60
27	0.0984	41.719	38.8	0.8	1.21	3.38	4.60	1.36	46.52	3.99	0.61
28	0.1008	43.038	40.1	0.8	1.25	3.33	4.59	1.38	46.85	3.96	0.63
29	0.1033	43.985	41.1	0.9	1.28	3.29	4.57	1.39	47.15	3.93	0.64
30	0.1057	44.822	41.9	0.9	1.31	3.27	4.58	1.40	47.31	3.92	0.65
31	0.1082	45.724	42.8	1.0	1.34	3.23	4.57	1.41	47.57	3.90	0.67
32	0.1106	46.737	43.8	1.0	1.37	3.20	4.56	1.43	47.80	3.88	0.68
33	0.1155	48.083	45.2	1.1	1.41	3.13	4.54	1.45	48.28	3.83	0.70
34	0.1205	49.605	46.7	1.2	1.45	3.06	4.51	1.48	48.78	3.78	0.73
35	0.1254	51.001	48.1	1.3	1.50	3.00	4.50	1.50	49.15	3.75	0.75
36	0.1303	52.384	49.5	1.4	1.54	2.93	4.47	1.52	49.65	3.70	0.77
37	0.1352	53.468	50.5	1.5	1.57	2.89	4.46	1.54	49.94	3.67	0.78
38	0.1401	54.739	51.8	1.6	1.61	2.82	4.43	1.57	50.38	3.63	0.80
39	0.1450	55.808	52.9	1.7	1.64	2.80	4.44	1.58	50.53	3.62	0.82
40	0.1499	56.994	54.1	1.8	1.67	2.74	4.41	1.61	50.99	3.58	0.84
41	0.1548	57.907	55.0	1.9	1.70	2.71	4.41	1.63	51.21	3.56	0.85
42	0.1597	58.625	55.7	2.0	1.72	2.65	4.37	1.65	51.57	3.51	0.86
43	0.1646	59.712	56.8	2.1	1.75	2.62	4.37	1.67	51.80	3.50	0.88
44	0.1695	60.639	57.7	2.2	1.78	2.57	4.35	1.69	52.15	3.46	0.89
45	0.1744	61.431	58.5	2.3	1.80	2.55	4.35	1.71	52.31	3.45	0.90
46	0.1793	62.175	59.2	2.4	1.82	2.50	4.33	1.73	52.62	3.41	0.91
47	0.1891	63.506	60.6	2.6	1.86	2.45	4.31	1.76	52.99	3.38	0.93
48	0.1940	64.300	61.4	2.7	1.88	2.43	4.31	1.78	53.15	3.37	0.94
49	0.2038	65.605	62.7	2.9	1.92	2.37	4.29	1.81	53.56	3.33	0.96
50	0.2087	66.473	63.5	3.0	1.94	2.33	4.27	1.84	53.85	3.30	0.97
51	0.2136	67.120	64.2	3.1	1.96	2.31	4.27	1.85	53.94	3.29	0.98
52	0.2234	68.144	65.2	3.3	1.99	2.27	4.26	1.87	54.21	3.27	0.99
53	0.2332	69.442	66.5	3.5	2.02	2.23	4.25	1.91	54.51	3.24	1.01
54	0.2430	70.290	67.4	3.7	2.05	2.19	4.23	1.94	54.82	3.21	1.02
55	0.2528	71.513	68.6	3.9	2.08	2.15	4.23	1.97	55.08	3.19	1.04
56	0.2626	72.607	69.7	4.1	2.11	2.11	4.22	2.00	55.34	3.16	1.05
57	0.2724	73.748	70.8	4.3	2.14	2.07	4.20	2.03	55.64	3.14	1.07
58	0.2822	74.703	71.8	4.5	2.16	2.04	4.20	2.06	55.85	3.12	1.08
59	0.2920	75.431	72.5	4.7	2.18	2.03	4.21	2.07	55.92	3.12	1.09
60	0.3018	76.403	73.5	4.9	2.20	1.99	4.19	2.11	56.18	3.09	1.10
61	0.3189	78.077	75.2	5.3	2.24	1.94	4.18	2.16	56.54	3.06	1.12
62	0.3312	78.852	75.9	5.5	2.26	1.92	4.19	2.18	56.64	3.05	1.13
63	0.3435	79.959	77.0	5.8	2.29	1.89	4.18	2.21	56.90	3.03	1.14
64	0.3557	81.144	78.2	6.0	2.32	1.87	4.19	2.24	57.02	3.03	1.16
65	0.3680	81.794	78.9	6.3	2.33	1.86	4.19	2.25	57.09	3.02	1.17
66	0.3802	82.875	79.9	6.6	2.36	1.83	4.18	2.29	57.30	3.01	1.18
67	0.3925	83.929	81.0	6.8	2.38	1.80	4.18	2.32	57.50	2.99	1.19
68	0.4047	84.568	81.6	7.1	2.39	1.81	4.20	2.32	57.43	3.01	1.20
69	0.4170	85.653	82.7	7.3	2.42	1.76	4.18	2.37	57.77	2.97	1.21
70	0.4292	86.446	83.5	7.6	2.43	1.77	4.20	2.38	57.74	2.98	1.22
71	0.4415	87.606	84.7	7.8	2.46	1.76	4.22	2.40	57.80	2.99	1.23

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
72	0.4537	88.494	85.6	8.1	2.48	1.73	4.22	2.43	57.96	2.97	1.24
73	0.4660	89.245	86.3	8.3	2.50	1.71	4.21	2.46	58.11	2.96	1.25
74	0.4782	89.963	87.0	8.6	2.51	1.72	4.23	2.46	58.04	2.98	1.25
75	0.4905	90.644	87.7	8.8	2.52	1.69	4.21	2.49	58.28	2.95	1.26
76	0.5027	91.459	88.5	9.1	2.54	1.69	4.23	2.50	58.25	2.96	1.27
77	0.5150	92.332	89.4	9.3	2.56	1.70	4.26	2.50	58.17	2.98	1.28
78	0.5272	93.103	90.2	9.6	2.57	1.67	4.24	2.54	58.41	2.96	1.29
79	0.5395	93.894	91.0	9.8	2.59	1.66	4.25	2.56	58.48	2.95	1.29
80	0.5517	94.681	91.8	10.1	2.60	1.66	4.26	2.57	58.51	2.96	1.30
81	0.5640	95.311	92.4	10.3	2.61	1.65	4.26	2.59	58.57	2.95	1.31
82	0.5762	96.097	93.2	10.6	2.63	1.65	4.28	2.59	58.53	2.97	1.31
83	0.5885	96.889	94.0	10.8	2.64	1.65	4.29	2.60	58.53	2.97	1.32
84	0.6130	98.282	95.4	11.3	2.67	1.63	4.30	2.63	58.66	2.97	1.33
85	0.6375	99.522	96.6	11.8	2.69	1.64	4.32	2.64	58.64	2.98	1.34
86	0.6497	100.160	97.2	12.1	2.70	1.64	4.33	2.65	58.62	2.99	1.35
87	0.6742	101.546	98.6	12.6	2.58	1.63	4.21	2.58	58.66	2.92	1.29
88	0.6987	102.981	100.1	13.1	2.60	1.63	4.23	2.59	58.66	2.93	1.30
89	0.7232	103.892	101.0	13.6	2.60	1.64	4.25	2.59	58.59	2.94	1.30
90	0.7355	104.580	101.7	13.9	2.61	1.66	4.27	2.58	58.50	2.96	1.31
91	0.7600	105.799	102.9	14.4	2.62	1.64	4.26	2.60	58.63	2.95	1.31
92	0.7723	106.503	103.6	14.6	2.63	1.65	4.28	2.60	58.55	2.96	1.32
93	0.7845	107.103	104.2	14.9	2.64	1.65	4.29	2.60	58.53	2.97	1.32
94	0.8090	108.157	105.2	15.4	2.64	1.67	4.31	2.58	58.39	2.99	1.32
95	0.8213	108.979	106.1	15.6	2.65	1.66	4.31	2.60	58.47	2.99	1.33
96	0.8458	110.183	107.3	16.1	2.66	1.68	4.34	2.59	58.35	3.01	1.33
97	0.8703	110.982	108.1	16.6	2.66	1.68	4.34	2.58	58.31	3.01	1.33
98	0.8948	112.167	109.2	17.1	2.67	1.69	4.36	2.58	58.25	3.03	1.33
99	0.9193	113.081	110.2	17.6	2.67	1.71	4.38	2.56	58.13	3.04	1.34
100	0.9315	113.861	110.9	17.9	2.68	1.72	4.40	2.56	58.07	3.06	1.34
101	0.9560	114.659	111.7	18.4	2.68	1.73	4.40	2.55	58.01	3.07	1.34
102	0.9805	115.769	112.8	18.9	2.68	1.73	4.41	2.55	57.98	3.07	1.34
103	1.0050	116.558	113.6	19.4	2.68	1.76	4.44	2.52	57.78	3.10	1.34
104	1.0173	117.449	114.5	19.7	2.69	1.76	4.45	2.53	57.77	3.11	1.34
105	1.0418	118.107	115.2	20.2	2.68	1.77	4.45	2.51	57.70	3.11	1.34
106	1.0663	119.001	116.1	20.7	2.68	1.80	4.48	2.49	57.48	3.14	1.34
107	1.0786	119.725	116.8	20.9	2.69	1.80	4.49	2.49	57.47	3.15	1.34
108	1.0907	119.925	117.0	21.2	2.68	1.81	4.49	2.48	57.44	3.15	1.34

	Total	Effective
C, ksf	0.20	0.06
ϕ, deg	12.8	28.5
Tan(ϕ)	0.23	0.54





Sample No.		1	2	3
Initial	Water Content, %	12.8	12.5	12.5
	Dry Density, pcf	110.5	110.8	109.7
	Saturation, %	64.7	63.9	62.1
	Void Ratio	0.5366	0.5328	0.5478
	Diameter, in.	2.42	2.42	2.43
	Height, in.	4.97	4.97	4.98
At Test	Water Content, %	19.0	18.4	17.8
	Dry Density, pcf	111.9	113.2	114.4
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.5181	0.5006	0.4841
	Diameter, in.	2.41	2.40	2.40
	Height, in.	4.95	4.93	4.91
Strain rate, %/min.		0.05	0.05	0.05
Eff. Cell Pressure, psi		7.00	15.00	30.00
Fail. Stress, ksf		0.96	1.89	2.89
Excess Pore Pr., ksf		0.58	1.26	2.84
Strain, %		6.0	5.8	6.1
Ult. Stress, ksf				
Excess Pore Pr., ksf				
Strain, %				
$\bar{\sigma}_1$ Failure, ksf		1.39	2.78	4.37
$\bar{\sigma}_3$ Failure, ksf		0.43	0.90	1.48

Type of Test:
CU with Pore Pressures

Sample Type: Remolded, 95%MDD @ OMC

Description: sandy lean clay

LL= 21 **PL=** 12 **PI=** 9

Specific Gravity= 2.72

Remarks: Failure tangents drawn at approximately 6% strain.

Fig. ________

Client:

Project: Powertech

Location: TP08

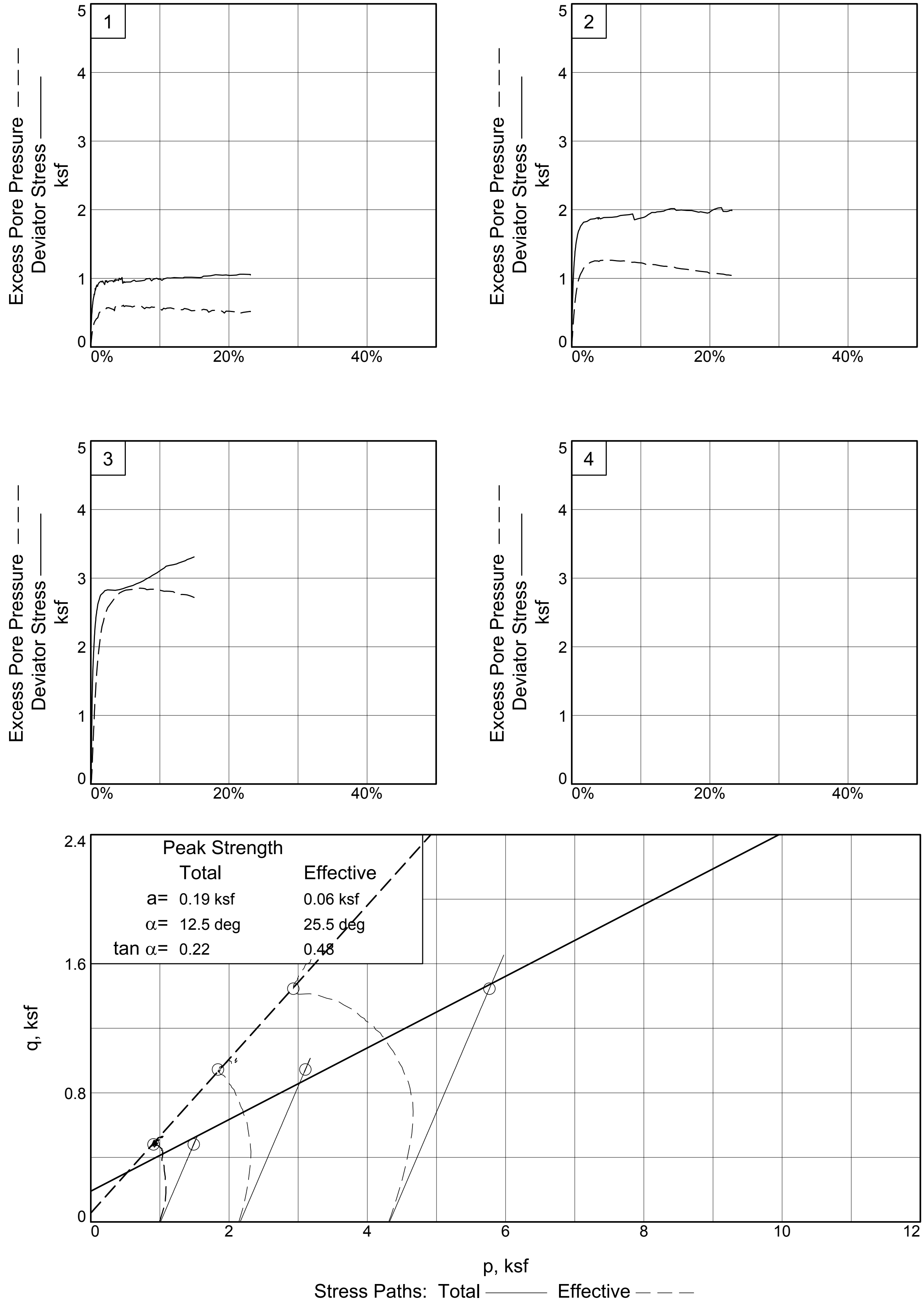
Depth: 6'

Proj. No.: DV102-279.02 **Date Sampled:** 7/21/08

Knight Piésold CONSULTING

Tested By: jdb **Checked By:** spb

Cursory interpretations provided require review by a professional engineer. Knight Piesold accepts no responsibility in subsequent analyses.



Client:

Project: Powertech

Location: TP08 **Depth:** 6'

Project No.: DV102-279.02 **Fig.** 6%

Knight Piesold Geotechnical Lab.

Tested By: jdb **Checked By:** spb

9/6/2008
2:22 PM

TRIAXIAL COMPRESSION TEST

CU with Pore Pressures

Date: 7/21/08
Client:
Project: Powertech
Project No.: DV102-279.02
Location: TP08
Depth: 6'
Description: sandy lean clay
Remarks: Failure tangents drawn at approximately 6% strain.
Type of Sample: Remolded, 95%MDD @ OMC
Specific Gravity=2.72 **LL=**21 **PL=**12 **PI=**9
Test Method: COE uniform strain

Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	747.800			905.900
Moisture content: Dry soil+tare, gms.	663.100			781.400
Moisture content: Tare, gms.	0.000			118.300
Moisture, %	12.8	19.7	19.0	18.8
Moist specimen weight, gms.	747.8			
Diameter, in.	2.42	2.42	2.41	
Area, in.²	4.60	4.60	4.56	
Height, in.	4.97	4.97	4.95	
Net decrease in height, in.		0.00	0.02	
Wet Density, pcf	124.6	132.3	133.2	
Dry density, pcf	110.5	110.5	111.9	
Void ratio	0.5366	0.5366	0.5181	
Saturation, %	64.7	100.0	100.0	

Test Readings for Specimen No. 1

Membrane modulus = 0.124105 kN/cm²
Membrane thickness = 0.064 cm
Consolidation cell pressure = 47.00 psi (6.77 ksf)
Consolidation back pressure = 40.00 psi (5.76 ksf)
Consolidation effective confining stress = 1.01 ksf
Strain rate, %/min. = 0.05
Fail. Stress = 0.96 ksf **at reading no.** 63

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	-0.0292	1.913	0.0	0.0	0.00	0.99	0.99	1.00	40.10	0.99	0.00
1	-0.0279	9.185	7.3	0.0	0.23	0.96	1.19	1.24	40.32	1.08	0.11
2	-0.0267	11.033	9.1	0.1	0.29	0.94	1.22	1.31	40.51	1.08	0.14
3	-0.0254	13.266	11.4	0.1	0.36	0.91	1.27	1.39	40.69	1.09	0.18
4	-0.0242	14.894	13.0	0.1	0.41	0.88	1.29	1.46	40.88	1.09	0.20
5	-0.0229	16.603	14.7	0.1	0.46	0.86	1.32	1.54	41.03	1.09	0.23
6	-0.0204	18.155	16.2	0.2	0.51	0.82	1.33	1.62	41.31	1.08	0.26
7	-0.0192	19.526	17.6	0.2	0.55	0.80	1.36	1.69	41.44	1.08	0.28
8	-0.0179	20.377	18.5	0.2	0.58	0.78	1.36	1.74	41.57	1.07	0.29
9	-0.0167	21.238	19.3	0.3	0.61	0.77	1.37	1.79	41.69	1.07	0.30
10	-0.0154	21.881	20.0	0.3	0.63	0.75	1.38	1.84	41.80	1.06	0.31
11	-0.0142	22.638	20.7	0.3	0.65	0.74	1.39	1.89	41.89	1.06	0.33
12	-0.0117	23.972	22.1	0.4	0.69	0.71	1.41	1.97	42.05	1.06	0.35
13	-0.0105	24.370	22.5	0.4	0.71	0.70	1.41	2.01	42.13	1.05	0.35
14	-0.0092	24.699	22.8	0.4	0.72	0.69	1.40	2.04	42.22	1.05	0.36
15	-0.0080	25.197	23.3	0.4	0.73	0.68	1.41	2.08	42.28	1.05	0.37
16	-0.0067	25.483	23.6	0.5	0.74	0.67	1.41	2.11	42.35	1.04	0.37
17	-0.0055	26.456	24.5	0.5	0.77	0.66	1.43	2.17	42.42	1.04	0.39
18	-0.0030	26.156	24.2	0.5	0.76	0.65	1.41	2.17	42.50	1.03	0.38
19	-0.0017	26.790	24.9	0.6	0.78	0.64	1.42	2.22	42.56	1.03	0.39
20	-0.0005	27.247	25.3	0.6	0.79	0.64	1.43	2.25	42.58	1.03	0.40
21	0.0008	27.779	25.9	0.6	0.81	0.63	1.44	2.28	42.61	1.04	0.41
22	0.0020	28.120	26.2	0.6	0.82	0.63	1.45	2.31	42.65	1.04	0.41
23	0.0033	29.184	27.3	0.7	0.86	0.62	1.48	2.37	42.68	1.05	0.43
24	0.0045	28.393	26.5	0.7	0.83	0.62	1.45	2.34	42.70	1.03	0.42
25	0.0057	28.786	26.9	0.7	0.84	0.62	1.46	2.37	42.72	1.04	0.42
26	0.0082	29.517	27.6	0.8	0.86	0.61	1.47	2.43	42.79	1.04	0.43
27	0.0120	30.323	28.4	0.8	0.89	0.60	1.49	2.49	42.86	1.04	0.44
28	0.0132	30.019	28.1	0.9	0.88	0.59	1.47	2.48	42.88	1.03	0.44
29	0.0145	30.742	28.8	0.9	0.90	0.59	1.49	2.52	42.88	1.04	0.45
30	0.0157	30.462	28.5	0.9	0.89	0.59	1.48	2.51	42.90	1.04	0.45
31	0.0170	30.784	28.9	0.9	0.90	0.59	1.49	2.53	42.91	1.04	0.45
32	0.0195	30.196	28.3	1.0	0.88	0.58	1.47	2.52	42.96	1.02	0.44
33	0.0207	30.817	28.9	1.0	0.90	0.58	1.48	2.55	42.96	1.03	0.45
34	0.0307	32.035	30.1	1.2	0.94	0.51	1.45	2.83	43.45	0.98	0.47
35	0.0456	32.740	30.8	1.5	0.96	0.48	1.44	3.00	43.68	0.96	0.48
36	0.0505	32.390	30.5	1.6	0.95	0.47	1.42	3.00	43.71	0.95	0.47
37	0.0555	32.931	31.0	1.7	0.96	0.47	1.43	3.05	43.74	0.95	0.48
38	0.0704	31.293	29.4	2.0	0.91	0.45	1.36	3.02	43.88	0.90	0.45
39	0.0754	33.245	31.3	2.1	0.97	0.45	1.42	3.16	43.88	0.93	0.48
40	0.0804	32.766	30.9	2.2	0.95	0.45	1.40	3.11	43.87	0.93	0.48
41	0.0854	33.283	31.4	2.3	0.97	0.44	1.40	3.22	43.97	0.92	0.48
42	0.0903	32.376	30.5	2.4	0.94	0.44	1.38	3.13	43.94	0.91	0.47
43	0.0953	32.795	30.9	2.5	0.95	0.43	1.38	3.19	43.99	0.91	0.48
44	0.1003	33.141	31.2	2.6	0.96	0.44	1.40	3.20	43.97	0.92	0.48
45	0.1252	33.530	31.6	3.1	0.97	0.46	1.42	3.12	43.84	0.94	0.48
46	0.1351	32.961	31.0	3.3	0.95	0.46	1.41	3.05	43.79	0.94	0.47

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
47	0.1401	33.961	32.0	3.4	0.98	0.48	1.46	3.04	43.67	0.97	0.49
48	0.1451	33.387	31.5	3.5	0.96	0.43	1.39	3.24	44.02	0.91	0.48
49	0.1500	34.336	32.4	3.6	0.99	0.42	1.40	3.36	44.09	0.91	0.49
50	0.1550	33.896	32.0	3.7	0.97	0.43	1.40	3.28	44.03	0.91	0.49
51	0.1650	34.216	32.3	3.9	0.98	0.42	1.40	3.32	44.07	0.91	0.49
52	0.1699	33.828	31.9	4.0	0.97	0.41	1.38	3.34	44.13	0.90	0.48
53	0.1749	35.039	33.1	4.1	1.00	0.42	1.42	3.39	44.09	0.92	0.50
54	0.1799	34.691	32.8	4.2	0.99	0.41	1.40	3.43	44.17	0.90	0.50
55	0.1849	34.383	32.5	4.3	0.98	0.42	1.40	3.36	44.11	0.91	0.49
56	0.1948	35.541	33.6	4.5	1.01	0.41	1.42	3.46	44.14	0.92	0.51
57	0.1998	34.414	32.5	4.6	0.93	0.41	1.34	3.28	44.17	0.87	0.46
58	0.2047	34.860	32.9	4.7	0.94	0.40	1.34	3.35	44.22	0.87	0.47
59	0.2097	35.366	33.5	4.8	0.95	0.42	1.37	3.27	44.09	0.90	0.48
60	0.2147	34.969	33.1	4.9	0.94	0.42	1.35	3.26	44.12	0.88	0.47
61	0.2197	35.306	33.4	5.0	0.95	0.41	1.36	3.32	44.16	0.88	0.47
62	0.2570	35.890	34.0	5.8	0.95	0.42	1.36	3.28	44.11	0.89	0.47
63	0.2694	36.538	34.6	6.0	0.96	0.43	1.39	3.26	44.05	0.91	0.48
64	0.2818	37.145	35.2	6.3	0.97	0.41	1.39	3.35	44.13	0.90	0.49
65	0.2943	36.733	34.8	6.5	0.96	0.41	1.37	3.33	44.15	0.89	0.48
66	0.3315	37.560	35.6	7.3	0.96	0.41	1.37	3.35	44.15	0.89	0.48
67	0.3564	38.235	36.3	7.8	0.97	0.45	1.42	3.16	43.87	0.94	0.49
68	0.3688	39.104	37.2	8.0	0.99	0.43	1.42	3.30	44.01	0.93	0.50
69	0.3937	39.716	37.8	8.5	1.00	0.44	1.44	3.28	43.96	0.94	0.50
70	0.4061	38.722	36.8	8.8	0.96	0.42	1.39	3.27	44.05	0.91	0.48
71	0.4185	39.707	37.8	9.0	0.99	0.43	1.42	3.30	44.01	0.92	0.49
72	0.4434	40.636	38.7	9.5	1.00	0.43	1.43	3.36	44.05	0.93	0.50
73	0.4558	40.317	38.4	9.8	0.99	0.43	1.42	3.27	43.98	0.93	0.49
74	0.4683	40.652	38.7	10.0	0.99	0.45	1.44	3.19	43.85	0.95	0.50
75	0.4807	40.119	38.2	10.3	0.97	0.47	1.44	3.06	43.72	0.96	0.48
76	0.4931	41.018	39.1	10.6	0.99	0.44	1.43	3.23	43.92	0.94	0.49
77	0.5055	41.554	39.6	10.8	1.00	0.45	1.45	3.21	43.86	0.95	0.50
78	0.5180	42.037	40.1	11.1	1.01	0.44	1.45	3.28	43.93	0.94	0.50
79	0.5428	42.357	40.4	11.6	1.00	0.44	1.44	3.29	43.96	0.94	0.50
80	0.5677	43.076	41.2	12.1	1.01	0.45	1.46	3.24	43.86	0.96	0.51
81	0.6050	43.570	41.7	12.8	1.01	0.47	1.47	3.16	43.76	0.97	0.50
82	0.6298	43.963	42.0	13.3	1.01	0.46	1.47	3.17	43.78	0.97	0.50
83	0.6423	44.589	42.7	13.6	1.02	0.45	1.46	3.28	43.90	0.96	0.51
84	0.6671	44.979	43.1	14.1	1.02	0.46	1.47	3.22	43.83	0.96	0.51
85	0.6920	45.466	43.6	14.6	1.02	0.48	1.50	3.11	43.66	0.99	0.51
86	0.7292	46.005	44.1	15.3	1.01	0.48	1.49	3.13	43.70	0.98	0.51
87	0.7541	46.422	44.5	15.8	1.01	0.46	1.47	3.20	43.81	0.97	0.51
88	0.7665	46.881	45.0	16.1	1.02	0.47	1.48	3.18	43.75	0.98	0.51
89	0.7790	47.684	45.8	16.3	1.03	0.46	1.49	3.24	43.81	0.98	0.52
90	0.8038	48.260	46.3	16.8	1.03	0.47	1.50	3.21	43.75	0.98	0.52
91	0.8162	48.542	46.6	17.1	1.04	0.50	1.54	3.07	43.52	1.02	0.52
92	0.8287	48.852	46.9	17.3	1.04	0.49	1.52	3.13	43.61	1.01	0.52
93	0.8411	49.306	47.4	17.6	1.04	0.48	1.52	3.19	43.70	1.00	0.52

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
94	0.8660	50.208	48.3	18.1	1.05	0.47	1.53	3.22	43.71	1.00	0.53
95	0.8908	50.603	48.7	18.6	1.05	0.47	1.52	3.24	43.75	0.99	0.52
96	0.9157	50.969	49.1	19.1	1.05	0.49	1.54	3.13	43.59	1.01	0.52
97	0.9281	51.313	49.4	19.3	1.05	0.51	1.56	3.04	43.43	1.04	0.52
98	0.9405	51.618	49.7	19.6	1.05	0.49	1.53	3.16	43.63	1.01	0.52
99	0.9654	51.925	50.0	20.1	1.04	0.49	1.53	3.15	43.62	1.01	0.52
100	1.0151	53.184	51.3	21.1	1.05	0.50	1.55	3.11	43.55	1.02	0.52
101	1.0275	53.707	51.8	21.3	1.05	0.49	1.55	3.14	43.58	1.02	0.53
102	1.0399	54.192	52.3	21.6	1.06	0.52	1.58	3.05	43.42	1.05	0.53
103	1.0648	54.805	52.9	22.1	1.06	0.50	1.56	3.11	43.51	1.03	0.53
104	1.1145	55.773	53.9	23.1	1.06	0.49	1.55	3.16	43.61	1.02	0.53
105	1.1150	55.522	53.6	23.1	1.05	0.49	1.54	3.13	43.58	1.02	0.53

Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	747.900			979.400
Moisture content: Dry soil+tare, gms.	664.740			859.160
Moisture content: Tare, gms.	0.000			194.860
Moisture, %	12.5	19.6	18.4	18.1
Moist specimen weight, gms.	747.9			
Diameter, in.	2.42	2.42	2.40	
Area, in.²	4.60	4.60	4.53	
Height, in.	4.97	4.97	4.93	
Net decrease in height, in.		0.00	0.04	
Wet Density, pcf	124.6	132.5	134.0	
Dry density, pcf	110.8	110.8	113.2	
Void ratio	0.5328	0.5328	0.5006	
Saturation, %	63.9	100.0	100.0	

Test Readings for Specimen No. 2

Membrane modulus = 0.124105 kN/cm²

Membrane thickness = 0.064 cm

Consolidation cell pressure = 55.00 psi (7.92 ksf)

Consolidation back pressure = 40.00 psi (5.76 ksf)

Consolidation effective confining stress = 2.16 ksf

Strain rate, %/min. = 0.05

Fail. Stress = 1.89 ksf **at reading no.** 46

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	-5.3590	4.235	0.0	0.0	0.00	2.14	2.14	1.00	40.13	2.14	0.00
1	-5.3577	10.437	6.2	0.0	0.20	2.11	2.31	1.09	40.35	2.21	0.10
2	-5.3565	15.347	11.1	0.1	0.35	2.07	2.42	1.17	40.61	2.25	0.18
3	-5.3553	19.530	15.3	0.1	0.49	2.03	2.52	1.24	40.88	2.28	0.24
4	-5.3540	22.651	18.4	0.1	0.58	2.00	2.58	1.29	41.12	2.29	0.29
5	-5.3527	26.240	22.0	0.1	0.70	1.96	2.65	1.36	41.41	2.31	0.35
6	-5.3515	29.103	24.9	0.2	0.79	1.92	2.71	1.41	41.67	2.31	0.39
7	-5.3503	31.708	27.5	0.2	0.87	1.88	2.75	1.46	41.93	2.32	0.44
8	-5.3490	33.699	29.5	0.2	0.93	1.84	2.78	1.51	42.21	2.31	0.47

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
9	-5.3478	35.785	31.6	0.2	1.00	1.81	2.81	1.55	42.46	2.31	0.50
10	-5.3465	37.335	33.1	0.3	1.05	1.77	2.82	1.59	42.72	2.29	0.52
11	-5.3453	38.988	34.8	0.3	1.10	1.73	2.83	1.64	42.97	2.28	0.55
12	-5.3440	40.445	36.2	0.3	1.15	1.70	2.85	1.67	43.19	2.27	0.57
13	-5.3428	42.024	37.8	0.3	1.20	1.67	2.87	1.72	43.41	2.27	0.60
14	-5.3415	43.302	39.1	0.4	1.24	1.64	2.88	1.75	43.61	2.26	0.62
15	-5.3403	44.286	40.1	0.4	1.27	1.60	2.87	1.79	43.86	2.24	0.63
16	-5.3390	45.384	41.1	0.4	1.30	1.58	2.88	1.82	44.03	2.23	0.65
17	-5.3378	46.241	42.0	0.4	1.33	1.55	2.88	1.86	44.24	2.21	0.66
18	-5.3365	47.229	43.0	0.5	1.36	1.52	2.88	1.89	44.41	2.20	0.68
19	-5.3353	48.292	44.1	0.5	1.39	1.50	2.89	1.93	44.58	2.20	0.70
20	-5.3340	48.863	44.6	0.5	1.41	1.48	2.89	1.95	44.74	2.18	0.70
21	-5.3328	49.601	45.4	0.5	1.43	1.45	2.89	1.99	44.92	2.17	0.72
22	-5.3315	50.218	46.0	0.6	1.45	1.43	2.89	2.01	45.04	2.16	0.73
23	-5.3303	51.018	46.8	0.6	1.48	1.41	2.89	2.04	45.18	2.15	0.74
24	-5.3278	52.324	48.1	0.6	1.52	1.38	2.90	2.10	45.43	2.14	0.76
25	-5.3241	53.707	49.5	0.7	1.56	1.33	2.89	2.17	45.78	2.11	0.78
26	-5.3228	54.212	50.0	0.7	1.58	1.31	2.89	2.20	45.89	2.10	0.79
27	-5.3203	55.148	50.9	0.8	1.60	1.28	2.89	2.25	46.08	2.09	0.80
28	-5.3178	56.143	51.9	0.8	1.63	1.26	2.89	2.30	46.27	2.07	0.82
29	-5.3153	56.772	52.5	0.9	1.65	1.23	2.88	2.35	46.47	2.06	0.83
30	-5.3128	57.282	53.0	0.9	1.67	1.20	2.87	2.39	46.63	2.04	0.83
31	-5.3103	57.959	53.7	1.0	1.69	1.18	2.87	2.43	46.78	2.03	0.84
32	-5.3041	58.921	54.7	1.1	1.72	1.14	2.86	2.51	47.08	2.00	0.86
33	-5.2991	59.792	55.6	1.2	1.74	1.11	2.86	2.57	47.27	1.98	0.87
34	-5.2942	60.564	56.3	1.3	1.77	1.09	2.86	2.62	47.42	1.97	0.88
35	-5.2842	61.487	57.3	1.5	1.79	1.05	2.84	2.70	47.68	1.95	0.90
36	-5.2743	62.489	58.3	1.7	1.82	1.01	2.83	2.80	47.98	1.92	0.91
37	-5.2494	63.192	59.0	2.2	1.83	0.96	2.79	2.91	48.34	1.87	0.92
38	-5.2394	63.744	59.5	2.4	1.84	0.95	2.79	2.95	48.43	1.87	0.92
39	-5.2245	64.522	60.3	2.7	1.86	0.93	2.79	3.01	48.57	1.86	0.93
40	-5.1946	65.113	60.9	3.3	1.87	0.91	2.77	3.06	48.71	1.84	0.93
41	-5.1747	65.888	61.7	3.7	1.88	0.91	2.79	3.08	48.70	1.85	0.94
42	-5.1698	65.271	61.0	3.8	1.86	0.91	2.77	3.05	48.69	1.84	0.93
43	-5.1648	66.103	61.9	3.9	1.89	0.91	2.80	3.06	48.65	1.86	0.94
44	-5.1548	65.580	61.3	4.1	1.87	0.90	2.77	3.08	48.75	1.83	0.93
45	-5.1300	66.544	62.3	4.6	1.89	0.90	2.78	3.11	48.78	1.84	0.94
46	-5.0728	67.387	63.2	5.8	1.89	0.90	2.78	3.11	48.78	1.84	0.94
47	-5.0355	68.190	64.0	6.6	1.90	0.91	2.80	3.10	48.71	1.85	0.95
48	-5.0106	69.171	64.9	7.1	1.92	0.91	2.82	3.11	48.69	1.87	0.96
49	-4.9858	69.673	65.4	7.6	1.92	0.90	2.83	3.12	48.72	1.86	0.96
50	-4.9485	70.443	66.2	8.3	1.93	0.92	2.85	3.09	48.58	1.89	0.96
51	-4.9236	71.203	67.0	8.8	1.94	0.93	2.86	3.09	48.57	1.90	0.97
52	-4.9112	71.825	67.6	9.1	1.85	0.92	2.78	3.00	48.58	1.85	0.93
53	-4.8863	72.970	68.7	9.6	1.87	0.93	2.80	3.01	48.53	1.87	0.93
54	-4.8615	73.925	69.7	10.1	1.88	0.94	2.82	3.01	48.50	1.88	0.94
55	-4.8491	74.419	70.2	10.3	1.89	0.94	2.83	3.01	48.48	1.88	0.94

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
56	-4.8366	75.044	70.8	10.6	1.90	0.95	2.84	3.00	48.41	1.90	0.95
57	-4.8242	75.875	71.6	10.8	1.91	0.96	2.87	2.99	48.32	1.92	0.96
58	-4.8118	76.868	72.6	11.1	1.93	0.95	2.88	3.03	48.39	1.92	0.97
59	-4.7993	77.698	73.5	11.3	1.94	0.95	2.90	3.04	48.37	1.93	0.97
60	-4.7869	78.538	74.3	11.6	1.96	0.96	2.92	3.05	48.35	1.94	0.98
61	-4.7620	79.176	74.9	12.1	1.96	0.96	2.92	3.04	48.33	1.94	0.98
62	-4.7496	79.800	75.6	12.3	1.97	0.97	2.93	3.04	48.29	1.95	0.98
63	-4.7247	80.538	76.3	12.9	1.97	0.98	2.95	3.02	48.21	1.96	0.99
64	-4.6999	81.496	77.3	13.4	1.98	0.98	2.96	3.01	48.17	1.97	0.99
65	-4.6875	82.353	78.1	13.6	2.00	0.98	2.98	3.03	48.17	1.98	1.00
66	-4.6502	84.094	79.9	14.4	2.02	0.99	3.01	3.03	48.10	2.00	1.01
67	-4.6253	84.775	80.5	14.9	2.02	1.00	3.01	3.02	48.07	2.01	1.01
68	-4.6129	84.236	80.0	15.1	1.99	1.01	3.00	2.98	48.00	2.00	1.00
69	-4.5756	85.426	81.2	15.9	2.00	1.02	3.02	2.96	47.92	2.02	1.00
70	-4.5383	86.242	82.0	16.6	1.99	1.03	3.02	2.94	47.86	2.02	1.00
71	-4.5010	87.196	83.0	17.4	1.99	1.04	3.03	2.91	47.78	2.03	0.99
72	-4.4512	87.703	83.5	18.4	1.96	1.05	3.02	2.86	47.68	2.04	0.98
73	-4.4388	88.355	84.1	18.6	1.97	1.06	3.03	2.86	47.65	2.04	0.99
74	-4.3891	89.117	84.9	19.7	1.95	1.07	3.02	2.83	47.59	2.04	0.98
75	-4.3767	89.769	85.5	19.9	1.96	1.08	3.04	2.81	47.47	2.06	0.98
76	-4.3642	90.967	86.7	20.2	1.98	1.08	3.06	2.83	47.49	2.07	0.99
77	-4.3518	91.937	87.7	20.4	1.99	1.08	3.08	2.84	47.47	2.08	1.00
78	-4.3394	92.846	88.6	20.7	2.01	1.09	3.09	2.85	47.46	2.09	1.00
79	-4.3145	94.345	90.1	21.2	2.03	1.09	3.12	2.86	47.43	2.10	1.01
80	-4.2896	95.335	91.1	21.7	2.03	1.10	3.13	2.85	47.39	2.11	1.02
81	-4.2772	93.522	89.3	21.9	1.98	1.10	3.07	2.80	47.38	2.08	0.99
82	-4.2524	94.271	90.0	22.4	1.97	1.11	3.08	2.78	47.29	2.10	0.99
83	-4.2399	94.868	90.6	22.7	1.98	1.11	3.09	2.78	47.30	2.10	0.99
84	-4.2151	96.509	92.3	23.2	2.00	1.12	3.12	2.79	47.24	2.12	1.00
85	-4.2149	96.033	91.8	23.2	1.99	1.11	3.10	2.79	47.28	2.11	0.99

Parameters for Specimen No. 3

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	747.700			888.500
Moisture content: Dry soil+tare, gms.	664.550			776.400
Moisture content: Tare, gms.	0.000			111.850
Moisture, %	12.5	20.1	17.8	16.9
Moist specimen weight, gms.	747.7			
Diameter, in.	2.43	2.43	2.40	
Area, in.²	4.63	4.63	4.51	
Height, in.	4.98	4.98	4.91	
Net decrease in height, in.		0.00	0.07	
Wet Density, pcf	123.4	131.8	134.8	
Dry density, pcf	109.7	109.7	114.4	
Void ratio	0.5478	0.5478	0.4841	
Saturation, %	62.1	100.0	100.0	

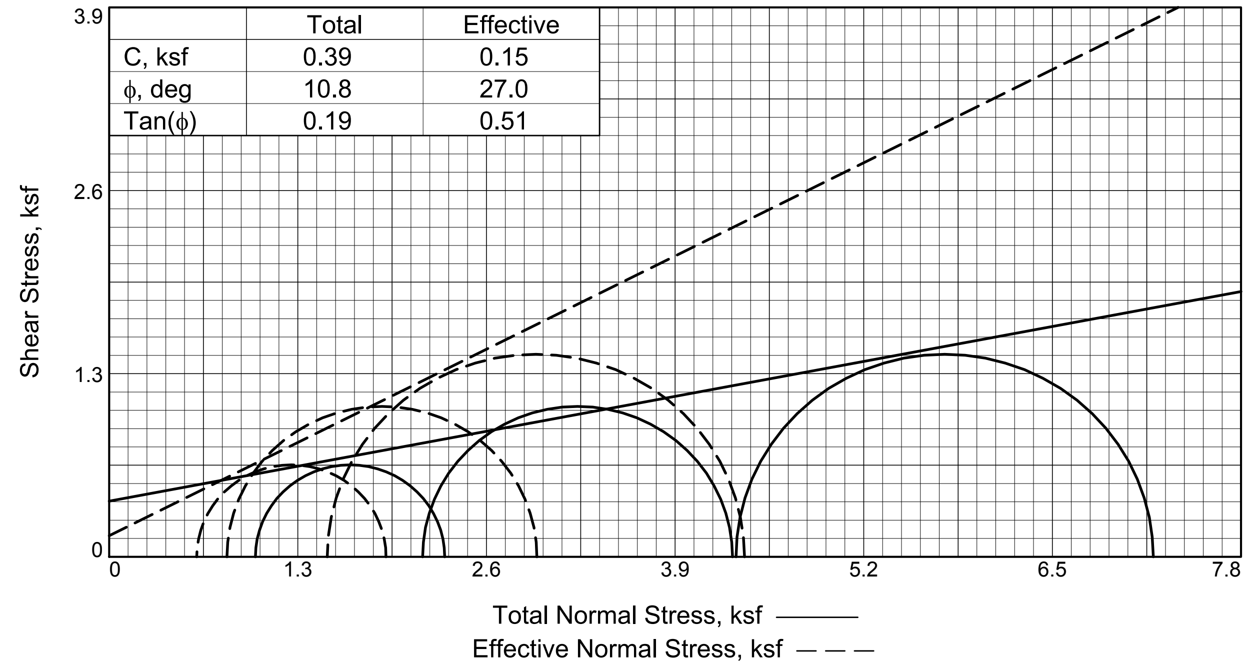
Test Readings for Specimen No. 3

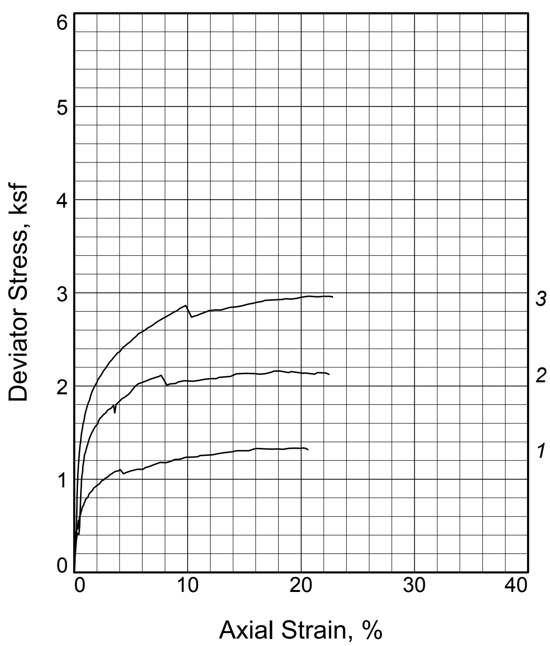
Membrane modulus = 0.124105 kN/cm²
Membrane thickness = 0.064 cm
Consolidation cell pressure = 70.00 psi (10.08 ksf)
Consolidation back pressure = 40.00 psi (5.76 ksf)
Consolidation effective confining stress = 4.32 ksf
Strain rate, %/min. = 0.05
Fail. Stress = 2.89 ksf **at reading no.** 48

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	-5.4065	2.888	0.0	0.0	0.00	4.31	4.31	1.00	40.04	4.31	0.00
1	-5.4053	3.588	0.7	0.0	0.02	4.31	4.33	1.01	40.09	4.32	0.01
2	-5.4040	5.074	2.2	0.1	0.07	4.31	4.38	1.02	40.10	4.34	0.03
3	-5.4028	11.866	9.0	0.1	0.29	4.28	4.57	1.07	40.28	4.42	0.14
4	-5.4015	19.212	16.3	0.1	0.52	4.24	4.77	1.12	40.53	4.50	0.26
5	-5.4003	25.541	22.7	0.1	0.72	4.20	4.92	1.17	40.83	4.56	0.36
6	-5.3990	31.365	28.5	0.2	0.91	4.15	5.06	1.22	41.17	4.61	0.45
7	-5.3978	36.944	34.1	0.2	1.09	4.10	5.19	1.27	41.53	4.64	0.54
8	-5.3965	41.838	38.9	0.2	1.24	4.04	5.28	1.31	41.96	4.66	0.62
9	-5.3953	45.732	42.8	0.2	1.37	3.98	5.35	1.34	42.36	4.66	0.68
10	-5.3940	49.310	46.4	0.3	1.48	3.92	5.40	1.38	42.80	4.66	0.74
11	-5.3928	52.112	49.2	0.3	1.57	3.85	5.42	1.41	43.26	4.64	0.78
12	-5.3915	54.969	52.1	0.3	1.66	3.79	5.45	1.44	43.70	4.62	0.83
13	-5.3903	57.356	54.5	0.3	1.74	3.72	5.46	1.47	44.14	4.59	0.87
14	-5.3890	59.187	56.3	0.4	1.79	3.66	5.45	1.49	44.58	4.56	0.90
15	-5.3878	61.109	58.2	0.4	1.85	3.60	5.45	1.51	45.00	4.53	0.93
16	-5.3865	63.143	60.3	0.4	1.92	3.54	5.46	1.54	45.40	4.50	0.96
17	-5.3853	64.611	61.7	0.4	1.96	3.48	5.45	1.56	45.80	4.47	0.98
18	-5.3840	66.212	63.3	0.5	2.01	3.43	5.44	1.59	46.19	4.44	1.01
19	-5.3827	67.939	65.1	0.5	2.07	3.37	5.44	1.61	46.60	4.40	1.03
20	-5.3815	69.401	66.5	0.5	2.11	3.32	5.43	1.64	46.96	4.37	1.06
21	-5.3803	70.627	67.7	0.5	2.15	3.26	5.41	1.66	47.35	4.34	1.08
22	-5.3790	71.890	69.0	0.6	2.19	3.21	5.40	1.68	47.70	4.31	1.10
23	-5.3777	73.216	70.3	0.6	2.23	3.16	5.40	1.71	48.05	4.28	1.12
24	-5.3765	74.659	71.8	0.6	2.28	3.11	5.39	1.73	48.39	4.25	1.14

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
25	-5.3753	75.392	72.5	0.6	2.30	3.06	5.37	1.75	48.72	4.22	1.15
26	-5.3740	76.648	73.8	0.7	2.34	3.02	5.36	1.78	49.05	4.19	1.17
27	-5.3715	78.097	75.2	0.7	2.39	2.92	5.31	1.82	49.70	4.12	1.19
28	-5.3702	79.201	76.3	0.7	2.42	2.88	5.31	1.84	49.97	4.10	1.21
29	-5.3678	80.576	77.7	0.8	2.46	2.81	5.27	1.88	50.51	4.04	1.23
30	-5.3653	81.571	78.7	0.8	2.49	2.73	5.22	1.91	51.05	3.98	1.25
31	-5.3640	82.439	79.6	0.9	2.52	2.70	5.22	1.93	51.27	3.96	1.26
32	-5.3615	83.236	80.3	0.9	2.54	2.63	5.18	1.97	51.72	3.91	1.27
33	-5.3590	84.435	81.5	1.0	2.58	2.57	5.15	2.00	52.15	3.86	1.29
34	-5.3565	85.648	82.8	1.0	2.62	2.51	5.13	2.04	52.56	3.82	1.31
35	-5.3515	86.930	84.0	1.1	2.66	2.41	5.06	2.10	53.30	3.73	1.33
36	-5.3466	88.052	85.2	1.2	2.69	2.32	5.00	2.16	53.92	3.66	1.34
37	-5.3416	89.338	86.4	1.3	2.73	2.23	4.96	2.22	54.52	3.59	1.36
38	-5.3366	90.209	87.3	1.4	2.75	2.15	4.90	2.28	55.06	3.53	1.38
39	-5.3266	91.090	88.2	1.6	2.77	2.02	4.80	2.37	55.95	3.41	1.39
40	-5.3167	91.883	89.0	1.8	2.79	1.95	4.74	2.43	56.46	3.35	1.40
41	-5.3067	92.826	89.9	2.0	2.82	1.86	4.67	2.52	57.09	3.27	1.41
42	-5.2868	93.602	90.7	2.4	2.83	1.75	4.58	2.62	57.84	3.17	1.41
43	-5.2320	94.440	91.6	3.6	2.82	1.60	4.42	2.76	58.89	3.01	1.41
44	-5.2020	95.345	92.5	4.2	2.83	1.54	4.37	2.84	59.33	2.95	1.42
45	-5.1771	96.343	93.5	4.7	2.85	1.51	4.36	2.89	59.52	2.93	1.42
46	-5.1572	97.249	94.4	5.1	2.86	1.49	4.36	2.92	59.63	2.92	1.43
47	-5.1323	98.297	95.4	5.6	2.88	1.49	4.37	2.93	59.66	2.93	1.44
48	-5.1074	99.231	96.3	6.1	2.89	1.48	4.37	2.95	59.70	2.93	1.45
49	-5.0825	100.626	97.7	6.6	2.92	1.47	4.39	2.98	59.76	2.93	1.46
50	-5.0576	101.800	98.9	7.1	2.94	1.47	4.40	3.00	59.82	2.93	1.47
51	-5.0327	103.142	100.3	7.6	2.96	1.47	4.43	3.01	59.79	2.95	1.48
52	-5.0202	104.024	101.1	7.9	2.98	1.48	4.45	3.02	59.75	2.96	1.49
53	-5.0078	104.797	101.9	8.1	2.99	1.49	4.48	3.01	59.66	2.98	1.50
54	-4.9829	106.249	103.4	8.6	3.02	1.48	4.50	3.04	59.71	2.99	1.51
55	-4.9704	107.207	104.3	8.9	3.04	1.48	4.52	3.05	59.71	3.00	1.52
56	-4.9455	108.762	105.9	9.4	3.07	1.48	4.55	3.07	59.72	3.01	1.53
57	-4.9330	109.560	106.7	9.6	3.08	1.49	4.57	3.07	59.68	3.03	1.54
58	-4.9206	110.504	107.6	9.9	3.10	1.49	4.59	3.08	59.67	3.04	1.55
59	-4.9081	111.441	108.6	10.1	3.12	1.50	4.62	3.08	59.59	3.06	1.56
60	-4.8832	113.147	110.3	10.7	3.15	1.51	4.66	3.08	59.50	3.09	1.57
61	-4.8708	114.330	111.4	10.9	3.17	1.51	4.68	3.10	59.51	3.10	1.59
62	-4.8459	115.418	112.5	11.4	3.19	1.51	4.70	3.11	59.50	3.11	1.59
63	-4.8209	116.353	113.5	11.9	3.19	1.52	4.71	3.10	59.46	3.11	1.60
64	-4.7960	117.465	114.6	12.4	3.21	1.55	4.75	3.07	59.25	3.15	1.60
65	-4.7836	118.272	115.4	12.7	3.22	1.56	4.78	3.06	59.13	3.17	1.61
66	-4.7587	119.554	116.7	13.2	3.24	1.56	4.79	3.08	59.18	3.18	1.62
67	-4.7338	120.850	118.0	13.7	3.25	1.56	4.82	3.08	59.16	3.19	1.63
68	-4.7213	121.816	118.9	14.0	3.27	1.56	4.84	3.09	59.14	3.20	1.64
69	-4.6964	123.127	120.2	14.5	3.29	1.58	4.87	3.08	59.03	3.22	1.64
70	-4.6715	124.625	121.7	15.0	3.31	1.60	4.91	3.07	58.87	3.26	1.65





Sample No.		1	2	3
Initial	Water Content, %	17.3	17.8	17.0
	Dry Density, pcf	104.9	103.9	103.2
	Saturation, %	76.1	76.4	71.4
	Void Ratio	0.6192	0.6345	0.6462
	Diameter, in.	1.94	1.94	1.93
	Height, in.	3.90	3.92	3.99
At Test	Water Content, %	21.2	19.8	18.0
	Dry Density, pcf	107.7	110.4	114.1
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.5771	0.5382	0.4888
	Diameter, in.	1.92	1.90	1.87
	Height, in.	3.87	3.84	3.86
Strain rate, %/min.		0.05	0.05	0.05
Eff. Cell Pressure, psi		7.00	15.00	30.00
Fail. Stress, ksf		1.30	2.14	2.88
Excess Pore Pr., ksf		0.40	1.35	2.82
Strain, %		14.9	15.1	15.3
Ult. Stress, ksf				
Excess Pore Pr., ksf				
Strain, %				
$\bar{\sigma}_1$ Failure, ksf		1.91	2.95	4.38
$\bar{\sigma}_3$ Failure, ksf		0.60	0.81	1.50

Type of Test:
CU with Pore Pressures

Sample Type: Remolded, 95%MDD @ OMC

Description: lean clay with sand

LL= 33 **PL=** 10 **PI=** 23

Specific Gravity= 2.72

Remarks: Failure tangents drawn at approximately 15% strain.

Fig. _______

Client:

Project: Powertech

Location: TP09

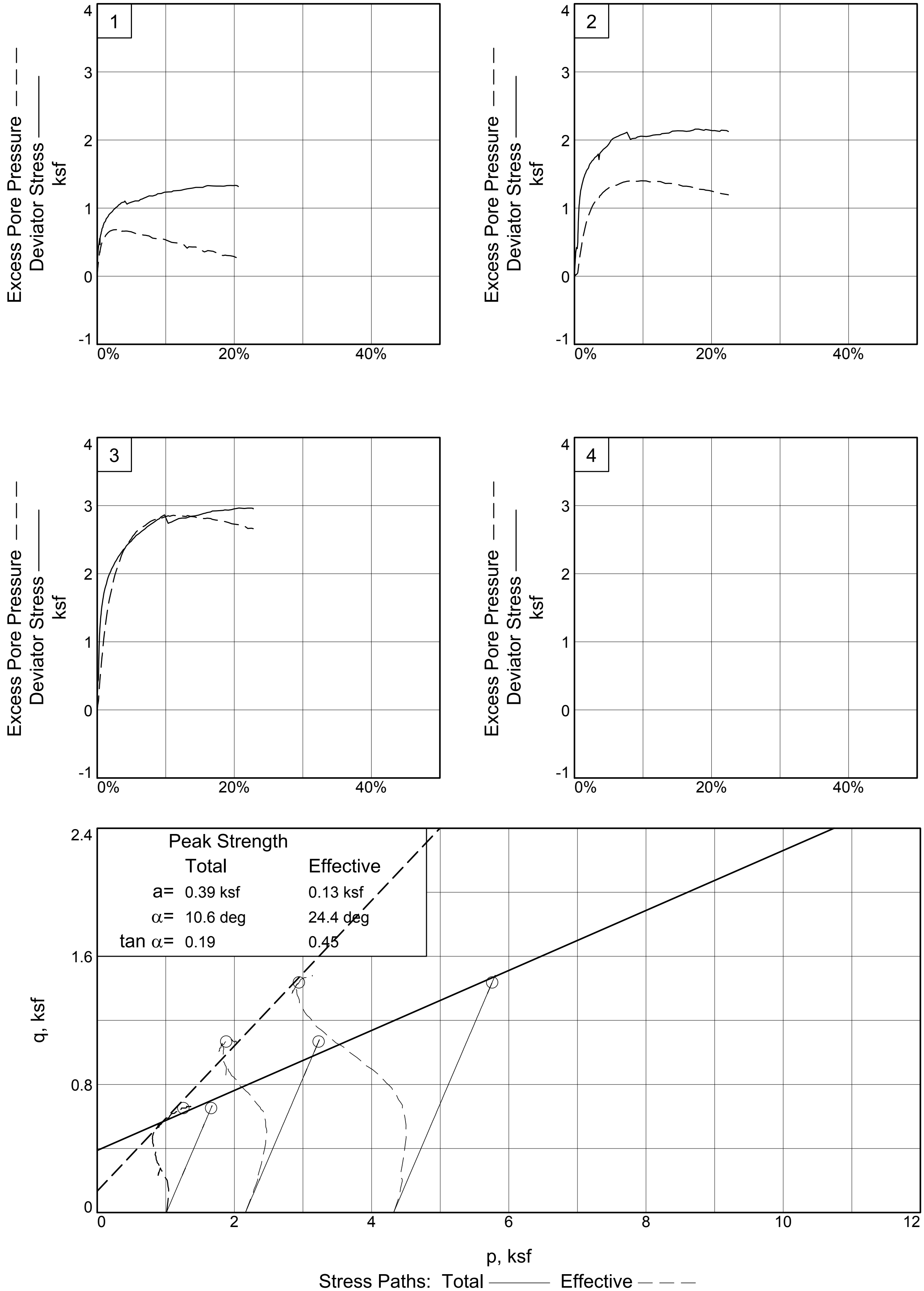
Depth: 4'

Proj. No.: DV102-279.02 **Date Sampled:** 7/21/08

Knight Piésold CONSULTING

Tested By: jdb **Checked By:** spb

Cursory interpretations provided require review by a professional engineer. Knight Piesold accepts no responsibility in subsequent analyses.



Client:

Project: Powertech

Location: TP09 **Depth:** 4'

Project No.: DV102-279.02 **Fig.** 15%

Knight Piesold Geotechnical Lab.

Tested By: jdb **Checked By:** spb

TRIAXIAL COMPRESSION TEST
CU with Pore Pressures

9/6/2008
2:23 PM

Date: 7/21/08
Client:
Project: Powertech
Project No.: DV102-279.02
Location: TP09
Depth: 4'
Description: lean clay with sand
Remarks: Failure tangents drawn at approximately 15% strain.
Type of Sample: Remolded, 95%MDD @ OMC
Specific Gravity=2.72 **LL=**33 **PL=**10 **PI=**23
Test Method: COE uniform strain

Parameters for Specimen No. 1

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	370.420			528.640
Moisture content: Dry soil+tare, gms.	315.700			461.190
Moisture content: Tare, gms.	0.000			146.120
Moisture, %	17.3	22.8	21.2	21.4
Moist specimen weight, gms.	370.4			
Diameter, in.	1.94	1.93	1.92	
Area, in.^{2}	2.94	2.94	2.89	
Height, in.	3.90	3.90	3.87	
Net decrease in height, in.		0.00	0.03	
Wet Density, pcf	123.0	128.7	130.5	
Dry density, pcf	104.9	104.9	107.7	
Void ratio	0.6192	0.6192	0.5771	
Saturation, %	76.1	100.0	100.0	

Test Readings for Specimen No. 1

Membrane modulus = 0.124105 kN/cm^2
Membrane thickness = 0.064 cm
Consolidation cell pressure = 47.00 psi (6.77 ksf)
Consolidation back pressure = 40.00 psi (5.76 ksf)
Consolidation effective confining stress = 1.01 ksf
Strain rate, %/min. = 0.05
Fail. Stress = 1.30 ksf **at reading no.** 76

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	0.0479	3.797	0.0	0.0	0.00	1.01	1.01	1.00	39.97	1.01	0.00
1	0.0489	6.574	2.8	0.0	0.14	0.96	1.10	1.14	40.33	1.03	0.07
2	0.0499	8.438	4.6	0.1	0.23	0.93	1.16	1.25	40.58	1.04	0.12
3	0.0509	9.705	5.9	0.1	0.29	0.89	1.19	1.33	40.79	1.04	0.15
4	0.0518	10.327	6.5	0.1	0.33	0.87	1.19	1.37	40.96	1.03	0.16
5	0.0528	11.182	7.4	0.1	0.37	0.84	1.21	1.44	41.15	1.03	0.18
6	0.0538	11.885	8.1	0.2	0.40	0.82	1.22	1.49	41.32	1.02	0.20
7	0.0548	12.237	8.4	0.2	0.42	0.80	1.22	1.53	41.47	1.01	0.21
8	0.0558	12.591	8.8	0.2	0.44	0.77	1.21	1.57	41.64	0.99	0.22
9	0.0577	13.097	9.3	0.3	0.46	0.74	1.20	1.63	41.87	0.97	0.23
10	0.0587	13.569	9.8	0.3	0.49	0.72	1.20	1.68	42.02	0.96	0.24
11	0.0597	13.830	10.0	0.3	0.50	0.70	1.20	1.71	42.15	0.95	0.25
12	0.0607	14.358	10.6	0.3	0.52	0.68	1.20	1.77	42.28	0.94	0.26
13	0.0616	14.581	10.8	0.4	0.54	0.66	1.20	1.81	42.41	0.93	0.27
14	0.0626	15.006	11.2	0.4	0.56	0.64	1.20	1.87	42.54	0.92	0.28
15	0.0636	13.165	9.4	0.4	0.46	0.66	1.12	1.71	42.44	0.89	0.23
16	0.0646	14.985	11.2	0.4	0.56	0.63	1.19	1.88	42.62	0.91	0.28
17	0.0656	15.555	11.8	0.5	0.58	0.61	1.20	1.95	42.73	0.91	0.29
18	0.0675	16.079	12.3	0.5	0.61	0.59	1.20	2.04	42.93	0.89	0.30
19	0.0695	16.351	12.6	0.6	0.62	0.56	1.19	2.10	43.08	0.88	0.31
20	0.0705	16.704	12.9	0.6	0.64	0.55	1.19	2.16	43.17	0.87	0.32
21	0.0724	17.101	13.3	0.6	0.66	0.53	1.19	2.24	43.30	0.86	0.33
22	0.0734	17.349	13.6	0.7	0.67	0.52	1.20	2.28	43.36	0.86	0.34
23	0.0744	17.689	13.9	0.7	0.69	0.51	1.20	2.34	43.43	0.86	0.34
24	0.0764	18.061	14.3	0.7	0.71	0.50	1.21	2.41	43.52	0.85	0.35
25	0.0803	18.400	14.6	0.8	0.72	0.48	1.20	2.49	43.65	0.84	0.36
26	0.0812	18.784	15.0	0.9	0.74	0.48	1.22	2.54	43.67	0.85	0.37
27	0.0832	19.036	15.2	0.9	0.75	0.48	1.23	2.58	43.69	0.85	0.38
28	0.0852	19.327	15.5	1.0	0.77	0.47	1.24	2.62	43.72	0.86	0.38
29	0.0861	19.597	15.8	1.0	0.78	0.47	1.25	2.66	43.74	0.86	0.39
30	0.0949	20.222	16.4	1.2	0.81	0.41	1.22	2.96	44.13	0.82	0.40
31	0.0988	20.930	17.1	1.3	0.84	0.40	1.24	3.11	44.22	0.82	0.42
32	0.1066	21.495	17.7	1.5	0.87	0.37	1.24	3.32	44.40	0.81	0.43
33	0.1105	21.849	18.1	1.6	0.89	0.36	1.25	3.43	44.47	0.81	0.44
34	0.1144	22.265	18.5	1.7	0.90	0.36	1.26	3.53	44.52	0.81	0.45
35	0.1222	22.701	18.9	1.9	0.92	0.34	1.27	3.70	44.62	0.80	0.46
36	0.1262	22.933	19.1	2.0	0.93	0.34	1.27	3.75	44.64	0.81	0.47
37	0.1340	23.316	19.5	2.2	0.95	0.33	1.28	3.87	44.70	0.81	0.48
38	0.1379	23.646	19.8	2.3	0.97	0.33	1.30	3.93	44.71	0.81	0.48
39	0.1418	23.985	20.2	2.4	0.98	0.33	1.31	4.02	44.74	0.82	0.49
40	0.1496	24.305	20.5	2.6	1.00	0.33	1.32	4.06	44.74	0.82	0.50
41	0.1535	24.614	20.8	2.7	1.01	0.32	1.33	4.12	44.75	0.83	0.50
42	0.1613	24.922	21.1	2.9	1.02	0.33	1.35	4.14	44.74	0.84	0.51
43	0.1691	25.452	21.7	3.1	1.05	0.33	1.38	4.13	44.68	0.86	0.52
44	0.1769	25.778	22.0	3.3	1.06	0.36	1.42	3.96	44.51	0.89	0.53
45	0.1808	26.031	22.2	3.4	1.07	0.37	1.44	3.90	44.44	0.90	0.54
46	0.1886	26.354	22.6	3.6	1.08	0.35	1.43	4.14	44.60	0.89	0.54

Test Readings for Specimen No. 1

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
47	0.2003	26.577	22.8	3.9	1.09	0.35	1.44	4.15	44.60	0.89	0.55
48	0.2042	26.879	23.1	4.0	1.10	0.34	1.45	4.20	44.60	0.90	0.55
49	0.2159	27.223	23.4	4.3	1.06	0.35	1.40	4.06	44.60	0.87	0.53
50	0.2237	27.596	23.8	4.5	1.07	0.35	1.42	4.08	44.59	0.88	0.54
51	0.2393	28.162	24.4	5.0	1.09	0.36	1.44	4.06	44.53	0.90	0.54
52	0.2627	28.915	25.1	5.6	1.11	0.38	1.48	3.92	44.37	0.93	0.55
53	0.2823	29.177	25.4	6.1	1.11	0.40	1.50	3.78	44.24	0.95	0.55
54	0.2920	29.777	26.0	6.3	1.13	0.40	1.53	3.82	44.22	0.96	0.56
55	0.3018	30.061	26.3	6.6	1.13	0.40	1.53	3.83	44.22	0.97	0.57
56	0.3115	30.474	26.7	6.8	1.15	0.40	1.55	3.84	44.19	0.98	0.57
57	0.3213	30.858	27.1	7.1	1.16	0.41	1.56	3.85	44.18	0.99	0.58
58	0.3408	31.649	27.9	7.6	1.18	0.42	1.60	3.83	44.11	1.01	0.59
59	0.3603	31.894	28.1	8.1	1.18	0.45	1.63	3.62	43.89	1.04	0.59
60	0.3798	32.580	28.8	8.6	1.19	0.45	1.65	3.63	43.84	1.05	0.60
61	0.3895	33.095	29.3	8.8	1.21	0.45	1.66	3.67	43.85	1.06	0.61
62	0.4090	33.490	29.7	9.3	1.21	0.46	1.67	3.64	43.81	1.07	0.61
63	0.4188	33.912	30.1	9.6	1.23	0.46	1.69	3.65	43.79	1.08	0.61
64	0.4286	34.263	30.5	9.8	1.23	0.47	1.70	3.63	43.75	1.09	0.62
65	0.4481	34.641	30.8	10.4	1.24	0.49	1.73	3.53	43.61	1.11	0.62
66	0.4676	35.031	31.2	10.9	1.24	0.51	1.75	3.43	43.46	1.13	0.62
67	0.4773	35.501	31.7	11.1	1.25	0.51	1.77	3.44	43.44	1.14	0.63
68	0.4968	35.921	32.1	11.6	1.26	0.52	1.78	3.42	43.40	1.15	0.63
69	0.5163	36.347	32.6	12.1	1.26	0.53	1.79	3.38	43.33	1.16	0.63
70	0.5261	36.633	32.8	12.4	1.27	0.53	1.80	3.37	43.29	1.17	0.63
71	0.5358	36.971	33.2	12.6	1.27	0.54	1.82	3.34	43.23	1.18	0.64
72	0.5553	37.557	33.8	13.1	1.28	0.60	1.88	3.15	42.86	1.24	0.64
73	0.5651	37.830	34.0	13.4	1.29	0.57	1.86	3.24	43.01	1.22	0.64
74	0.5846	38.357	34.6	13.9	1.29	0.58	1.87	3.24	42.99	1.23	0.65
75	0.6041	38.971	35.2	14.4	1.30	0.58	1.88	3.26	42.99	1.23	0.65
76	0.6236	39.338	35.5	14.9	1.30	0.60	1.91	3.16	42.81	1.26	0.65
77	0.6431	39.718	35.9	15.4	1.30	0.64	1.94	3.05	42.57	1.29	0.65
78	0.6529	40.151	36.4	15.6	1.32	0.65	1.97	3.02	42.48	1.31	0.66
79	0.6626	40.598	36.8	15.9	1.33	0.64	1.97	3.07	42.55	1.30	0.66
80	0.6724	40.890	37.1	16.2	1.33	0.63	1.96	3.11	42.62	1.30	0.67
81	0.7017	41.360	37.6	16.9	1.33	0.64	1.97	3.06	42.54	1.30	0.66
82	0.7212	41.704	37.9	17.4	1.32	0.67	1.99	2.99	42.38	1.33	0.66
83	0.7407	42.136	38.3	17.9	1.32	0.70	2.02	2.89	42.14	1.36	0.66
84	0.7602	42.469	38.7	18.4	1.32	0.70	2.03	2.88	42.11	1.36	0.66
85	0.7699	42.795	39.0	18.7	1.33	0.70	2.02	2.90	42.16	1.36	0.66
86	0.7797	43.114	39.3	18.9	1.33	0.70	2.03	2.89	42.12	1.37	0.67
87	0.7992	43.567	39.8	19.4	1.33	0.71	2.04	2.89	42.09	1.37	0.67
88	0.8187	43.946	40.1	19.9	1.33	0.72	2.05	2.85	42.02	1.38	0.67
89	0.8285	44.260	40.5	20.2	1.33	0.73	2.06	2.83	41.93	1.40	0.67
90	0.8382	44.359	40.6	20.4	1.33	0.74	2.07	2.80	41.86	1.40	0.66
91	0.8442	44.148	40.4	20.6	1.32	0.77	2.09	2.71	41.65	1.43	0.66

Parameters for Specimen No. 2

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	370.380			525.330
Moisture content: Dry soil+tare, gms.	314.360			463.040
Moisture content: Tare, gms.	0.000			148.680
Moisture, %	17.8	23.3	19.8	19.8
Moist specimen weight, gms.	370.4			
Diameter, in.	1.94	1.94	1.90	
Area, in.²	2.94	2.94	2.82	
Height, in.	3.92	3.92	3.84	
Net decrease in height, in.		0.00	0.08	
Wet Density, pcf	122.4	128.1	132.2	
Dry density, pcf	103.9	103.9	110.4	
Void ratio	0.6345	0.6345	0.5382	
Saturation, %	76.4	100.0	100.0	

Test Readings for Specimen No. 2

Membrane modulus = 0.124105 kN/cm²

Membrane thickness = 0.064 cm

Consolidation cell pressure = 55.00 psi (7.92 ksf)

Consolidation back pressure = 40.00 psi (5.76 ksf)

Consolidation effective confining stress = 2.16 ksf

Strain rate, %/min. = 0.05

Fail. Stress = 2.14 ksf **at reading no.** 80

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	-5.4093	2.985	0.0	0.0	0.00	2.16	2.16	1.00	39.99	2.16	0.00
1	-5.4084	4.076	1.1	0.0	0.06	2.16	2.21	1.03	40.02	2.19	0.03
2	-5.4074	5.040	2.1	0.1	0.10	2.15	2.26	1.05	40.04	2.21	0.05
3	-5.4064	6.040	3.1	0.1	0.16	2.15	2.31	1.07	40.06	2.23	0.08
4	-5.4054	6.999	4.0	0.1	0.20	2.15	2.35	1.10	40.08	2.25	0.10
5	-5.4044	7.835	4.9	0.1	0.25	2.15	2.40	1.11	40.07	2.27	0.12
6	-5.4034	8.663	5.7	0.2	0.29	2.14	2.43	1.14	40.13	2.29	0.14
7	-5.4025	9.660	6.7	0.2	0.34	2.14	2.48	1.16	40.12	2.31	0.17
8	-5.4015	10.213	7.2	0.2	0.37	2.14	2.51	1.17	40.15	2.32	0.18
9	-5.3995	10.838	7.9	0.3	0.40	2.14	2.54	1.19	40.16	2.34	0.20
10	-5.3976	11.279	8.3	0.3	0.42	2.13	2.55	1.20	40.20	2.34	0.21
11	-5.3936	10.938	8.0	0.4	0.40	2.12	2.53	1.19	40.25	2.33	0.20
12	-5.3907	12.786	9.8	0.5	0.50	2.11	2.60	1.24	40.37	2.36	0.25
13	-5.3897	15.038	12.1	0.5	0.61	2.09	2.70	1.29	40.50	2.39	0.31
14	-5.3887	16.731	13.7	0.5	0.70	2.06	2.76	1.34	40.66	2.41	0.35
15	-5.3877	18.614	15.6	0.6	0.79	2.04	2.84	1.39	40.81	2.44	0.40
16	-5.3867	19.997	17.0	0.6	0.86	2.02	2.89	1.43	40.95	2.45	0.43
17	-5.3858	21.172	18.2	0.6	0.92	2.00	2.92	1.46	41.13	2.46	0.46
18	-5.3848	22.216	19.2	0.6	0.97	1.98	2.95	1.49	41.25	2.47	0.49
19	-5.3838	23.082	20.1	0.7	1.02	1.96	2.98	1.52	41.36	2.47	0.51
20	-5.3828	23.631	20.6	0.7	1.05	1.94	2.99	1.54	41.50	2.47	0.52
21	-5.3818	24.040	21.1	0.7	1.07	1.93	2.99	1.55	41.63	2.46	0.53
22	-5.3808	24.654	21.7	0.7	1.10	1.91	3.00	1.58	41.76	2.46	0.55
23	-5.3799	25.382	22.4	0.8	1.13	1.89	3.02	1.60	41.89	2.45	0.57
24	-5.3789	25.883	22.9	0.8	1.16	1.87	3.03	1.62	42.01	2.45	0.58

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
25	-5.3769	26.656	23.7	0.8	1.20	1.84	3.03	1.65	42.25	2.43	0.60
26	-5.3759	27.280	24.3	0.9	1.23	1.82	3.05	1.68	42.38	2.43	0.61
27	-5.3749	27.679	24.7	0.9	1.25	1.80	3.05	1.69	42.48	2.43	0.62
28	-5.3739	28.046	25.1	0.9	1.27	1.79	3.05	1.71	42.59	2.42	0.63
29	-5.3710	28.586	25.6	1.0	1.29	1.74	3.03	1.74	42.93	2.38	0.65
30	-5.3700	28.954	26.0	1.0	1.31	1.72	3.03	1.76	43.03	2.38	0.66
31	-5.3661	29.808	26.8	1.1	1.35	1.66	3.01	1.82	43.50	2.33	0.68
32	-5.3622	30.635	27.7	1.2	1.39	1.60	2.99	1.87	43.90	2.30	0.70
33	-5.3583	31.488	28.5	1.3	1.43	1.55	2.98	1.93	44.25	2.26	0.72
34	-5.3543	32.097	29.1	1.4	1.46	1.50	2.97	1.97	44.56	2.23	0.73
35	-5.3504	32.765	29.8	1.5	1.50	1.45	2.95	2.03	44.91	2.20	0.75
36	-5.3465	33.227	30.2	1.6	1.52	1.41	2.93	2.08	45.21	2.17	0.76
37	-5.3426	33.737	30.8	1.7	1.54	1.37	2.91	2.12	45.48	2.14	0.77
38	-5.3386	34.174	31.2	1.8	1.56	1.34	2.90	2.17	45.72	2.12	0.78
39	-5.3308	34.810	31.8	2.0	1.59	1.27	2.86	2.25	46.16	2.07	0.79
40	-5.3269	35.531	32.5	2.1	1.62	1.25	2.87	2.30	46.35	2.06	0.81
41	-5.3230	36.061	33.1	2.2	1.65	1.22	2.87	2.35	46.53	2.04	0.82
42	-5.3151	36.637	33.7	2.5	1.67	1.17	2.84	2.43	46.88	2.01	0.84
43	-5.3112	37.004	34.0	2.6	1.69	1.15	2.84	2.48	47.05	1.99	0.85
44	-5.3033	37.461	34.5	2.8	1.71	1.10	2.81	2.55	47.33	1.96	0.85
45	-5.2955	38.168	35.2	3.0	1.74	1.07	2.81	2.63	47.56	1.94	0.87
46	-5.2837	38.759	35.8	3.3	1.76	1.04	2.80	2.70	47.81	1.92	0.88
47	-5.2759	39.452	36.5	3.5	1.80	1.01	2.81	2.78	47.98	1.91	0.90
48	-5.2720	37.791	34.8	3.6	1.71	1.02	2.73	2.68	47.93	1.87	0.86
49	-5.2680	39.630	36.6	3.7	1.80	0.98	2.78	2.83	48.18	1.88	0.90
50	-5.2602	40.213	37.2	3.9	1.82	0.97	2.79	2.89	48.30	1.88	0.91
51	-5.2523	40.735	37.8	4.1	1.85	0.94	2.79	2.97	48.48	1.86	0.92
52	-5.2484	41.082	38.1	4.2	1.86	0.93	2.79	3.01	48.56	1.86	0.93
53	-5.2406	41.473	38.5	4.4	1.88	0.91	2.79	3.06	48.68	1.85	0.94
54	-5.2327	41.912	38.9	4.6	1.89	0.89	2.79	3.12	48.80	1.84	0.95
55	-5.2249	42.367	39.4	4.8	1.91	0.88	2.79	3.18	48.90	1.84	0.96
56	-5.2171	43.029	40.0	5.0	1.94	0.86	2.80	3.25	49.01	1.83	0.97
57	-5.2131	43.413	40.4	5.1	1.96	0.86	2.81	3.29	49.06	1.83	0.98
58	-5.2033	44.347	41.4	5.4	2.00	0.84	2.84	3.37	49.16	1.84	1.00
59	-5.1935	44.995	42.0	5.6	2.02	0.83	2.85	3.44	49.25	1.84	1.01
60	-5.1739	45.705	42.7	6.1	2.05	0.82	2.87	3.48	49.27	1.85	1.02
61	-5.1641	46.067	43.1	6.4	2.06	0.81	2.87	3.54	49.37	1.84	1.03
62	-5.1543	46.478	43.5	6.6	2.07	0.80	2.87	3.59	49.45	1.83	1.04
63	-5.1347	47.120	44.1	7.1	2.09	0.78	2.87	3.69	49.60	1.82	1.04
64	-5.1249	47.453	44.5	7.4	2.10	0.77	2.87	3.72	49.64	1.82	1.05
65	-5.1151	47.888	44.9	7.7	2.11	0.77	2.88	3.76	49.69	1.82	1.06
66	-5.0955	48.274	45.3	8.2	2.01	0.76	2.77	3.64	49.72	1.76	1.00
67	-5.0857	48.758	45.8	8.4	2.02	0.77	2.80	3.61	49.62	1.79	1.01
68	-5.0661	49.280	46.3	8.9	2.03	0.77	2.79	3.65	49.69	1.78	1.01
69	-5.0563	49.861	46.9	9.2	2.04	0.77	2.81	3.67	49.68	1.79	1.02
70	-5.0367	50.526	47.5	9.7	2.06	0.76	2.81	3.71	49.73	1.79	1.03
71	-5.0073	51.050	48.1	10.5	2.05	0.76	2.81	3.70	49.72	1.79	1.03

Test Readings for Specimen No. 2

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
72	-4.9877	51.668	48.7	11.0	2.06	0.77	2.83	3.66	49.62	1.80	1.03
73	-4.9681	52.393	49.4	11.5	2.07	0.77	2.84	3.69	49.66	1.81	1.04
74	-4.9485	52.971	50.0	12.0	2.08	0.77	2.85	3.71	49.67	1.81	1.04
75	-4.9289	53.442	50.5	12.5	2.08	0.77	2.85	3.70	49.66	1.81	1.04
76	-4.9191	53.983	51.0	12.8	2.09	0.78	2.87	3.69	49.60	1.82	1.05
77	-4.8994	54.558	51.6	13.3	2.10	0.80	2.90	3.63	49.46	1.85	1.05
78	-4.8798	55.119	52.1	13.8	2.10	0.80	2.90	3.64	49.47	1.85	1.05
79	-4.8602	56.236	53.3	14.3	2.13	0.80	2.93	3.66	49.45	1.87	1.07
80	-4.8308	57.074	54.1	15.1	2.14	0.81	2.95	3.63	49.36	1.88	1.07
81	-4.8014	57.756	54.8	15.8	2.13	0.84	2.97	3.55	49.19	1.90	1.07
82	-4.7818	58.125	55.1	16.3	2.13	0.84	2.97	3.54	49.18	1.90	1.06
83	-4.7622	58.721	55.7	16.8	2.13	0.85	2.98	3.52	49.13	1.91	1.07
84	-4.7426	59.592	56.6	17.4	2.15	0.86	3.00	3.51	49.05	1.93	1.07
85	-4.7328	60.159	57.2	17.6	2.16	0.86	3.02	3.52	49.05	1.94	1.08
86	-4.7132	60.703	57.7	18.1	2.16	0.88	3.04	3.45	48.87	1.96	1.08
87	-4.6838	61.091	58.1	18.9	2.14	0.89	3.03	3.41	48.84	1.96	1.07
88	-4.6740	61.637	58.7	19.1	2.15	0.90	3.05	3.40	48.78	1.97	1.08
89	-4.6543	61.961	59.0	19.7	2.15	0.90	3.05	3.38	48.74	1.97	1.07
90	-4.6347	62.286	59.3	20.2	2.14	0.91	3.05	3.34	48.65	1.98	1.07
91	-4.6249	62.631	59.6	20.4	2.14	0.92	3.06	3.32	48.60	1.99	1.07
92	-4.5955	63.161	60.2	21.2	2.13	0.94	3.07	3.26	48.47	2.00	1.06
93	-4.5857	63.865	60.9	21.4	2.14	0.95	3.09	3.26	48.43	2.02	1.07
94	-4.5563	64.594	61.6	22.2	2.14	0.96	3.10	3.23	48.34	2.03	1.07
95	-4.5465	64.551	61.6	22.5	2.13	0.96	3.09	3.20	48.30	2.03	1.06

Parameters for Specimen No. 3

Specimen Parameter	Initial	Saturated	Consolidated	Final
Moisture content: Moist soil+tare, gms.	369.700			492.150
Moisture content: Dry soil+tare, gms.	316.060			434.320
Moisture content: Tare, gms.	0.000			118.260
Moisture, %	17.0	23.8	18.0	18.3
Moist specimen weight, gms.	369.7			
Diameter, in.	1.93	1.93	1.87	
Area, in.²	2.93	2.93	2.73	
Height, in.	3.99	3.99	3.86	
Net decrease in height, in.		0.00	0.13	
Wet Density, pcf	120.7	127.7	134.6	
Dry density, pcf	103.2	103.2	114.1	
Void ratio	0.6462	0.6462	0.4888	
Saturation, %	71.4	100.0	100.0	

Test Readings for Specimen No. 3

Membrane modulus = 0.124105 kN/cm²
Membrane thickness = 0.064 cm
Consolidation cell pressure = 70.00 psi (10.08 ksf)
Consolidation back pressure = 40.00 psi (5.76 ksf)
Consolidation effective confining stress = 4.32 ksf
Strain rate, %/min. = 0.05
Fail. Stress = 2.88 ksf **at reading no.** 81

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
0	-0.0563	2.755	0.0	0.0	0.00	4.32	4.32	1.00	39.98	4.32	0.00
1	-0.0553	6.866	4.1	0.0	0.22	4.30	4.52	1.05	40.14	4.41	0.11
2	-0.0543	8.497	5.7	0.1	0.30	4.27	4.57	1.07	40.34	4.42	0.15
3	-0.0533	10.283	7.5	0.1	0.40	4.25	4.65	1.09	40.49	4.45	0.20
4	-0.0523	10.747	8.0	0.1	0.42	4.23	4.65	1.10	40.60	4.44	0.21
5	-0.0493	11.168	8.4	0.2	0.44	4.19	4.63	1.11	40.89	4.41	0.22
6	-0.0483	13.676	10.9	0.2	0.57	4.16	4.73	1.14	41.14	4.44	0.29
7	-0.0473	16.387	13.6	0.2	0.72	4.11	4.83	1.17	41.44	4.47	0.36
8	-0.0462	18.723	16.0	0.3	0.84	4.07	4.91	1.21	41.74	4.49	0.42
9	-0.0452	20.574	17.8	0.3	0.94	4.04	4.97	1.23	41.98	4.50	0.47
10	-0.0442	22.123	19.4	0.3	1.02	3.99	5.01	1.25	42.28	4.50	0.51
11	-0.0432	23.535	20.8	0.3	1.09	3.96	5.05	1.28	42.52	4.50	0.55
12	-0.0422	24.551	21.8	0.4	1.14	3.92	5.06	1.29	42.77	4.49	0.57
13	-0.0412	25.493	22.7	0.4	1.19	3.89	5.08	1.31	43.00	4.48	0.60
14	-0.0402	26.303	23.5	0.4	1.23	3.86	5.09	1.32	43.22	4.47	0.62
15	-0.0392	26.826	24.1	0.4	1.26	3.83	5.09	1.33	43.38	4.46	0.63
16	-0.0382	27.560	24.8	0.5	1.30	3.80	5.10	1.34	43.63	4.45	0.65
17	-0.0372	28.314	25.6	0.5	1.34	3.78	5.12	1.35	43.74	4.45	0.67
18	-0.0362	28.952	26.2	0.5	1.37	3.74	5.11	1.37	44.03	4.43	0.69
19	-0.0342	29.748	27.0	0.6	1.41	3.68	5.10	1.38	44.41	4.39	0.71
20	-0.0332	30.302	27.5	0.6	1.44	3.65	5.10	1.39	44.63	4.37	0.72
21	-0.0312	31.346	28.6	0.6	1.50	3.60	5.09	1.42	45.01	4.35	0.75
22	-0.0292	32.062	29.3	0.7	1.53	3.54	5.07	1.43	45.41	4.31	0.77
23	-0.0282	32.495	29.7	0.7	1.55	3.52	5.07	1.44	45.58	4.29	0.78
24	-0.0262	33.196	30.4	0.8	1.59	3.46	5.05	1.46	45.97	4.26	0.80

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
25	-0.0242	33.739	31.0	0.8	1.62	3.41	5.03	1.47	46.34	4.22	0.81
26	-0.0222	34.315	31.6	0.9	1.65	3.36	5.01	1.49	46.64	4.19	0.82
27	-0.0202	35.024	32.3	0.9	1.68	3.30	4.99	1.51	47.06	4.15	0.84
28	-0.0182	35.634	32.9	1.0	1.71	3.26	4.97	1.53	47.39	4.11	0.86
29	-0.0122	37.014	34.3	1.1	1.78	3.13	4.91	1.57	48.30	4.02	0.89
30	-0.0082	37.740	35.0	1.2	1.82	3.04	4.86	1.60	48.87	3.95	0.91
31	-0.0042	38.390	35.6	1.3	1.85	2.96	4.81	1.62	49.42	3.89	0.93
32	-0.0002	39.327	36.6	1.5	1.90	2.89	4.79	1.66	49.93	3.84	0.95
33	0.0038	40.090	37.3	1.6	1.94	2.82	4.76	1.69	50.41	3.79	0.97
34	0.0078	40.679	37.9	1.7	1.96	2.76	4.72	1.71	50.84	3.74	0.98
35	0.0118	41.228	38.5	1.8	1.99	2.70	4.69	1.74	51.23	3.70	0.99
36	0.0198	42.164	39.4	2.0	2.03	2.61	4.64	1.78	51.88	3.63	1.02
37	0.0238	42.782	40.0	2.1	2.06	2.56	4.63	1.81	52.20	3.60	1.03
38	0.0277	43.214	40.5	2.2	2.08	2.52	4.60	1.83	52.51	3.56	1.04
39	0.0357	43.988	41.2	2.4	2.12	2.42	4.54	1.88	53.18	3.48	1.06
40	0.0397	44.469	41.7	2.5	2.14	2.38	4.52	1.90	53.48	3.45	1.07
41	0.0437	44.955	42.2	2.6	2.16	2.34	4.50	1.93	53.76	3.42	1.08
42	0.0517	45.669	42.9	2.8	2.20	2.27	4.47	1.97	54.22	3.37	1.10
43	0.0597	46.503	43.7	3.0	2.23	2.21	4.44	2.01	54.65	3.33	1.12
44	0.0637	46.921	44.2	3.1	2.25	2.18	4.43	2.04	54.88	3.30	1.13
45	0.0717	47.559	44.8	3.3	2.28	2.12	4.40	2.07	55.26	3.26	1.14
46	0.0796	48.264	45.5	3.5	2.31	2.05	4.37	2.13	55.73	3.21	1.16
47	0.0916	49.256	46.5	3.8	2.35	1.98	4.34	2.19	56.22	3.16	1.18
48	0.0996	49.677	46.9	4.0	2.37	1.95	4.32	2.22	56.46	3.13	1.19
49	0.1076	50.488	47.7	4.2	2.41	1.92	4.33	2.25	56.65	3.13	1.20
50	0.1196	51.315	48.6	4.6	2.44	1.87	4.31	2.30	57.00	3.09	1.22
51	0.1275	51.798	49.0	4.8	2.46	1.83	4.29	2.34	57.26	3.06	1.23
52	0.1355	52.270	49.5	5.0	2.48	1.81	4.28	2.37	57.45	3.05	1.24
53	0.1435	52.910	50.2	5.2	2.50	1.77	4.28	2.41	57.70	3.02	1.25
54	0.1535	53.578	50.8	5.4	2.53	1.74	4.27	2.45	57.90	3.01	1.27
55	0.1635	54.362	51.6	5.7	2.56	1.70	4.27	2.50	58.16	2.99	1.28
56	0.1735	54.815	52.1	6.0	2.58	1.68	4.26	2.53	58.31	2.97	1.29
57	0.1834	55.369	52.6	6.2	2.60	1.67	4.26	2.56	58.43	2.97	1.30
58	0.1934	55.999	53.2	6.5	2.62	1.64	4.26	2.60	58.64	2.95	1.31
59	0.2034	56.505	53.8	6.7	2.64	1.63	4.27	2.62	58.69	2.95	1.32
60	0.2134	57.047	54.3	7.0	2.66	1.61	4.27	2.65	58.78	2.94	1.33
61	0.2234	57.714	55.0	7.2	2.68	1.59	4.28	2.69	58.95	2.93	1.34
62	0.2433	58.786	56.0	7.8	2.72	1.55	4.27	2.75	59.22	2.91	1.36
63	0.2633	59.818	57.1	8.3	2.76	1.53	4.29	2.80	59.37	2.91	1.38
64	0.2733	60.359	57.6	8.5	2.77	1.52	4.30	2.82	59.42	2.91	1.39
65	0.2832	60.933	58.2	8.8	2.79	1.50	4.29	2.86	59.59	2.90	1.40
66	0.2932	61.370	58.6	9.1	2.81	1.51	4.32	2.86	59.53	2.91	1.40
67	0.3032	62.084	59.3	9.3	2.83	1.51	4.34	2.88	59.54	2.92	1.42
68	0.3231	63.089	60.3	9.8	2.86	1.49	4.35	2.93	59.67	2.92	1.43
69	0.3431	63.840	61.1	10.3	2.74	1.47	4.21	2.86	59.79	2.84	1.37
70	0.3531	64.341	61.6	10.6	2.75	1.48	4.23	2.86	59.75	2.85	1.38
71	0.3631	64.774	62.0	10.9	2.76	1.47	4.23	2.88	59.81	2.85	1.38

Test Readings for Specimen No. 3

No.	Def. Dial in.	Load Dial	Load lbs.	Strain %	Deviator Stress ksf	Minor Eff. Stress ksf	Major Eff. Stress ksf	1:3 Ratio	Pore Press. psi	P ksf	Q ksf
72	0.3730	65.339	62.6	11.1	2.77	1.46	4.24	2.90	59.84	2.85	1.39
73	0.3930	66.382	63.6	11.6	2.80	1.47	4.27	2.90	59.79	2.87	1.40
74	0.4030	66.903	64.1	11.9	2.81	1.48	4.28	2.90	59.75	2.88	1.40
75	0.4229	67.587	64.8	12.4	2.82	1.47	4.29	2.91	59.77	2.88	1.41
76	0.4429	68.134	65.4	12.9	2.82	1.48	4.30	2.90	59.71	2.89	1.41
77	0.4529	68.591	65.8	13.2	2.82	1.47	4.29	2.93	59.82	2.88	1.41
78	0.4728	69.559	66.8	13.7	2.84	1.48	4.32	2.92	59.71	2.90	1.42
79	0.4928	70.239	67.5	14.2	2.85	1.49	4.33	2.92	59.68	2.91	1.42
80	0.5127	71.034	68.3	14.7	2.86	1.50	4.36	2.90	59.56	2.93	1.43
81	0.5327	71.983	69.2	15.3	2.88	1.50	4.38	2.91	59.56	2.94	1.44
82	0.5427	72.452	69.7	15.5	2.88	1.51	4.39	2.91	59.51	2.95	1.44
83	0.5527	72.878	70.1	15.8	2.89	1.51	4.40	2.91	59.51	2.96	1.44
84	0.5626	73.363	70.6	16.0	2.90	1.51	4.40	2.92	59.54	2.95	1.45
85	0.5826	74.187	71.4	16.6	2.91	1.51	4.42	2.92	59.51	2.96	1.45
86	0.5926	74.779	72.0	16.8	2.92	1.52	4.44	2.92	59.42	2.98	1.46
87	0.6125	75.455	72.7	17.3	2.92	1.53	4.46	2.90	59.35	3.00	1.46
88	0.6325	76.150	73.4	17.8	2.93	1.54	4.46	2.90	59.31	3.00	1.46
89	0.6524	76.877	74.1	18.4	2.93	1.55	4.48	2.89	59.24	3.01	1.46
90	0.6624	77.361	74.6	18.6	2.94	1.55	4.49	2.89	59.21	3.02	1.47
91	0.6824	77.929	75.2	19.1	2.93	1.57	4.50	2.87	59.11	3.04	1.47
92	0.7023	78.772	76.0	19.7	2.94	1.59	4.53	2.85	58.97	3.06	1.47
93	0.7123	79.309	76.6	19.9	2.95	1.59	4.54	2.85	58.95	3.07	1.47
94	0.7323	80.225	77.5	20.4	2.96	1.60	4.56	2.85	58.90	3.08	1.48
95	0.7423	80.656	77.9	20.7	2.96	1.60	4.57	2.85	58.87	3.08	1.48
96	0.7722	81.537	78.8	21.5	2.96	1.62	4.58	2.83	58.75	3.10	1.48
97	0.7922	82.347	79.6	22.0	2.96	1.66	4.62	2.79	58.50	3.14	1.48
98	0.8121	83.055	80.3	22.5	2.96	1.65	4.62	2.79	58.52	3.13	1.48
99	0.8221	83.324	80.6	22.8	2.96	1.66	4.62	2.78	58.49	3.14	1.48
100	0.8223	83.191	80.4	22.8	2.95	1.66	4.61	2.78	58.48	3.14	1.48

Appendix C-6

Sodium Adsorption Ratio Test Results

Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-01-03**
Sample Date/Time: 7/21/08

Lab Number: 08072112-01
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.4 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**166.2 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**73.7 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**89.7 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**8.2 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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SW-846 = "Test Methods for Evaluating Solid Waste"; USEPA; November 1986
AB-DTPA = "Soil Testing Methods Used at Colorado State University for the Evaluation of Fertlity, Salinity and Trace Element Toxicity"; Colorado State University Technical Bulletin LTB88-2; Jan 1998; SM Workman, PN Soltanpour and RH Follett.

Steve Nielson

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Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-03-1**
Sample Date/Time: 7/21/08
Lab Number: 08072112-02
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.5 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**8.1 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**4.1 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**24.8 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**10.0 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-03-7**
Sample Date/Time: 7/21/08

Lab Number: 08072112-03
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.2 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**47.9 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**21.0 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**91.5 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**15.6 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-04-7**
Sample Date/Time: 7/21/08

Lab Number: 08072112-04
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.7 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**206.0 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**85.4 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**65.9 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**5.5 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-05-4**
Sample Date/Time: 7/21/08

Lab Number: 08072112-05
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.0 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**47.3 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**44.2 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**78.3 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**11.6 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID TP-06-7
Sample Date/Time: 7/21/08

Lab Number: 08072112-06
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**0.6 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**10.3 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**6.6 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**17.9 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**6.2 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-07-10**
Sample Date/Time: 7/21/08

Lab Number: 08072112-07
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.5 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**201.7 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**78.6 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**94.9 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**8.0 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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Colorado Analytical Laboratories, Inc.

Analytical Results

Report To: Sam Bush
Company: Knight Piesold & Co.
5030 Nome St. Unit A
Denver CO 80239

Task No: 08072112
Date Received 7/21/08
Reported: 8/4/08
Client PO: 8387
Client Project:

Customer Sample ID **TP-10-7**
Sample Date/Time: 7/21/08

Lab Number: 08072112-08
Matrix: Soil - Environmental

Test	Result	Reporting Limit	Method	Date Analyzed	Analyzed By
Dry Weight Basis					
Total Organic Carbon	**1.5 %**	0.1	ASA2 29-3.5.2	7/30/08	DAH
Soluble Nutrients - Dry Weight Basis					
Calcium	**190.8 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Magnesium	**91.1 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium	**38.7 meq/L**	0.1	USDA60 6 (20b)	7/31/08	BCT
Sodium Adsorption Ratio	**3.3 units**	0.1	USDA60 6 (20b)	7/31/08	BCT

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SW-846 = "Test Methods for Evaluating Solid Waste"; USEPA; November 1986
AB-DTPA = "Soil Testing Methods Used at Colorado State University for the Evaluation of Fertlity, Salinity and Trace Element Toxicity"; Colorado State University Technical Bulletin LTB88-2; Jan 1998; SM Workman, PN Soltanpour and RH Follett.

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Appendix D

SPAW Model Results

Appendix D

SPAW Model Results

1.0 SPAW Model Results

1.1 Overview

This appendix describes the modeling that was used in the design of the land application system and associated settling ponds. Bleed water from the process lixiviant circuit will be extracted following uranium removal in the ion-exchange (IX) columns. Bleed water will then flow through secondary IX columns to further remove uranium and other metals. This water will be discharged to lined settling ponds, where radium will be precipitated using barium sulfate. Water from these ponds will then be pumped to center pivot sprinklers and used to irrigate alfalfa or other suitable crops from March 29 to October 31 during each year of operation. Water from the ponds will be sampled before it is pumped to the sprinklers to ensure that it meets the applicable discharge standards for all constituents.

It is anticipated that several potential crops such as alfalfa, corn, sorghum and several species of salt tolerant wheatgrass could be irrigated. During the irrigation season, water application rates will be determined during operation to optimize both evaporation and crop production.

The design of the land application system was developed based on modeling using the SPAW model, which is described in the following sections. Two land application areas, one at the Dewey site and one at the Burdock site will be used. The total irrigated area at any given time at the Dewey site would be 315 acres, consisting of four 50-acre pivots, four 25-acre pivots, plus one 15-acre pivot. In addition, there would be one 50-acre pivot and one 15-acre pivot on standby (total pivots at Dewey is five 50-acre pivots, four 25-acre pivots, and two 15-acre pivots). Pumping at Dewey would occur for 24 hours every day from March 29 to May 10 at a rate of 297 gallons per minute (gpm); from May 11 to September 24 at a rate of 653 gallons per minute; and from September 25 to October 31 at a rate of 297 gallons per minute.

The total irrigated area at any given time at the Burdock site would also be 315 acres (six 50-acre pivots plus one 15-acre pivot). In addition, there would be two 25-acre pivots and one 15-acre pivot on standby. The total pivots at Burdock would be six 50-acre pivots, two 25-acre pivots, and two 15-acre pivots. Pumping at Burdock would also occur for 24 hours on every day from

March 29 to May 10 at 297 gallons per minute; from May 11 to September 24 at a rate of 653 gallons per minute; and from September 25 to October 31 at a rate of 297 gallons per minute.

Five single-lined impoundments (ponds) will be constructed at the Dewey site for the temporary storage of the irrigation water. Each pond will be 465 feet x 465 x 30 feet deep including 3 feet of freeboard, with an operating capacity of 61.8 acre-feet. Four of the ponds will be operational at any given time, with the remaining pond serving as a backup. In addition to the storage ponds, a double-lined radium settling pond with leak detection and a single-lined outlet pond will also be constructed at Dewey. The radium settling pond will be 880 feet x 200 feet x 22.5 feet deep, including 3 feet of freeboard, and will have an operational storage of 39.4 acre-ft. The outlet pond will be 280 feet x 162 feet x 14 feet deep including 3 feet of freeboard, and will have an operational storage of 4.9 acre-ft.

Four single-lined impoundments (ponds) will be constructed at the Burdock site for the temporary storage of the irrigation water. Each pond will be 465 feet x 465 feet x 30 feet deep including 3 feet of freeboard, with an operating capacity of 61.8 acre-feet. In addition to the storage ponds, double-lined radium settling, spare and central processing plant (CPP) ponds with leak detection, and a single-lined outlet pond will also be constructed at Burdock. The radium settling and spare ponds will be 880 feet x 200 feet x 25.5 feet deep, including 3 feet of freeboard, and will have an operational storage of 39.4 acre-ft. The CPP pond will be 362 feet x 362 feet x 25 feet including 3 feet of freeboard, and will have an operational storage capacity of 36.2 acre-feet. The outlet pond will be 280 feet x 162 feet x 14 feet deep including 3 feet of freeboard, and will have an operational storage of 4.9 acre-ft.

1.2 SPAW Model Description

The SPAW (Soil-Plant-Air-Water) Model was developed by the U.S. Department of Agriculture (Saxton and Willey, 2006) to simulate the daily hydrologic water budgets of agricultural landscapes by two connected routines, one for farm fields and one for impoundments such as irrigation ponds. The field hydrology simulation is represented by: 1) daily climatic descriptions of precipitation, temperature, and evaporation, 2) a soil profile of interacting layers each with unique water holding characteristics, and 3) annual crop growth with management options for rotations, irrigation, and fertilization. The model output for the field hydrology routine includes a daily vertical, one-dimensional water budget depth for all major hydrologic processes such as runoff, infiltration, evapotranspiration, soil water profiles, and percolation.

Water volumes for each component of the water balance are estimated by multiplying the water budget depth times the associated field area.

Pond hydrology simulations provide water budgets by multiple input and depletion processes for impoundments whose water source is runoff from agricultural fields and/or water produced by wells or other sources. Model outputs for the pond hydrology routine include daily values of depth, volume, precipitation, evaporation, and change in storage for the period of simulation. The version of the SPAW model used was Version 6.02.75. The model has been extensively tested by the developers using research data and real-world applications.

1.2.1 Model Input Parameters

1.2.1.1 Meteorological Parameters

The local climate at the project site is continental, with hot summers, cold winters, and an average annual precipitation of 16.4 inches. The wettest months are from April to September. May and June are the months of highest average precipitation, with occasional thunderstorms that can be severe. Typical daytime temperatures range from 35 degrees Fahrenheit (^{o}F) in January to 85 ^{o}F in July, with nighttime temperatures dropping by approximately 15 to 30 ^{o}F.

Because of limited on-site climatic data, twenty-eight years of daily precipitation and temperature values (from 1980 to 2007) from the nearest available meteorological station at Edgemont, South Dakota were downloaded from the National Climatic Data Center and used as input data for the SPAW Model. The Edgemont station is approximately 13 miles southeast of the site at an elevation of 3460 feet above mean sea level (amsl). The project plant site is at 3720 feet amsl. Table 1.2-1 shows the average monthly air temperature data at the Edgemont station for the 28-year period of record.

Table 1.2-1: Average Monthly and Annual Air Temperature at Edgemont, SD Station (°F)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
22.6	26.8	36.6	46.7	56.9	66.4	74.3	72.5	61.3	47.8	33.0	22.6	47.3

1.2.1.1.1 Precipitation

Daily precipitation values for the 28-year period of record from the Edgemont station were used as input data for the SPAW Model. Where daily data were absent in the record, the daily average for that month from the 28-yr record was used. No adjustments were made to the precipitation values for the 260-foot elevation difference between the Edgemont station and the project site. Table 1.2-2 shows the average monthly precipitation at the Edgemont station for the 28-yr period of record.

Table 1.2-2: Average Monthly and Annual Precipitation at Edgemont, SD Station (inches)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
0.33	0.50	1.09	1.87	2.48	2.60	2.17	1.59	1.38	1.31	0.69	0.43	16.44

1.2.1.1.2 Potential Evapotranspiration

The SPAW model requires daily potential evapotranspiration (PET) data. Lake evaporation is a close estimate of PET, and is similar to PET values estimated using the Penman method. The mean annual lake evaporation (PET equivalent) at the site was determined to be 44 inches using the Evaporation Atlas for the Contiguous 48 United States (Farnsworth and Thompson, 1982). The monthly PET was calculated by applying the values for the monthly distribution of evaporation for the north central United States that are contained in the SPAW model. The daily PET for each month was then calculated by dividing the monthly PET by the number of days in the month. Table 1.2-3 shows the estimated average monthly and annual potential evapotranspiration at the site that was calculated using this method.

Table 1.2-3: Average Monthly and Annual Potential Evapotranspiration at Project Site (inches)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
0.92	1.23	1.98	3.30	4.40	5.76	7.08	6.95	5.50	3.74	2.02	1.10	44.0

1.2.1.2 Material Properties

To characterize the soils at the site, eleven test pits were excavated on July 11 and 12, 2008. Samples were collected at various depths and analyzed for particle size distribution, dry bulk density, permeability, and other geotechnical parameters. Test pits 1 through 5 were excavated at the Dewey land application area, and test pits 6 through 11 were excavated at the Burdock land application area. Table 1.2-4 shows the USDA soil texture and dry bulk density for the test pit samples. These are the parameters that are used as input to the SPAW model.

Natural Resources Conservation Service (NRCS) soil survey maps for the land application area were downloaded from the NRCS Web Soil Survey. The particle size distributions for the

NRCS soil mapping units were compared to the laboratory particle size distributions for the test pit soil samples. This comparison showed that the laboratory results for the test pit samples generally fell within the range of particle size distributions for the NRCS survey soil mapping units.

Table 1.2-4: Summary of Test Pit Soil Properties

USDA Soil Texture Class, Dry Bulk Density and Permeability

Sample No.	Depth	Gravel	Sand	Silt	Clay	Dry Bulk Density	Permeability (cm/sec)
Units:	(ft)	% by wt	% by wt	% by wt	% by wt	(lb/ft^3)	
TP01-1	1	0.20	26.20	38.00	35.60	N/A	
TP01-3	3	0.10	25.70	27.20	47.00	101.20	5.10E-05
TP01-7	7	0.90	8.10	57.20	33.80	86.30	
TP02-1	1	0.00	19.90	40.70	39.40	94.50	
TP02-4	4	0.00	16.70	34.60	48.70	101.50	
TP02-7	7	0.20	26.70	34.80	38.30	92.50	
TP03-1	1	0.00	24.30	24.80	50.90	90.00	8.30E-05
TP03-7	7	0.00	2.40	25.10	72.50	104.60	
TP03-11	11	60.00	25.00	8.90	6.10		
TP04-1	1	2.20	47.80	18.20	31.80	98.10	
TP04-7	7	1.30	27.50	28.00	43.20	113.30	
TP05-1	1	1.50	24.00	31.60	42.90	97.00	
TP05-4	4	2.00	30.00	23.40	44.60	94.80	3.20E-05
TP05-8	8	0.80	22.10	57.60	19.50	106.30	
TP06-1	1	0.30	17.90	30.80	51.00	N/A	
TP06-7	7	0.00	42.00	31.80	26.20	N/A	
TP06-10	10	0.00	40.00	31.20	28.80	N/A	
TP07-1	1	0.60	17.40	27.30	54.70	105.30	
TP07-5	5	0.1	22.1	25.9	51.9	103.90	
TP07-10	10	0.3	19.7	6.9	73.1	105.40	
TP08-2	2	0.1	11.9	35.7	52.3	95.20	5.70E-04
TP08-6	6	0.4	56.6	25.4	17.6	103.40	
TP09-1	1	0.3	15.2	39	45.5	94.90	
TP09-4	4	0.1	35.9	37.8	26.2	109.60	5.50E-06
TP10-1	1	1.8	21.1	34.8	42.3	99.10	
TP10-7	7	0.4	11.1	30.3	58.2	105.80	1.60E-07

Notes: N/A = Results for these samples were not available.

1.2.2 Modeling Approach

The general assumptions for the SPAW model include the following:

1. The model is a one-dimensional vertical model.

2. The model assumes that the modeled area is spatially uniform in soil, crop and climate characteristics.

3. Model inputs and outputs are based on daily values.

4. The model does not does not include flow routing or channel descriptors.

5. Daily runoff is estimated as an equivalent depth over the simulation field by the USDA/SCS Curve Number method.

6. The field budget utilizes a one-dimensional vertical system beginning above the plant canopy and proceeding downward through the soil profile to a depth sufficient to represent the complete root penetration and subsurface hydrologic processes (lateral soil water flow is not simulated).

Specific assumptions related to this project are as follows:

1. Daily precipitation and temperature data used in the model are based on 28 years of record from the Edgemont, South Dakota station.

2. SPAW modeling was done for two land application and pond areas, the Dewey site and the Burdock site.

3. Soils data used in the modeling of the Dewey site was based on a composite of soils data from Test Pits 1, 2 and 5.

4. Soils data used in the modeling of the Burdock site was based on a composite of soils data from Test Pits 8, 9 and 10.

5. The 24/7 year-round inflow rate from process water and bleed water at each site is 310 gpm.

6. The irrigation season is from March 29 to October 31 each year (217 days).

7. Model runs were conducted assuming no crop (bare soil). This assumption ensures that the results will be conservative in terms of the resulting evapotranspiration and runoff, since it is difficult to model the response of alfalfa or other crops to the quality of the applied irrigation water and to the soil conditions present at the site.

8. The irrigation water will be applied at a rate that balances the total annual amount of process inflow water. The modeled application rate is 297 gpm from March 29 to May 10, 653 gpm from May 11 to September 24, and 297 gpm from September 25 to October 31.

9. Irrigation tailwater and rainfall runoff from the land application areas will be conveyed to collection areas at the edges of the land application areas and allowed to evaporate and seep into the soil.

10. The storage impoundments are designed to contain the one percent exceedance probability event (100-year event) plus 3 feet of freeboard.

11. All storage impoundments have side slopes of 3 to 1 and are 30 feet deep.

The objective of the SPAW modeling was to help design a land application system that: (1) maximizes evapotranspiration; (2) minimizes surface runoff; (3) minimizes percolation below the rooting zone; (4) minimizes the irrigated acreage required; and (5) minimizes the required volume of the storage ponds while maintaining a one percent probability that the design pond volume will be exceeded during the operating life of the facility.

SPAW modeling was performed at both the Dewey and Burdock sites. A composite of the soil properties at each site was created for use in the model using analytical data from three test pits from each site. Test pits 1, 2 and 5 were used for the Dewey site and test pits 8, 9 and 10 were used for the Burdock site. The composites were created by taking the averages of the gravel, sand and clay fractions and the dry bulk densities for each depth interval for the three test pits at each site.

The SPAW modeling assumed that the facility will operate on a year-round basis for 15 years. Twenty-eight years of daily precipitation, temperature and evaporation data from January 1, 1980 to December 31, 2007 were used to create 28 unique and equally likely simulations of the process water balance. Each simulation used 15 years of sequential climatic data corresponding to the 15 years of operation of the facility. The climatic data intervals used for each of the 28 simulations are shown in Table 1.2-5.

Field simulations using the SPAW model were run using each of the 28 climatic data intervals shown in Table 1.2-5. The results of these field simulations were used as the input to pond simulations for the same 28 climatic intervals. The result was a daily pond volume for each day of the year for each of the 28 15-year simulations.

The pond volume with a 1 percent exceedance probability during a 15-year operating period was estimated as follows. First, the average pond volume for each day during the 15-year operating period for the 28 simulations was calculated. Then, the pond volume for each day of the 15-year period with a 1 percent exceedance probability was calculated using the Gumbel Extreme Value distribution, which resulted in 5,475 possible values. The greatest of these 5,475 values was then selected as the maximum possible volume with a 1 percent exceedance probability during a 15-year period.

Table 1.2-5: Sequential Water Balance Simulations

Simulation No.	15-Year Climatic Data Interval
1	01/01/1980 to 12/31/1994
2	01/01/1981 to 12/31/1995
3	01/01/1982 to 12/31/1996
4	01/01/1983 to 12/31/1997
5	01/01/1984 to 12/31/1998
6	01/01/1985 to 12/31/1999
7	01/01/1986 to 12/31/2000
8	01/01/1987 to 12/31/2001
9	01/01/1988 to 12/31/2002
10	01/01/1989 to 12/31/2003
11	01/01/1990 to 12/31/2004
12	01/01/1991 to 12/31/2005
13	01/01/1992 to 12/31/2006
14	01/01/1993 to 12/31/2007
15	01/01/1994 to 12/31/1980
16	01/01/1995 to 12/31/1981
17	01/01/1996 to 12/31/1982
18	01/01/1997 to 12/31/1983
19	01/01/1998 to 12/31/1984
20	01/01/1999 to 12/31/1985
21	01/01/2000 to 12/31/1986
22	01/01/2001 to 12/31/1987
23	01/01/2002 to 12/31/1988
24	01/01/2003 to 12/31/1989
25	01/01/2004 to 12/31/1990
26	01/01/2005 to 12/31/1991
27	01/01/2006 to 12/31/1992
28	01/01/2007 to 12/31/1993

1.2.3 Model Results

Field Model Results

Based on the SPAW modeling, the irrigated area at the Dewey site would be 315 acres. Pumping at Dewey would occur for 24 hours every day from March 29 to May 10 at a rate of 297 gallons per minute (gpm); from May 11 to September 24 at a rate of 653 gpm; and from September 25 to October 31 at a rate of 297 gpm.

The irrigated area at the Burdock site would also be 315 acres. Pumping at Burdock would also occur for 24 hours on every day from March 29 to May 10 at a rate of 297 gpm; from May 11 to September 24 at a rate of 653 gpm; and from September 25 to October 31 at a rate of 297 gpm. The annual summaries of the SPAW field modeling results for the twenty-eight 15-year simulations at both the Dewey and Burdock sites are attached.

Pond Model Results

Based on the assumptions listed above (Section 1.2.2), the model results showed that the total irrigation storage pond volume having a 1-percent exceedance probability is 216 acre-feet at both the Dewey and Burdock sites. An additional 31 acre-feet of capacity was added to the ponds at each site, for a total pond capacity of 247 acre-feet. This additional capacity acts as contingency storage for days at the beginning of the irrigation season when weather conditions may limit pumping for land application. Four single-lined impoundments (ponds), each with dimensions of 465 feet x 465 x 30 feet deep and a capacity of 61.8 acre-feet, will be operational at any given time at both the Dewey and Burdock sites, providing a total capacity of 247.2 acre-feet at each site. This capacity includes the volume with a 1 percent exceedance probability, plus 3 feet of freeboard. A double-lined radium settling pond with leak detection will also be constructed at each site, with an operational storage of 39.2 acre-ft, which includes sufficient capacity for the settling of barium sulfate and radium, the total volume of which over the 15-year operating life is estimated to be 0.036 acre-feet. In addition, there will be a Central Processing Plant (CPP) pond at the Burdock site. The CPP pond will be 362 feet x 362 feet x 25 feet deep including 3 feet of freeboard, with a total capacity of 36.2 acre-feet.

The annual summaries of the SPAW pond modeling results for the twenty-eight 15-year simulations at the Burdock site are attached. The climatic conditions and pond inflow rates are the same for both sites, and therefore the SPAW pond modeling results are also the same.

Runoff Model Results

Runoff from irrigation return flows and from rainfall falling on the land application areas will be conveyed to collection areas at the edges of the land application areas and allowed to evaporate. The quantity of this runoff was calculated by the SPAW model and entered into a monthly water balance to determine the required volume of these collection areas. The following equation summarizes the monthly water balance:

$$S = RO + P - E - I$$

where:

S = storage required

RO = runoff from the 315-acre land application area due to irrigation and precipitation

P = precipitation falling directly on the runoff collection area

E = evaporation from the collection area

I = seepage from the collection area

The water balance was determined using a spreadsheet model that calculates the cumulative storage required at the end of each month during the 15-year operating life of the facility. Water balances for five potential 15-year operating periods were simulated for both the Dewey and Burdock sites, using five 15-year periods with the highest total annual precipitation amounts from the 28 years of available climatic data. The results showed that a 35-acre collection area at the Burdock site would have an average of 1.3 inches of standing water at month-end during each month of the 15-year operating life of the facility, and a maximum of 30.5 inches of standing water at month-end, which occurred during a single month over the 15 years. At the Dewey site, a 35-acre collection area would have an average of 0.13 inches of standing water at month-end during the 15-year operating life of the facility, and a maximum of 8.8 inches of standing water at month-end, which also occurred during a single month over 15 years. The difference in storage required at the two sites is due to the higher permeability of the soils at the Dewey site. The soil permeabilities used in the water balance were based on permeability values determined from laboratory testing of the soils from the on-site test pits.

1.3 References

Farnsworth, R.K. and Thompson, E.S., 1982. "*Evaporation Atlas for the Contiguous 48 United States. NOAA Technical Report NWS 33*", National Weather Service. Washington, DC.

Masch, F.D., 1986, Hydrology, "*Hydraulic Engineering Circular No. 19, FHWA-IP-84-15*", U.S. Department of Transportation, Federal Highway Administration.

Saxton, K.E. and P.H Willey, 2006, "*The SPAW Model for Agricultural Field and Pond Hydrologic Simulation*", Chapter 17 in <u>*Mathematical Modeling of Watershed Hydrology*</u>, V.P. Singh and D. Frevert, Editors; CRC Press, pp 401-435.

Saxton, K.E., 2006, "*SPAW (Soil-Plant-Air-Water) Field and Pond Hydrology Computer Model*", Version 6.02.75. U.S.D.A. Agricultural Research Service.

Withers, B. and S. Vipond, 1980, "<u>*Irrigation: Design and Practice*</u>", Ithaca, NY: Cornell University Press, 306 p.

Knight Piésold
CONSULTING

SPAW Model Results

Dewey Field

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 80-94\XD 80-94.spw
File Creation Date	: Jul 13, 2009 09:07:29
File Last Modified Date	: Jul 13, 2009 09:07:30
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 80-94
Simulation Start Date	: Jan 01, 1980
Simulation End Date	: Dec 31, 1994
Simulation Run Date	: Jul 13, 2009 09:07
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 80-94 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 80-94\XD 80-94.fld (Jul 13, 200900:00)
Climate	: Dewey Burdock 81-94 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\80-94.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8094 - Jan 01, 1980 to Dec 31, 1994 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\80-94.txt (Sep 15, 2008 00:00)
Air Temperature	: SD8094 - Jan 01, 1980 to Dec 31, 1994 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\80-94.txt (Sep 15, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1980	44.04	27.07	15.07	0.00	12.01	16.33	19.07	4.21	19.18	0.10	0.00	4.02	0.00	0.00
1981	44.00	27.29	15.98	0.00	11.31	13.46	19.07	4.21	17.01	0.48	0.00	0.55	0.00	0.00
1982	44.00	31.32	19.47	0.00	11.85	21.88	19.07	8.47	20.63	0.29	0.00	0.87	0.00	0.00
1983	44.00	29.19	17.40	0.00	11.78	16.16	19.07	5.30	18.15	0.15	0.00	0.59	0.00	0.00
1984	44.04	31.36	19.32	0.00	12.04	16.89	19.07	4.49	19.43	0.16	0.00	-0.05	0.00	0.00
1985	44.00	28.09	16.47	0.00	11.63	11.75	19.07	2.59	16.60	0.01	0.00	0.12	0.00	0.00
1986	44.00	33.26	21.34	0.00	11.93	23.59	19.07	8.67	22.07	0.09	0.00	0.64	0.00	0.00
1987	44.00	29.80	17.92	0.00	11.87	12.36	19.07	2.37	17.18	-0.01	0.00	-0.72	0.00	0.00
1988	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
1989	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00
1990	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00
1991	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.83	18.02	0.00	11.81	16.29	19.07	5.03	18.52	0.08	0.00	0.42	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 81-95\XD 81-95.spw
File Creation Date	: Jul 16, 2009 14:38:41
File Last Modified Date	: Jul 16, 2009 14:38:42
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 81-95
Simulation Start Date	: Jan 01, 1981
Simulation End Date	: Dec 31, 1995
Simulation Run Date	: Jul 16, 2009 14:38
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 81-95 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 81-95\XD 81-95.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 81-95 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\81-95.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8195 - Jan 01, 1981 to Dec 31, 1995 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\81-95.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8195 - Jan 01, 1981 to Dec 31, 1995 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\81-95.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1981	44.00	24.88	13.56	0.00	11.31	13.46	19.07	4.20	17.02	-0.04	0.00	3.50	0.00	0.00
1982	44.00	31.28	19.44	0.00	11.85	21.88	19.07	7.71	21.39	0.60	0.00	1.35	0.00	0.00
1983	44.00	28.91	17.13	0.00	11.78	16.16	19.07	5.30	18.15	0.25	0.00	0.77	0.00	0.00
1984	44.04	31.16	19.12	0.00	12.04	16.89	19.07	4.49	19.43	0.23	0.00	0.08	0.00	0.00
1985	44.00	27.95	16.33	0.00	11.63	11.75	19.07	2.59	16.60	0.06	0.00	0.22	0.00	0.00
1986	44.00	33.16	21.23	0.00	11.93	23.59	19.07	8.56	22.17	0.16	0.00	0.78	0.00	0.00
1987	44.00	29.73	17.86	0.00	11.87	12.36	19.07	2.37	17.18	0.00	0.00	-0.67	0.00	0.00
1988	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
1989	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00
1990	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00
1991	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.95	18.15	0.00	11.80	16.42	19.07	5.05	18.64	0.08	0.00	0.41	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

```
     File                   : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 82-96\XD 82-96.spw
     File Creation Date     : Jul 16, 2009 14:40:12
     File Last Modified Date : Jul 16, 2009 14:40:13
     Description            : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 82-96
     Simulation Start Date  : Jan 01, 1982
     Simulation End Date    : Dec 31, 1996
     Simulation Run Date    : Jul 16, 2009 14:40
     SPAW Interface Version : 6.02.75
     Field Model Version    : 6.02.71
     Soil Equations         : Saxton et al. 2005
```

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

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     Field                 : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 82-96
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 82-96\XD 82-96.fld (Jul 17, 200900:00)
     Climate               : Dewey Burdock 82-96 climatic data
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\82-96.clm (Sep 16, 2008 00:00)
        Evaporation Defaults: Dewey-Burdock Evap. Defaults
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
        Precipitation      : SD8296 - Jan 01, 1982 to Dec 31, 1996
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\82-96.txt (Sep 16, 2008 00:00)
        Air Temperature    : SD8296 - Jan 01, 1982 to Dec 31, 1996
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\82-96.txt (Sep 16, 2008 00:00)
     Management            : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
        Crop ( 1)          : Bare feedlot or fallow field
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
     Soil                  : Dewey TP1, TP2, TP5 Revised Soils Composite
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)
```

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1982	44.00	30.50	18.69	0.00	11.81	21.83	19.07	6.36	22.73	0.05	0.00	4.00	0.00	0.00
1983	44.00	28.39	16.61	0.00	11.78	16.16	19.07	5.25	18.20	0.51	0.00	1.09	0.00	0.00
1984	44.04	30.99	18.95	0.00	12.04	16.89	19.07	4.29	19.63	0.35	0.00	0.32	0.00	0.00
1985	44.00	27.82	16.19	0.00	11.63	11.75	19.07	2.57	16.62	0.11	0.00	0.32	0.00	0.00
1986	44.00	33.08	21.15	0.00	11.93	23.59	19.07	8.56	22.17	0.19	0.00	0.83	0.00	0.00
1987	44.00	29.61	17.74	0.00	11.87	12.36	19.07	2.37	17.18	0.04	0.00	-0.59	0.00	0.00
1988	44.04	28.14	16.33	0.00	11.81	13.79	19.07	4.63	16.41	0.02	0.00	0.06	0.00	0.00
1989	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.02	0.00	0.39	0.00	0.00
1990	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00
1991	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.24	18.42	0.00	11.83	16.70	19.07	4.99	18.95	0.09	0.00	0.45	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 83-97\XD 83-97.spw
File Creation Date	: Jul 16, 2009 14:41:29
File Last Modified Date	: Jul 16, 2009 14:42:28
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 83-97
Simulation Start Date	: Jan 01, 1983
Simulation End Date	: Dec 31, 1997
Simulation Run Date	: Jul 16, 2009 14:42
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 83-97 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 83-97\XD 83-97.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 83-97 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\83-97.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD6397 - Jan 01, 1983 to Dec 31, 1997 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\83-97.txt (Sep 16, 2008 00:00)
Air Temperature	: SD6397 - Jan 01, 1983 to Dec 31, 1997 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\83-97.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1983	44.00	26.69	14.99	0.00	11.70	16.08	19.07	4.45	19.00	-0.05	0.00	4.06	0.00	0.00
1984	44.04	30.62	18.58	0.00	12.04	16.89	19.07	4.08	19.84	0.62	0.00	0.63	0.00	0.00
1985	44.00	27.41	15.78	0.00	11.63	11.75	19.07	2.57	16.62	0.24	0.00	0.60	0.00	0.00
1986	44.00	32.89	20.97	0.00	11.93	23.59	19.07	8.55	22.19	0.25	0.00	0.98	0.00	0.00
1987	44.00	29.55	17.68	0.00	11.87	12.36	19.07	2.26	17.29	0.10	0.00	-0.48	0.00	0.00
1988	44.04	27.82	16.01	0.00	11.81	13.79	19.07	4.95	16.09	0.03	0.00	0.05	0.00	0.00
1989	44.00	29.30	17.45	0.00	11.85	15.58	19.07	4.75	18.06	0.09	0.00	0.52	0.00	0.00
1990	44.00	31.43	19.77	0.00	11.65	19.14	19.07	6.89	19.67	0.01	0.00	-0.11	0.00	0.00
1991	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.08	18.28	0.00	11.80	16.42	19.07	4.91	18.78	0.09	0.00	0.42	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 84-98\XD 84-98.spw
File Creation Date	: Jul 14, 2009 12:55:47
File Last Modified Date	: Jul 14, 2009 14:18:32
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 84-98
Simulation Start Date	: Jan 01, 1984
Simulation End Date	: Dec 31, 1998
Simulation Run Date	: Jul 14, 2009 14:18
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 84-98 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 84-98\XD 84-98.fld (Jul 15, 200900:00)
Climate	: Dewey Burdock 84-98 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\84-98.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8498 - Jan 01, 1984 to Dec 31, 1998 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\84-98.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8498 - Jan 01, 1984 to Dec 31, 1998 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\84-98.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1984	44.04	27.85	16.04	0.00	11.81	15.65	19.07	3.14	19.76	0.02	0.00	3.71	0.00	0.00
1985	44.00	26.78	15.15	0.00	11.63	11.75	19.07	2.57	16.62	0.51	0.00	0.96	0.00	0.00
1986	44.00	32.56	20.63	0.00	11.93	23.59	19.07	8.55	22.19	0.35	0.00	1.20	0.00	0.00
1987	44.00	29.24	17.37	0.00	11.87	12.36	19.07	2.37	17.18	0.16	0.00	-0.35	0.00	0.00
1988	44.04	27.79	15.99	0.00	11.81	13.79	19.07	4.63	16.41	0.14	0.00	0.29	0.00	0.00
1989	44.00	29.27	17.42	0.00	11.85	15.58	19.07	4.75	18.06	0.10	0.00	0.54	0.00	0.00
1990	44.00	31.42	19.77	0.00	11.65	19.14	19.07	6.89	19.67	0.01	0.00	-0.11	0.00	0.00
1991	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.23	18.43	0.00	11.80	16.88	19.07	5.21	18.94	0.08	0.00	0.42	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 85-99\XD 85-99.spw
File Creation Date	: Jul 14, 2009 12:58:49
File Last Modified Date	: Jul 14, 2009 14:17:28
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 85-99
Simulation Start Date	: Jan 01, 1985
Simulation End Date	: Dec 31, 1999
Simulation Run Date	: Jul 14, 2009 14:17
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 85-99 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 85-99\XD 85-99.fld (Jul 15, 200900:00)
Climate	: Dewey Burdock 85-99 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\85-99.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8599 - Jan 01, 1985 to Dec 31, 1999 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\85-99.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8599 - Jan 01, 1985 to Dec 31, 1999 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\85-99.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1985	44.00	24.76	13.13	0.00	11.63	11.75	19.07	2.57	16.62	-0.05	0.00	3.54	0.00	0.00
1986	44.00	31.84	19.91	0.00	11.93	23.59	19.07	8.51	22.22	0.61	0.00	1.70	0.00	0.00
1987	44.00	29.00	17.12	0.00	11.87	12.36	19.07	2.20	17.36	0.30	0.00	-0.07	0.00	0.00
1988	44.04	27.64	15.83	0.00	11.81	13.79	19.07	4.63	16.41	0.19	0.00	0.39	0.00	0.00
1989	44.00	29.09	17.24	0.00	11.85	15.58	19.07	4.75	18.06	0.16	0.00	0.66	0.00	0.00
1990	44.00	31.32	19.67	0.00	11.65	19.14	19.07	6.81	19.75	0.06	0.00	0.02	0.00	0.00
1991	44.00	29.23	17.31	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.17	18.36	0.00	11.81	16.98	19.07	5.42	18.82	0.08	0.00	0.38	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 86-00\XD 86-00.spw
File Creation Date	: Jul 14, 2009 14:16:54
File Last Modified Date	: Jul 14, 2009 14:16:55
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 86-00
Simulation Start Date	: Jan 01, 1986
Simulation End Date	: Dec 31, 2000
Simulation Run Date	: Jul 14, 2009 14:16
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 86-00 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 86-00\XD 86-00.fld (Jul 15, 200900:00)
Climate	: Dewey Burdock 86-00 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\86-00.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8600 - Jan 01, 1986 to Dec 31, 2000 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\86-00.txt (Feb 13, 2009 00:00)
Air Temperature	: SD8600 - Jan 01, 1986 to Dec 31, 2000 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\86-00.txt (Feb 13, 2009 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1986	44.00	28.79	17.04	0.00	11.76	22.03	19.07	7.94	21.40	0.05	0.00	4.32	0.00	0.00
1987	44.00	28.36	16.48	0.00	11.87	12.36	19.07	2.20	17.36	0.56	0.00	0.32	0.00	0.00
1988	44.04	27.40	15.59	0.00	11.81	13.79	19.07	4.63	16.41	0.27	0.00	0.55	0.00	0.00
1989	44.00	28.91	17.06	0.00	11.85	15.58	19.07	4.75	18.06	0.21	0.00	0.79	0.00	0.00
1990	44.00	30.99	19.33	0.00	11.65	19.14	19.07	6.80	19.76	0.18	0.00	0.24	0.00	0.00
1991	44.00	29.21	17.29	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.37	0.00	0.00
1992	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.17	18.34	0.00	11.83	17.06	19.07	5.47	18.83	0.08	0.00	0.41	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

```
SIMULATION BY:
     John Dwyer
     Project Engineer
     Knight Piesold

SIMULATION FOR:
     File                    : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 87-01\XD 87-01.spw
     File Creation Date      : Jul 17, 2009 08:50:43
     File Last Modified Date : Jul 17, 2009 08:50:43
     Description             : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 87-01
     Simulation Start Date   : Jan 01, 1987
     Simulation End Date     : Dec 31, 2001
     Simulation Run Date     : Jul 17, 2009 08:50
     SPAW Interface Version  : 6.02.75
     Field Model Version     : 6.02.71
     Soil Equations          : Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)
     Field                   : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 87-01
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 87-01\XD 87-01.fld (Jul 17, 200900:00)
     Climate                 : Dewey Burdock 87-01climatic data
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\87-01.clm (Sep 16, 2008 00:00)
        Evaporation Defaults: Dewey-Burdock Evap. Defaults
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
        Precipitation        : SD8701 - Jan 01, 1987 to Dec 31, 2001
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\87-01.txt (Sep 16, 2008 00:00)
        Air Temperature      : SD8701 - Jan 01, 1987 to Dec 31, 2001
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\87-01.txt (Sep 16, 2008 00:00)
     Management              : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
        Crop (  1)           : Bare feedlot or fallow field
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
     Soil                    : Dewey TP1, TP2, TP5 Revised Soils Composite
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS:          9
THICKNESS OF SOIL LAYERS: (IN)  1.00   5.00  11.00  11.00   4.00  12.00  24.00   4.00  23.00
```

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1987	44.00	25.64	13.77	0.00	11.87	12.36	19.07	2.13	17.43	0.05	0.00	3.61	0.00	0.00
1988	44.04	26.87	15.06	0.00	11.81	13.79	19.07	4.63	16.41	0.49	0.00	0.86	0.00	0.00
1989	44.00	28.54	16.69	0.00	11.85	15.58	19.07	4.75	18.06	0.32	0.00	1.04	0.00	0.00
1990	44.00	30.71	19.06	0.00	11.65	19.14	19.07	6.79	19.76	0.28	0.00	0.43	0.00	0.00
1991	44.00	28.82	16.90	0.00	11.92	15.03	19.07	4.53	17.65	0.13	0.00	0.62	0.00	0.00
1992	44.04	29.25	17.62	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.43	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.97	18.14	0.00	11.83	16.80	19.07	5.39	18.65	0.08	0.00	0.42	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 88-02\XD 88-02.spw
File Creation Date	: Jul 14, 2009 13:01:22
File Last Modified Date	: Jul 14, 2009 14:18:57
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 88-02
Simulation Start Date	: Jan 01, 1988
Simulation End Date	: Dec 31, 2002
Simulation Run Date	: Jul 14, 2009 14:18
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 88-02 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 88-02\XD 88-02.fld (Jul 15, 200900:00)
Climate	: Dewey Burdock 88-02 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\88-02.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8802 - Jan 01, 1988 to Dec 31, 2002 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\88-02.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8802 - Jan 01, 1988 to Dec 31, 2002 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\88-02.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1988	44.04	24.73	12.93	0.00	11.80	13.40	19.07	4.32	16.34	-0.02	0.00	3.43	0.00	0.00
1989	44.00	28.16	16.31	0.00	11.85	15.58	19.07	4.51	18.30	0.56	0.00	1.43	0.00	0.00
1990	44.00	30.50	18.84	0.00	11.65	19.14	19.07	6.67	19.88	0.39	0.00	0.65	0.00	0.00
1991	44.00	28.46	16.54	0.00	11.92	15.03	19.07	4.53	17.65	0.26	0.00	0.85	0.00	0.00
1992	44.04	29.18	17.55	0.00	11.63	14.08	19.07	4.12	17.40	0.07	0.00	-0.23	0.00	0.00
1993	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00
1994	44.00	29.31	17.39	0.00	11.92	12.01	19.07	2.20	16.96	-0.01	0.00	-0.43	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.02	18.21	0.00	11.81	16.82	19.07	5.40	18.69	0.08	0.00	0.39	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 89-03\XD 89-03.spw
File Creation Date : Jul 14, 2009 13:00:04
File Last Modified Date : Jul 14, 2009 14:18:01
Description : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 89-03
Simulation Start Date : Jan 01, 1989
Simulation End Date : Dec 31, 2003
Simulation Run Date : Jul 14, 2009 14:18
SPAW Interface Version : 6.02.75
Field Model Version : 6.02.71
Soil Equations : Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 89-03
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 89-03\XD 89-03.fld (Jul 15, 200900:00)
Climate : Dewey Burdock 89-03 climatic data
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\89-03.clm (Sep 16, 2008 00:00)
Evaporation Defaults: Dewey-Burdock Evap. Defaults
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation : SD8903 - Jan 01, 1989 to Dec 31, 2003
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\89-03.txt (Sep 16, 2008 00:00)
Air Temperature : SD8903 - Jan 01, 1989 to Dec 31, 2003
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\89-03.txt (Sep 16, 2008 00:00)
Management : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1) : Bare feedlot or fallow field
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil : Dewey TP1, TP2, TP5 Revised Soils Composite
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1989	44.00	26.43	14.63	0.00	11.80	15.49	19.07	4.24	18.52	-0.01	0.00	3.90	0.00	0.00
1990	44.00	30.06	18.41	0.00	11.65	19.14	19.07	6.67	19.88	0.58	0.00	0.89	0.00	0.00
1991	44.00	28.22	16.31	0.00	11.92	15.03	19.07	4.53	17.65	0.35	0.00	1.00	0.00	0.00
1992	44.04	28.86	17.22	0.00	11.63	14.08	19.07	4.31	17.21	0.11	0.00	-0.13	0.00	0.00
1993	44.00	32.46	20.47	0.00	11.99	22.31	19.07	7.48	21.91	0.23	0.00	1.21	0.00	0.00
1994	44.00	29.28	17.37	0.00	11.92	12.01	19.07	2.20	16.96	0.00	0.00	-0.40	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.13	18.32	0.00	11.82	16.90	19.07	5.34	18.82	0.08	0.00	0.42	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

```
     File                   : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 90-04\XD 90-04.spw
     File Creation Date     : Jul 13, 2009 08:42:33
     File Last Modified Date : Jul 13, 2009 08:42:34
     Description            : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 90-04
     Simulation Start Date  : Jan 01, 1990
     Simulation End Date    : Dec 31, 2004
     Simulation Run Date    : Jul 13, 2009 08:42
     SPAW Interface Version : 6.02.75
     Field Model Version    : 6.02.71
     Soil Equations         : Saxton et al. 2005
```

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

```
     Field                  : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 90-04
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 90-04\XD 90-04.fld (Jul 13, 200900:00)
     Climate                : Dewey Burdock 90-04 climatic data
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\90-04.clm (Sep 16, 2008 00:00)
        Evaporation Defaults: Dewey-Burdock Evap. Defaults
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
        Precipitation       : SD9004 - Jan 01, 1990 to Dec 31, 2004
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\90-04.txt (Sep 16, 2008 00:00)
        Air Temperature     : SD9004 - Jan 01, 1990 to Dec 31, 2004
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\90-04.txt (Sep 16, 2008 00:00)
     Management             : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
        Crop ( 1)           : Bare feedlot or fallow field
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
     Soil                   : Dewey TP1, TP2, TP5 Revised Soils Composite
                              G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)
```

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1990	44.00	28.51	16.89	0.00	11.62	19.11	19.07	5.73	20.82	0.04	0.00	3.89	0.00	0.00
1991	44.00	27.91	15.99	0.00	11.92	15.03	19.07	4.39	17.79	0.57	0.00	1.23	0.00	0.00
1992	44.04	28.56	16.93	0.00	11.63	14.08	19.07	4.18	17.34	0.25	0.00	0.16	0.00	0.00
1993	44.00	32.25	20.26	0.00	11.99	22.31	19.07	7.19	22.21	0.39	0.00	1.55	0.00	0.00
1994	44.00	29.24	17.33	0.00	11.92	12.01	19.07	2.20	16.96	0.01	0.00	-0.38	0.00	0.00
1995	44.00	32.03	20.22	0.00	11.81	18.32	19.07	5.49	20.10	0.00	0.00	-0.13	0.00	0.00
1996	44.04	31.28	19.54	0.00	11.74	17.60	19.07	4.90	20.02	0.00	0.00	0.48	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.16	18.36	0.00	11.80	16.84	19.07	5.11	19.00	0.08	0.00	0.56	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 91-05\XD 91-05.spw
File Creation Date	: Jul 16, 2009 14:43:40
File Last Modified Date	: Jul 16, 2009 14:43:41
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 91-05
Simulation Start Date	: Jan 01, 1991
Simulation End Date	: Dec 31, 2005
Simulation Run Date	: Jul 16, 2009 14:43
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 91-05 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 91-05\XD 91-05.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 91-05 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\91-05.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9105 - Jan 01, 1991 to Dec 31, 2005 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\91-05.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9105 - Jan 01, 1991 to Dec 31, 2005 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\91-05.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1991	44.00	26.48	14.60	0.00	11.88	14.99	19.07	3.53	18.65	0.03	0.00	4.03	0.00	0.00
1992	44.04	28.13	16.50	0.00	11.63	14.08	19.07	3.89	17.63	0.53	0.00	0.60	0.00	0.00
1993	44.00	32.12	20.13	0.00	11.99	22.31	19.07	7.04	22.35	0.48	0.00	1.74	0.00	0.00
1994	44.00	28.96	17.05	0.00	11.92	12.01	19.07	2.20	16.96	0.10	0.00	-0.19	0.00	0.00
1995	44.00	31.71	19.91	0.00	11.81	18.32	19.07	5.40	20.18	0.13	0.00	0.14	0.00	0.00
1996	44.04	31.25	19.50	0.00	11.74	17.60	19.07	4.93	19.99	0.00	0.00	0.49	0.00	0.00
1997	44.00	31.29	19.75	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.43	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.28	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00
2005	44.00	30.38	18.72	0.00	11.66	20.16	19.07	9.07	18.50	-0.01	0.00	-0.21	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.11	18.31	0.00	11.80	16.90	19.07	5.24	18.94	0.08	0.00	0.54	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 92-06\XD 92-06.spw
File Creation Date	: Jul 16, 2009 14:44:49
File Last Modified Date	: Jul 16, 2009 14:44:50
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 92-06
Simulation Start Date	: Jan 01, 1992
Simulation End Date	: Dec 31, 2006
Simulation Run Date	: Jul 16, 2009 14:44
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 92-06 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 92-06\XD 92-06.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 92-06 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\92-06.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9206 - Jan 01, 1992 to Dec 31, 2006 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\92-06.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9206 - Jan 01, 1992 to Dec 31, 2006 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\92-06.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1992	44.04	26.54	14.91	0.00	11.63	14.08	19.07	3.00	18.52	-0.01	0.00	3.62	0.00	0.00
1993	44.00	31.86	19.87	0.00	11.99	22.31	19.07	6.81	22.59	0.69	0.00	2.02	0.00	0.00
1994	44.00	28.63	16.71	0.00	11.92	12.01	19.07	2.04	17.12	0.26	0.00	0.15	0.00	0.00
1995	44.00	31.50	19.69	0.00	11.81	18.32	19.07	5.42	20.16	0.20	0.00	0.27	0.00	0.00
1996	44.04	30.91	19.17	0.00	11.74	17.60	19.07	4.90	20.03	0.13	0.00	0.72	0.00	0.00
1997	44.00	31.26	19.72	0.00	11.54	17.73	19.07	5.93	19.32	0.00	0.00	-0.40	0.00	0.00
1998	44.00	33.11	21.15	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.07	0.00	0.00
1999	44.00	30.29	18.37	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.37	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00
2005	44.00	30.38	18.72	0.00	11.66	20.16	19.07	9.07	18.50	-0.01	0.00	-0.21	0.00	0.00
2006	44.00	28.22	16.43	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.25	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.04	18.24	0.00	11.79	16.79	19.07	5.17	18.89	0.08	0.00	0.56	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 93-07\XD 93-07.spw
File Creation Date	: Jul 16, 2009 14:45:52
File Last Modified Date	: Jul 16, 2009 14:45:53
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 93-07
Simulation Start Date	: Jan 01, 1993
Simulation End Date	: Dec 31, 2007
Simulation Run Date	: Jul 16, 2009 14:45
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 93-07 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 93-07\XD 93-07.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 93-07 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\93-07.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9307 - Jan 01, 1993 to Dec 31, 2007 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\93-07.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9307 - Jan 01, 1993 to Dec 31, 2007 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\93-07.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1993	44.00	29.76	17.81	0.00	11.95	21.44	19.07	6.14	22.43	0.08	0.00	4.53	0.00	0.00
1994	44.00	27.95	16.03	0.00	11.92	12.01	19.07	2.04	17.12	0.53	0.00	0.56	0.00	0.00
1995	44.00	31.24	19.44	0.00	11.81	18.32	19.07	5.27	20.31	0.33	0.00	0.55	0.00	0.00
1996	44.04	30.72	18.98	0.00	11.74	17.60	19.07	4.90	20.03	0.20	0.00	0.85	0.00	0.00
1997	44.00	30.86	19.31	0.00	11.54	17.73	19.07	5.93	19.32	0.14	0.00	-0.13	0.00	0.00
1998	44.00	33.08	21.12	0.00	11.96	24.28	19.07	10.17	21.22	0.00	0.00	0.10	0.00	0.00
1999	44.00	30.23	18.32	0.00	11.91	17.17	19.07	6.59	17.73	-0.01	0.00	-0.57	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.38	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00
2005	44.00	30.38	18.72	0.00	11.66	20.16	19.07	9.07	18.50	-0.01	0.00	-0.21	0.00	0.00
2006	44.00	28.22	16.43	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.93	18.15	0.00	11.78	16.82	19.07	5.26	18.84	0.08	0.00	0.61	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 94-80\XD 94-80.spw
File Creation Date	: Jul 16, 2009 14:46:57
File Last Modified Date	: Jul 16, 2009 14:46:58
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 94-80
Simulation Start Date	: Jan 01, 1994
Simulation End Date	: Dec 31, 2008
Simulation Run Date	: Jul 16, 2009 14:46
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 94-80 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 94-80\XD 94-80.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 94-80 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\94-80.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9480 - Jan 01, 1994 to Dec 31, 2008 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\94-80.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9480 - Jan 01, 1994 to Dec 31, 2008 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\94-80.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1994	44.00	25.16	13.24	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	3.91	0.00	0.00
1995	44.00	30.81	19.01	0.00	11.81	18.32	19.07	4.95	20.63	0.61	0.00	1.02	0.00	0.00
1996	44.04	30.47	18.73	0.00	11.74	17.60	19.07	4.90	20.03	0.29	0.00	1.00	0.00	0.00
1997	44.00	30.51	18.96	0.00	11.54	17.73	19.07	5.69	19.56	0.34	0.00	0.26	0.00	0.00
1998	44.00	33.07	21.12	0.00	11.96	24.28	19.07	9.94	21.45	0.07	0.00	0.26	0.00	0.00
1999	44.00	30.24	18.32	0.00	11.91	17.17	19.07	6.59	17.73	-0.02	0.00	-0.58	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.38	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00
2005	44.00	30.38	18.72	0.00	11.66	20.16	19.07	9.07	18.50	-0.01	0.00	-0.21	0.00	0.00
2006	44.00	28.22	16.43	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.28	19.19	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.28	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	29.77	17.98	0.00	11.79	16.43	19.07	5.08	18.64	0.08	0.00	0.57	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 95-81\XD 95-81.spw
File Creation Date : Jul 16, 2009 14:49:05
File Last Modified Date : Jul 16, 2009 14:49:05
Description : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 95-81
Simulation Start Date : Jan 01, 1995
Simulation End Date : Dec 31, 2009
Simulation Run Date : Jul 16, 2009 14:49
SPAW Interface Version : 6.02.75
Field Model Version : 6.02.71
Soil Equations : Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field : Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 95-81
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 95-81\XD 95-81.fld (Jul 17, 200900:00)
Climate : Dewey Burdock 95-81 climatic data
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\95-81.clm (Sep 16, 2008 00:00)
Evaporation Defaults: Dewey-Burdock Evap. Defaults
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation : SD9581 - Jan 01, 1995 to Dec 31, 2009
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\95-81.txt (Sep 16, 2008 00:00)
Air Temperature : SD9581 - Jan 01, 1995 to Dec 31, 2009
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\95-81.txt (Sep 16, 2008 00:00)
Management : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1) : Bare feedlot or fallow field
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil : Dewey TP1, TP2, TP5 Revised Soils Composite
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1995	44.00	29.26	17.48	0.00	11.79	18.14	19.07	3.87	21.56	0.04	0.00	4.04	0.00	0.00
1996	44.04	30.07	18.33	0.00	11.74	17.60	19.07	4.76	20.17	0.54	0.00	1.30	0.00	0.00
1997	44.00	30.27	18.72	0.00	11.54	17.73	19.07	5.68	19.58	0.42	0.00	0.43	0.00	0.00
1998	44.00	32.79	20.83	0.00	11.96	24.28	19.07	9.62	21.77	0.27	0.00	0.67	0.00	0.00
1999	44.00	30.27	18.35	0.00	11.91	17.17	19.07	6.54	17.78	-0.01	0.00	-0.56	0.00	0.00
2000	44.04	29.27	17.19	0.00	12.07	14.51	19.07	3.97	17.53	-0.04	0.00	0.38	0.00	0.00
2001	44.00	30.09	18.34	0.00	11.75	18.10	19.07	6.79	18.63	0.04	0.00	0.25	0.00	0.00
2002	44.00	29.59	17.96	0.00	11.63	13.11	19.07	3.07	17.48	0.00	0.00	-0.49	0.00	0.00
2003	44.00	29.55	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00
2005	44.00	30.38	18.72	0.00	11.66	20.16	19.07	9.07	18.50	-0.01	0.00	-0.21	0.00	0.00
2006	44.00	28.22	16.43	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.28	19.19	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.28	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.82	18.07	0.00	11.74	16.52	19.07	5.14	18.70	0.08	0.00	0.54	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 96-82\XD 96-82.spw
File Creation Date	: Jul 16, 2009 14:51:25
File Last Modified Date	: Jul 16, 2009 14:51:25
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 96-82
Simulation Start Date	: Jan 01, 1996
Simulation End Date	: Dec 31, 2010
Simulation Run Date	: Jul 16, 2009 14:51
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 96-82 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 96-82\XD 96-82.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 96-82 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\96-82.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9682 - Jan 01, 1996 to Dec 31, 2010 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\96-82.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9682 - Jan 01, 1996 to Dec 31, 2010 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\96-82.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1996	44.04	28.13	16.39	0.00	11.74	17.60	19.07	4.09	20.83	0.04	0.00	4.40	0.00	0.00
1997	44.00	29.89	18.34	0.00	11.54	17.73	19.07	5.62	19.64	0.63	0.00	0.66	0.00	0.00
1998	44.00	32.50	20.55	0.00	11.96	24.28	19.07	9.52	21.87	0.38	0.00	0.94	0.00	0.00
1999	44.00	30.13	18.21	0.00	11.91	17.17	19.07	6.37	17.96	0.10	0.00	-0.35	0.00	0.00
2000	44.04	29.16	17.08	0.00	12.07	14.51	19.07	3.97	17.53	0.00	0.00	0.45	0.00	0.00
2001	44.00	29.90	18.15	0.00	11.75	18.10	19.07	6.79	18.63	0.11	0.00	0.38	0.00	0.00
2002	44.00	29.57	17.94	0.00	11.63	13.11	19.07	3.07	17.48	0.01	0.00	-0.47	0.00	0.00
2003	44.00	29.54	17.64	0.00	11.91	14.69	19.07	3.80	18.06	0.00	0.00	0.42	0.00	0.00
2004	44.04	29.17	17.73	0.00	11.44	12.18	19.07	2.26	17.55	0.00	0.00	-0.19	0.00	0.00
2005	44.00	30.38	18.72	0.00	11.66	20.16	19.07	9.07	18.50	-0.01	0.00	-0.21	0.00	0.00
2006	44.00	28.18	16.40	0.00	11.79	13.22	19.07	3.87	16.64	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.28	19.20	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.28	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.80	18.06	0.00	11.75	16.77	19.07	5.38	18.71	0.08	0.00	0.57	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 97-83\XD 97-83.spw
File Creation Date	: Jul 16, 2009 14:52:45
File Last Modified Date	: Jul 16, 2009 14:52:46
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 97-83
Simulation Start Date	: Jan 01, 1997
Simulation End Date	: Dec 31, 2011
Simulation Run Date	: Jul 16, 2009 14:52
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 97-83 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 97-83\XD 97-83.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 97-83 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\97-83.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9783 - Jan 01, 1997 to Dec 31, 2011 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\97-83.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9783 - Jan 01, 1997 to Dec 31, 2011 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\97-83.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCOMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1997	44.00	27.98	16.44	0.00	11.54	17.73	19.07	4.75	20.50	0.08	0.00	3.98	0.00	0.00
1998	44.00	32.12	20.16	0.00	11.96	24.28	19.07	9.18	22.22	0.66	0.00	1.40	0.00	0.00
1999	44.00	29.69	17.78	0.00	11.91	17.17	19.07	6.54	17.78	0.19	0.00	-0.19	0.00	0.00
2000	44.04	28.91	16.83	0.00	12.07	14.51	19.07	3.97	17.53	0.08	0.00	0.62	0.00	0.00
2001	44.00	29.77	18.02	0.00	11.75	18.10	19.07	6.79	18.63	0.14	0.00	0.47	0.00	0.00
2002	44.00	29.42	17.79	0.00	11.63	13.11	19.07	3.07	17.48	0.06	0.00	-0.38	0.00	0.00
2003	44.00	29.47	17.56	0.00	11.91	14.69	19.07	3.80	18.06	0.02	0.00	0.47	0.00	0.00
2004	44.04	29.10	17.66	0.00	11.44	12.18	19.07	2.26	17.55	0.02	0.00	-0.13	0.00	0.00
2005	44.00	30.36	18.70	0.00	11.66	20.16	19.07	9.07	18.50	0.00	0.00	-0.20	0.00	0.00
2006	44.00	28.18	16.40	0.00	11.79	13.22	19.07	3.87	16.64	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.28	19.19	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.28	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	29.68	17.93	0.00	11.75	16.74	19.07	5.39	18.66	0.08	0.00	0.65	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 98-84\XD 98-84.spw
File Creation Date	: Jul 16, 2009 14:54:37
File Last Modified Date	: Jul 16, 2009 14:54:38
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 98-84
Simulation Start Date	: Jan 01, 1998
Simulation End Date	: Dec 31, 2012
Simulation Run Date	: Jul 16, 2009 14:54
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 98-84 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 98-84\XD 98-84.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 98-84 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\98-84.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9884 - Jan 01, 1998 to Dec 31, 2012 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\98-84.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9884 - Jan 01, 1998 to Dec 31, 2012 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\98-84.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1998	44.00	30.67	18.71	0.00	11.96	24.28	19.07	8.41	22.98	0.06	0.00	4.21	0.00	0.00
1999	44.00	29.36	17.44	0.00	11.91	17.17	19.07	6.00	18.33	0.56	0.00	0.33	0.00	0.00
2000	44.04	28.64	16.57	0.00	12.07	14.51	19.07	3.84	17.67	0.22	0.00	0.88	0.00	0.00
2001	44.00	29.59	17.84	0.00	11.75	18.10	19.07	6.79	18.63	0.20	0.00	0.59	0.00	0.00
2002	44.00	29.29	17.66	0.00	11.63	13.11	19.07	3.07	17.48	0.10	0.00	-0.29	0.00	0.00
2003	44.00	29.40	17.50	0.00	11.91	14.69	19.07	3.80	18.06	0.05	0.00	0.52	0.00	0.00
2004	44.04	28.99	17.55	0.00	11.44	12.18	19.07	2.26	17.55	0.06	0.00	-0.06	0.00	0.00
2005	44.00	30.28	18.62	0.00	11.66	20.16	19.07	9.07	18.50	0.02	0.00	-0.14	0.00	0.00
2006	44.00	28.21	16.43	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.28	19.19	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.28	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.75	17.97	0.00	11.78	16.61	19.07	5.29	18.61	0.08	0.00	0.55	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 99-85\XD 99-85.spw
File Creation Date	: Jul 16, 2009 14:55:48
File Last Modified Date	: Jul 16, 2009 14:55:49
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 99-85
Simulation Start Date	: Jan 01, 1999
Simulation End Date	: Dec 31, 2013
Simulation Run Date	: Jul 16, 2009 14:55
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 99-85 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 99-85\XD 99-85.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 99-85 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\99-85.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9985 - Jan 01, 1999 to Dec 31, 2013 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\99-85.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9985 - Jan 01, 1999 to Dec 31, 2013 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\99-85.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1999	44.00	27.31	15.40	0.00	11.91	17.17	19.07	5.43	18.90	0.02	0.00	3.47	0.00	0.00
2000	44.04	27.93	15.86	0.00	12.07	14.51	19.07	3.84	17.67	0.51	0.00	1.30	0.00	0.00
2001	44.00	29.44	17.69	0.00	11.75	18.10	19.07	6.40	19.03	0.37	0.00	0.96	0.00	0.00
2002	44.00	29.15	17.52	0.00	11.63	13.11	19.07	3.07	17.48	0.15	0.00	-0.19	0.00	0.00
2003	44.00	29.35	17.44	0.00	11.91	14.69	19.07	3.80	18.06	0.06	0.00	0.55	0.00	0.00
2004	44.04	28.93	17.49	0.00	11.44	12.18	19.07	2.26	17.55	0.08	0.00	-0.02	0.00	0.00
2005	44.00	30.15	18.49	0.00	11.66	20.16	19.07	9.05	18.51	0.07	0.00	-0.05	0.00	0.00
2006	44.00	28.21	16.43	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.25	0.00	0.00
2007	44.00	28.57	17.12	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.28	19.19	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.28	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.37	17.61	0.00	11.76	15.78	19.07	4.84	18.25	0.08	0.00	0.56	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 00-86\XD 00-86.spw
File Creation Date	: Jul 16, 2009 14:57:19
File Last Modified Date	: Jul 16, 2009 14:57:19
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 00-86
Simulation Start Date	: Jan 01, 2000
Simulation End Date	: Dec 31, 2014
Simulation Run Date	: Jul 16, 2009 14:57
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 00-86 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 00-86\XD 00-86.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 00-86 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\00-86.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0086 - Jan 01, 2000 to Dec 31, 2014 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\00-86.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0086 - Jan 01, 2000 to Dec 31, 2014 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\00-86.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
2000	44.04	25.91	13.83	0.00	12.07	14.51	19.07	3.82	17.69	0.03	0.00	3.82	0.00	0.00
2001	44.00	28.95	17.21	0.00	11.75	18.10	19.07	6.49	18.94	0.53	0.00	1.20	0.00	0.00
2002	44.00	28.76	17.13	0.00	11.63	13.11	19.07	3.07	17.48	0.28	0.00	0.07	0.00	0.00
2003	44.00	29.13	17.23	0.00	11.91	14.69	19.07	3.80	18.06	0.13	0.00	0.69	0.00	0.00
2004	44.04	28.79	17.35	0.00	11.44	12.18	19.07	2.26	17.55	0.12	0.00	0.07	0.00	0.00
2005	44.00	29.87	18.21	0.00	11.66	20.16	19.07	9.05	18.51	0.16	0.00	0.14	0.00	0.00
2006	44.00	28.20	16.42	0.00	11.79	13.22	19.07	3.84	16.67	-0.01	0.00	0.26	0.00	0.00
2007	44.00	28.56	17.11	0.00	11.45	14.33	19.07	5.06	16.89	-0.02	0.00	-0.21	0.00	0.00
2008	44.04	31.27	19.18	0.00	12.08	16.74	19.07	4.21	19.51	0.04	0.00	0.29	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	29.53	17.77	0.00	11.76	16.21	19.07	5.06	18.45	0.08	0.00	0.60	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 01-87\XD 01-87.spw
File Creation Date	: Jul 16, 2009 14:58:26
File Last Modified Date	: Jul 16, 2009 14:58:27
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 01-87
Simulation Start Date	: Jan 01, 2001
Simulation End Date	: Dec 31, 2015
Simulation Run Date	: Jul 16, 2009 14:58
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 01-87 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 01-87\XD 01-87.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 01-87 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\01-87.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0187 - Jan 01, 2001 to Dec 31, 2015 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\01-87.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0187 - Jan 01, 2001 to Dec 31, 2015 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\01-87.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2001	44.00	27.22	15.48	0.00	11.75	18.10	19.07	5.86	19.57	0.02	0.00	4.07	0.00	0.00
2002	44.00	28.26	16.62	0.00	11.63	13.11	19.07	2.87	17.68	0.56	0.00	0.50	0.00	0.00
2003	44.00	29.02	17.11	0.00	11.91	14.69	19.07	3.56	18.30	0.26	0.00	0.92	0.00	0.00
2004	44.04	28.77	17.33	0.00	11.44	12.18	19.07	2.09	17.71	0.18	0.00	0.21	0.00	0.00
2005	44.00	29.80	18.14	0.00	11.66	20.16	19.07	9.05	18.51	0.19	0.00	0.19	0.00	0.00
2006	44.00	28.00	16.21	0.00	11.79	13.22	19.07	4.00	16.51	0.01	0.00	0.29	0.00	0.00
2007	44.00	28.67	17.22	0.00	11.45	14.33	19.07	4.76	17.19	0.04	0.00	-0.07	0.00	0.00
2008	44.04	31.32	19.24	0.00	12.08	16.74	19.07	4.21	19.51	0.02	0.00	0.25	0.00	0.00
2009	44.00	28.29	16.98	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.37	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00
2015	44.00	29.83	17.96	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.76	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.63	17.88	0.00	11.75	16.13	19.07	4.87	18.58	0.08	0.00	0.61	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 02-88\XD 02-88.spw
File Creation Date	: Jul 14, 2009 14:22:30
File Last Modified Date	: Jul 14, 2009 14:22:31
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 02-88
Simulation Start Date	: Jan 01, 2002
Simulation End Date	: Dec 31, 2016
Simulation Run Date	: Jul 14, 2009 14:22
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 02-88 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 02-88\XD 02-88.fld (Jul 15, 200900:00)
Climate	: Dewey Burdock 02-88 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\02-88.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0288 - Jan 01, 2002 to Dec 31, 2016 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\02-88.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0288 - Jan 01, 2002 to Dec 31, 2016 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\02-88.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2002	44.00	26.11	14.47	0.00	11.63	13.11	19.07	2.65	17.89	-0.04	0.00	3.46	0.00	0.00
2003	44.00	28.44	16.54	0.00	11.91	14.69	19.07	3.45	18.41	0.55	0.00	1.33	0.00	0.00
2004	44.04	28.39	16.95	0.00	11.44	12.18	19.07	2.09	17.71	0.30	0.00	0.47	0.00	0.00
2005	44.00	29.61	17.95	0.00	11.66	20.16	19.07	9.05	18.51	0.25	0.00	0.32	0.00	0.00
2006	44.00	28.01	16.22	0.00	11.79	13.22	19.07	3.87	16.64	0.04	0.00	0.37	0.00	0.00
2007	44.00	28.40	16.95	0.00	11.45	14.33	19.07	5.06	16.89	0.03	0.00	-0.09	0.00	0.00
2008	44.04	30.98	18.90	0.00	12.08	16.74	19.07	4.19	19.54	0.14	0.00	0.50	0.00	0.00
2009	44.00	28.28	16.97	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.36	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00
2015	44.00	29.83	17.96	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.76	0.00	0.00
2016	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.43	17.68	0.00	11.75	15.78	19.07	4.78	18.31	0.08	0.00	0.55	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 03-89\XD 03-89.spw
File Creation Date	: Jul 16, 2009 15:02:02
File Last Modified Date	: Jul 16, 2009 15:02:03
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 03-89
Simulation Start Date	: Jan 01, 2003
Simulation End Date	: Dec 31, 2017
Simulation Run Date	: Jul 16, 2009 15:02
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 03-89 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 03-89\XD 03-89.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 03-89 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\03-89.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0289 - Jan 01, 2003 to Dec 31, 2017 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\03-89.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0289 - Jan 01, 2003 to Dec 31, 2017 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\03-89.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2003	44.00	26.68	14.78	0.00	11.91	14.69	19.07	3.07	18.79	0.05	0.00	3.96	0.00	0.00
2004	44.04	27.86	16.42	0.00	11.44	12.18	19.07	2.09	17.71	0.50	0.00	0.79	0.00	0.00
2005	44.00	29.38	17.72	0.00	11.66	20.16	19.07	9.05	18.51	0.33	0.00	0.46	0.00	0.00
2006	44.00	27.90	16.11	0.00	11.79	13.22	19.07	3.84	16.67	0.09	0.00	0.47	0.00	0.00
2007	44.00	28.47	17.02	0.00	11.45	14.33	19.07	4.76	17.19	0.11	0.00	0.07	0.00	0.00
2008	44.04	30.85	18.76	0.00	12.08	16.74	19.07	4.19	19.54	0.19	0.00	0.59	0.00	0.00
2009	44.00	28.28	16.97	0.00	11.31	13.46	19.07	4.62	16.60	-0.01	0.00	-0.36	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00
2015	44.00	29.83	17.96	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.76	0.00	0.00
2016	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
2017	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.48	17.71	0.00	11.77	15.94	19.07	4.87	18.37	0.09	0.00	0.57	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 04-90\XD 04-90.spw
File Creation Date	: Jul 16, 2009 15:03:20
File Last Modified Date	: Jul 16, 2009 15:03:21
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 04-90
Simulation Start Date	: Jan 01, 2004
Simulation End Date	: Dec 31, 2018
Simulation Run Date	: Jul 16, 2009 15:03
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 04-90 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 04-90\XD 04-90.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 04-90 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\04-90.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0490 - Jan 01, 2004 to Dec 31, 2018 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\04-90.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0490 - Jan 01, 2004 to Dec 31, 2018 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\04-90.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2004	44.04	25.69	14.27	0.00	11.42	12.16	19.07	1.89	17.91	-0.05	0.00	3.70	0.00	0.00
2005	44.00	29.01	17.34	0.00	11.66	20.16	19.07	8.79	18.78	0.60	0.00	0.83	0.00	0.00
2006	44.00	27.49	15.70	0.00	11.79	13.22	19.07	3.84	16.67	0.23	0.00	0.74	0.00	0.00
2007	44.00	28.28	16.83	0.00	11.45	14.33	19.07	4.76	17.19	0.16	0.00	0.20	0.00	0.00
2008	44.04	30.49	18.40	0.00	12.08	16.74	19.07	4.12	19.60	0.33	0.00	0.87	0.00	0.00
2009	44.00	28.27	16.95	0.00	11.31	13.46	19.07	4.62	16.60	0.00	0.00	-0.35	0.00	0.00
2010	44.00	32.18	20.33	0.00	11.85	21.88	19.07	8.40	20.70	0.01	0.00	0.35	0.00	0.00
2011	44.00	29.69	17.91	0.00	11.78	16.16	19.07	5.31	18.14	-0.01	0.00	0.24	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.41	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00
2015	44.00	29.83	17.96	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.76	0.00	0.00
2016	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
2017	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00
2018	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.56	17.81	0.00	11.75	16.24	19.07	5.09	18.46	0.08	0.00	0.56	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 05-91\XD 05-91.spw
File Creation Date	: Jul 16, 2009 15:04:21
File Last Modified Date	: Jul 16, 2009 15:04:22
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 05-91
Simulation Start Date	: Jan 01, 2005
Simulation End Date	: Dec 31, 2019
Simulation Run Date	: Jul 16, 2009 15:04
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 05-91 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 05-91\XD 05-91.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 05-91 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\05-91.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0591 - Jan 01, 2005 to Dec 31, 2019 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\05-91.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0591 - Jan 01, 2005 to Dec 31, 2019 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\05-91.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
2005	44.00	27.57	15.91	0.00	11.66	20.16	19.07	7.95	19.62	0.05	0.00	3.66	0.00	0.00
2006	44.00	26.92	15.13	0.00	11.79	13.22	19.07	3.84	16.67	0.47	0.00	1.07	0.00	0.00
2007	44.00	28.08	16.63	0.00	11.45	14.33	19.07	4.56	17.39	0.29	0.00	0.47	0.00	0.00
2008	44.04	30.19	18.10	0.00	12.08	16.74	19.07	4.19	19.54	0.41	0.00	1.03	0.00	0.00
2009	44.00	28.21	16.90	0.00	11.31	13.46	19.07	4.62	16.60	0.01	0.00	-0.31	0.00	0.00
2010	44.00	31.99	20.15	0.00	11.85	21.88	19.07	8.53	20.58	0.04	0.00	0.39	0.00	0.00
2011	44.00	29.65	17.87	0.00	11.78	16.16	19.07	5.31	18.14	0.00	0.00	0.27	0.00	0.00
2012	44.04	31.69	19.65	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.40	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00
2015	44.00	29.83	17.96	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.76	0.00	0.00
2016	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
2017	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00
2018	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00
2019	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	29.61	17.83	0.00	11.78	16.27	19.07	5.21	18.35	0.08	0.00	0.44	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 06-92\XD 06-92.spw
File Creation Date	: Jul 16, 2009 15:05:26
File Last Modified Date	: Jul 16, 2009 15:05:27
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 06-92
Simulation Start Date	: Jan 01, 2006
Simulation End Date	: Dec 31, 2020
Simulation Run Date	: Jul 16, 2009 15:05
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 06-92 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 06-92\XD 06-92.fld (Jul 17, 200900:00)
Climate	: Dewey Burdock 06-92 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\06-92.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0692 - Jan 01, 2006 to Dec 31, 2020 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\06-92.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0692 - Jan 01, 2006 to Dec 31, 2020 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\06-92.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
2006	44.00	25.31	13.57	0.00	11.75	13.13	19.07	3.23	17.22	-0.05	0.00	3.71	0.00	0.00
2007	44.00	27.58	16.13	0.00	11.45	14.33	19.07	4.44	17.51	0.54	0.00	0.83	0.00	0.00
2008	44.04	30.01	17.93	0.00	12.08	16.74	19.07	4.19	19.54	0.47	0.00	1.14	0.00	0.00
2009	44.00	27.97	16.65	0.00	11.31	13.46	19.07	4.62	16.60	0.09	0.00	-0.14	0.00	0.00
2010	44.00	31.59	19.74	0.00	11.85	21.88	19.07	8.47	20.63	0.20	0.00	0.69	0.00	0.00
2011	44.00	29.57	17.79	0.00	11.78	16.16	19.07	5.30	18.15	0.02	0.00	0.34	0.00	0.00
2012	44.04	31.68	19.64	0.00	12.04	16.89	19.07	4.68	19.24	-0.01	0.00	-0.40	0.00	0.00
2013	44.00	28.18	16.56	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.06	0.00	0.00
2014	44.00	33.36	21.43	0.00	11.93	23.59	19.07	8.73	22.01	0.03	0.00	0.55	0.00	0.00
2015	44.00	29.83	17.96	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.76	0.00	0.00
2016	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
2017	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00
2018	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00
2019	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
2020	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	29.53	17.76	0.00	11.77	15.86	19.07	4.92	18.24	0.08	0.00	0.40	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 07-93\XD 07-93.spw
File Creation Date	: Jul 13, 2009 09:46:30
File Last Modified Date	: Jul 13, 2009 09:46:30
Description	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 07-93
Simulation Start Date	: Jan 01, 2007
Simulation End Date	: Dec 31, 2021
Simulation Run Date	: Jul 13, 2009 09:46
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Dewey-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 07-93 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Dewey July 09\XD 07-93\XD 07-93.fld (Jul 13, 200900:00)
Climate	: Dewey Burdock 07-93 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\07-93.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0793 - Jan 01, 2007 to Dec 31, 2021 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\07-93.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0793 - Jan 01, 2007 to Dec 31, 2021 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\07-93.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Dewey TP1, TP2, TP5 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\DRev 1-2-5.soil (Sep 16, 2008 00:00)

NUMBER OF SOIL LAYERS: 9
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 4.00 12.00 24.00 4.00 23.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2007	44.00	25.45	14.00	0.00	11.45	14.33	19.07	4.44	17.51	-0.07	0.00	3.58	0.00	0.00
2008	44.04	29.73	17.64	0.00	12.08	16.74	19.07	4.12	19.60	0.65	0.00	1.31	0.00	0.00
2009	44.00	27.60	16.29	0.00	11.31	13.46	19.07	4.50	16.72	0.25	0.00	0.19	0.00	0.00
2010	44.00	31.47	19.62	0.00	11.85	21.88	19.07	8.55	20.55	0.21	0.00	0.72	0.00	0.00
2011	44.00	29.33	17.54	0.00	11.78	16.16	19.07	5.30	18.15	0.11	0.00	0.50	0.00	0.00
2012	44.04	31.48	19.44	0.00	12.04	16.89	19.07	4.49	19.43	0.12	0.00	-0.13	0.00	0.00
2013	44.00	28.18	16.55	0.00	11.63	11.75	19.07	2.59	16.60	-0.02	0.00	0.07	0.00	0.00
2014	44.00	33.40	21.47	0.00	11.93	23.59	19.07	8.67	22.07	0.03	0.00	0.56	0.00	0.00
2015	44.00	29.84	17.97	0.00	11.87	12.36	19.07	2.37	17.18	-0.02	0.00	-0.77	0.00	0.00
2016	44.04	28.20	16.39	0.00	11.81	13.79	19.07	4.63	16.41	0.00	0.00	0.02	0.00	0.00
2017	44.00	29.51	17.66	0.00	11.85	15.58	19.07	4.75	18.06	0.01	0.00	0.38	0.00	0.00
2018	44.00	31.45	19.79	0.00	11.65	19.14	19.07	6.93	19.63	0.00	0.00	-0.16	0.00	0.00
2019	44.00	29.24	17.32	0.00	11.92	15.03	19.07	4.53	17.65	0.00	0.00	0.34	0.00	0.00
2020	44.04	29.28	17.64	0.00	11.63	14.08	19.07	4.34	17.18	-0.01	0.00	-0.45	0.00	0.00
2021	44.00	32.92	20.93	0.00	11.99	22.31	19.07	7.70	21.69	0.01	0.00	0.75	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.81	18.03	0.00	11.79	16.47	19.07	5.19	18.56	0.09	0.00	0.45	0.00	0.00

Knight Piésold CONSULTING

SPAW Model Results

Burdock Field

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

```
SIMULATION BY:
     John Dwyer
     Project Engineer
     Knight Piesold

SIMULATION FOR:
     File                    : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 80-94\XB 80-94.spw
     File Creation Date      : Jul 09, 2009 14:51:24
     File Last Modified Date : Jul 09, 2009 14:51:25
     Description             : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 80-94
     Simulation Start Date   : Jan 01, 1980
     Simulation End Date     : Dec 31, 1994
     Simulation Run Date     : Jul 09, 2009 14:51
     SPAW Interface Version  : 6.02.75
     Field Model Version     : 6.02.71
     Soil Equations          : Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)
     Field                   : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 80-94
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 80-94\XB 80-94.fld (Jul 10, 200900:00)
     Climate                 : Dewey Burdock 81-94 climatic data
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\80-94.clm (Sep 16, 2008 00:00)
        Evaporation Defaults: Dewey-Burdock Evap. Defaults
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
        Precipitation        : SD8094 - Jan 01, 1980 to Dec 31, 1994
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\80-94.txt (Sep 15, 2008 00:00)
        Air Temperature      : SD8094 - Jan 01, 1980 to Dec 31, 1994
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\80-94.txt (Sep 15, 2008 00:00)
     Management              : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
        Crop ( 1)            : Bare feedlot or fallow field
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
     Soil                    : Burdock TP8, TP9, TP10 Revised Soils Composite
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS:              7
THICKNESS OF SOIL LAYERS: (IN)    1.00    5.00  11.00  11.00    8.00  12.00  24.00
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ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1980	44.04	25.41	13.40	0.00	12.01	16.33	19.07	3.80	19.59	1.45	0.00	4.74	0.00	0.00
1981	44.00	27.06	15.74	0.00	11.31	13.46	19.07	4.20	17.02	0.41	0.00	0.87	0.00	0.00
1982	44.00	33.78	21.93	0.00	11.85	21.88	19.07	6.77	22.33	0.08	0.00	0.31	0.00	0.00
1983	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
1984	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
1985	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
1986	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
1987	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.39	18.58	0.00	11.81	16.29	19.07	4.45	19.10	0.13	0.00	0.39	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 81-95\XB 81-95.spw
File Creation Date	: Jul 09, 2009 15:05:31
File Last Modified Date	: Jul 09, 2009 15:05:32
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 81-95
Simulation Start Date	: Jan 01, 1981
Simulation End Date	: Dec 31, 1995
Simulation Run Date	: Jul 09, 2009 15:05
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 81-95 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 81-95\XB 81-95.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 81-95 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\81-95.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8195 - Jan 01, 1981 to Dec 31, 1995 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\81-95.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8195 - Jan 01, 1981 to Dec 31, 1995 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\81-95.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1981	44.00	24.01	12.70	0.00	11.31	13.46	19.07	4.20	17.02	0.88	0.00	3.44	0.00	0.00
1982	44.00	32.11	20.26	0.00	11.85	21.88	19.07	5.32	23.79	1.06	0.00	2.47	0.00	0.00
1983	44.00	30.62	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.02	0.00	-0.03	0.00	0.00
1984	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
1985	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
1986	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
1987	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.56	18.76	0.00	11.80	16.42	19.07	4.42	19.28	0.13	0.00	0.39	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 82-96\XB 82-96.spw
File Creation Date	: Jul 09, 2009 16:09:52
File Last Modified Date	: Jul 09, 2009 16:09:53
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 82-96
Simulation Start Date	: Jan 01, 1982
Simulation End Date	: Dec 31, 1996
Simulation Run Date	: Jul 09, 2009 16:09
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 82-96 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 82-96\XB 82-96.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 82-96 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\82-96.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8296 - Jan 01, 1982 to Dec 31, 1996 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\82-96.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8296 - Jan 01, 1982 to Dec 31, 1996 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\82-96.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1982	44.00	27.91	16.09	0.00	11.81	21.83	19.07	5.32	23.77	1.89	0.00	5.79	0.00	0.00
1983	44.00	30.46	18.68	0.00	11.78	16.16	19.07	4.65	18.80	0.02	0.00	0.10	0.00	0.00
1984	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
1985	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
1986	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
1987	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.78	18.96	0.00	11.83	16.70	19.07	4.45	19.49	0.13	0.00	0.40	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 83-97\XB 83-97.spw
File Creation Date	: Jul 09, 2009 17:41:33
File Last Modified Date	: Jul 09, 2009 17:41:33
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 83-97
Simulation Start Date	: Jan 01, 1983
Simulation End Date	: Dec 31, 1997
Simulation Run Date	: Jul 09, 2009 17:41
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 83-97 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 83-97\XB 83-97.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 83-97 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\83-97.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8397 - Jan 01, 1983 to Dec 31, 1997 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\83-97.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8397 - Jan 01, 1983 to Dec 31, 1997 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\83-97.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1983	44.00	25.39	13.69	0.00	11.70	16.08	19.07	4.45	19.00	1.10	0.00	4.21	0.00	0.00
1984	44.04	30.62	18.58	0.00	12.04	16.89	19.07	3.11	20.81	0.74	0.00	1.49	0.00	0.00
1985	44.00	28.14	16.51	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.10	0.00	0.00
1986	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
1987	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.59	18.79	0.00	11.80	16.42	19.07	4.39	19.30	0.13	0.00	0.39	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 84-98\XB 84-98.spw
File Creation Date	: Jul 10, 2009 08:52:26
File Last Modified Date	: Jul 10, 2009 08:54:19
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 84-98
Simulation Start Date	: Jan 01, 1984
Simulation End Date	: Dec 31, 1998
Simulation Run Date	: Jul 10, 2009 08:54
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 84-98 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 84-98\XB 84-98.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 84-98 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\84-98.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8498 - Jan 01, 1984 to Dec 31, 1998 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\84-98.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8498 - Jan 01, 1984 to Dec 31, 1998 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\84-98.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1984	44.04	26.06	14.25	0.00	11.81	15.65	19.07	3.11	19.79	1.28	0.00	4.27	0.00	0.00
1985	44.00	26.20	14.57	0.00	11.63	11.75	19.07	2.57	16.62	0.56	0.00	1.49	0.00	0.00
1986	44.00	35.03	23.10	0.00	11.93	23.59	19.07	7.32	23.41	0.12	0.00	0.19	0.00	0.00
1987	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.73	18.93	0.00	11.80	16.88	19.07	4.68	19.47	0.13	0.00	0.41	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 85-99\XB 85-99.spw
File Creation Date	: Jul 10, 2009 09:12:34
File Last Modified Date	: Jul 10, 2009 09:12:35
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 85-99
Simulation Start Date	: Jan 01, 1985
Simulation End Date	: Dec 31, 1999
Simulation Run Date	: Jul 10, 2009 09:12
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 85-99 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 85-99\XB 85-99.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 85-99 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\85-99.clm (Sep 16, 2008 00:00)
Evaporation Defaults:	Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8599 - Jan 01, 1985 to Dec 31, 1999 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\85-99.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8599 - Jan 01, 1985 to Dec 31, 1999 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\85-99.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1985	44.00	24.45	12.83	0.00	11.63	11.75	19.07	2.57	16.62	0.65	0.00	3.14	0.00	0.00
1986	44.00	31.39	19.46	0.00	11.93	23.59	19.07	7.16	23.57	1.30	0.00	2.81	0.00	0.00
1987	44.00	29.71	17.83	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.74	18.93	0.00	11.81	16.98	19.07	4.83	19.41	0.12	0.00	0.36	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

```
     File                    : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 86-00\XB 86-00.spw
     File Creation Date      : Jul 10, 2009 09:22:47
     File Last Modified Date : Jul 10, 2009 09:22:48
     Description             : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 86-00
     Simulation Start Date   : Jan 01, 1986
     Simulation End Date     : Dec 31, 2000
     Simulation Run Date     : Jul 10, 2009 09:22
     SPAW Interface Version  : 6.02.75
     Field Model Version     : 6.02.71
     Soil Equations          : Saxton et al. 2005
```

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

```
     Field                   : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 86-00
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 86-00\XB 86-00.fld (Jul 10, 200900:00)
     Climate                 : Dewey Burdock 86-00 climatic data
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\86-00.clm (Sep 16, 2008 00:00)
        Evaporation Defaults: Dewey-Burdock Evap. Defaults
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
        Precipitation        : SD8600 - Jan 01, 1986 to Dec 31, 2000
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\86-00.txt (Feb 13, 2009 00:00)
        Air Temperature      : SD8600 - Jan 01, 1986 to Dec 31, 2000
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\86-00.txt (Feb 13, 2009 00:00)
     Management              : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
        Crop ( 1)            : Bare feedlot or fallow field
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
     Soil                    : Burdock TP8, TP9, TP10 Revised Soils Composite
                               G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)
```

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1986	44.00	26.83	15.07	0.00	11.76	22.03	19.07	6.92	22.42	1.77	0.00	5.58	0.00	0.00
1987	44.00	29.21	17.33	0.00	11.87	12.36	19.07	2.23	17.32	0.04	0.00	-0.05	0.00	0.00
1988	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
1989	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.74	18.91	0.00	11.83	17.06	19.07	4.89	19.41	0.13	0.00	0.38	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 87-01\XB 87-01.spw
File Creation Date	: Jul 10, 2009 09:33:48
File Last Modified Date	: Jul 10, 2009 09:33:48
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 87-01
Simulation Start Date	: Jan 01, 1987
Simulation End Date	: Dec 31, 2001
Simulation Run Date	: Jul 10, 2009 09:33
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 87-01 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 87-01\XB 87-01.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 87-01climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\87-01.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8701 - Jan 01, 1987 to Dec 31, 2001 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\87-01.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8701 - Jan 01, 1987 to Dec 31, 2001 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\87-01.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1987	44.00	24.78	12.91	0.00	11.87	12.36	19.07	2.13	17.43	0.96	0.00	3.55	0.00	0.00
1988	44.04	25.87	14.06	0.00	11.81	13.79	19.07	4.23	16.81	0.81	0.00	1.94	0.00	0.00
1989	44.00	29.84	17.99	0.00	11.85	15.58	19.07	4.14	18.67	0.12	0.00	0.55	0.00	0.00
1990	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.53	18.70	0.00	11.83	16.80	19.07	4.84	19.21	0.13	0.00	0.38	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

```
     File                   : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 88-02\XB 88-02.spw
     File Creation Date     : Jul 10, 2009 09:43:39
     File Last Modified Date : Jul 10, 2009 09:43:40
     Description            : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 88-02
     Simulation Start Date  : Jan 01, 1988
     Simulation End Date    : Dec 31, 2002
     Simulation Run Date    : Jul 10, 2009 09:43
     SPAW Interface Version : 6.02.75
     Field Model Version    : 6.02.71
     Soil Equations         : Saxton et al. 2005
```

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

```
     Field                 : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 88-02
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 88-02\XB 88-02.fld (Jul 10, 200900:00)
     Climate               : Dewey Burdock 88-02 climatic data
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\88-02.clm (Sep 16, 2008 00:00)
        Evaporation Defaults: Dewey-Burdock Evap. Defaults
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
        Precipitation      : SD8802 - Jan 01, 1988 to Dec 31, 2002
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\88-02.txt (Sep 16, 2008 00:00)
        Air Temperature    : SD8802 - Jan 01, 1988 to Dec 31, 2002
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\88-02.txt (Sep 16, 2008 00:00)
     Management            : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
        Crop (  1)         : Bare feedlot or fallow field
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
     Soil                  : Burdock TP8, TP9, TP10 Revised Soils Composite
                             G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)
```

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
1988	44.04	23.68	11.88	0.00	11.80	13.40	19.07	4.23	16.43	1.00	0.00	3.55	0.00	0.00
1989	44.00	27.29	15.44	0.00	11.85	15.58	19.07	4.01	18.80	0.88	0.00	2.47	0.00	0.00
1990	44.00	31.82	20.16	0.00	11.65	19.14	19.07	6.58	19.98	0.01	0.00	-0.20	0.00	0.00
1991	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.54	18.73	0.00	11.81	16.82	19.07	4.86	19.22	0.12	0.00	0.37	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 89-03\XB 89-03.spw
File Creation Date	: Jul 10, 2009 10:05:17
File Last Modified Date	: Jul 10, 2009 10:05:18
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 89-03
Simulation Start Date	: Jan 01, 1989
Simulation End Date	: Dec 31, 2003
Simulation Run Date	: Jul 10, 2009 10:05
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 89-03 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 89-03\XB 89-03.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 89-03 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\89-03.clm (Sep 16, 2008 00:00)
Evaporation Defaults:	Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD8903 - Jan 01, 1989 to Dec 31, 2003 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\89-03.txt (Sep 16, 2008 00:00)
Air Temperature	: SD8903 - Jan 01, 1989 to Dec 31, 2003 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\89-03.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1989	44.00	24.99	13.19	0.00	11.80	15.49	19.07	4.01	18.75	1.20	0.00	4.36	0.00	0.00
1990	44.00	30.59	18.93	0.00	11.65	19.14	19.07	5.46	21.10	0.70	0.00	1.47	0.00	0.00
1991	44.00	29.51	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.76	18.95	0.00	11.82	16.90	19.07	4.71	19.45	0.13	0.00	0.38	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 90-04\XB 90-04.spw
File Creation Date	: Jul 09, 2009 13:18:59
File Last Modified Date	: Jul 09, 2009 13:19:00
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 90-04
Simulation Start Date	: Jan 01, 1990
Simulation End Date	: Dec 31, 2004
Simulation Run Date	: Jul 09, 2009 13:18
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 90-04 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 90-04\XB 90-04.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 90-04 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\90-04.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9004 - Jan 01, 1990 to Dec 31, 2004 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\90-04.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9004 - Jan 01, 1990 to Dec 31, 2004 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\90-04.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1990	44.00	25.98	14.36	0.00	11.62	19.11	19.07	5.25	21.31	1.68	0.00	5.26	0.00	0.00
1991	44.00	29.10	17.18	0.00	11.92	15.03	19.07	4.23	17.95	0.19	0.00	0.58	0.00	0.00
1992	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.72	18.92	0.00	11.80	16.84	19.07	4.53	19.58	0.13	0.00	0.53	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 91-05\XB 91-05.spw
File Creation Date	: Jul 10, 2009 10:17:32
File Last Modified Date	: Jul 10, 2009 10:17:32
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 91-05
Simulation Start Date	: Jan 01, 1991
Simulation End Date	: Dec 31, 2005
Simulation Run Date	: Jul 10, 2009 10:17
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 91-05 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 91-05\XB 91-05.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 91-05 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\91-05.clm (Sep 16, 2008 00:00)
Evaporation Defaults:	Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9105 - Jan 01, 1991 to Dec 31, 2005 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\91-05.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9105 - Jan 01, 1991 to Dec 31, 2005 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\91-05.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1991	44.00	24.81	12.93	0.00	11.88	14.99	19.07	3.33	18.85	1.34	0.00	4.58	0.00	0.00
1992	44.04	28.63	17.00	0.00	11.63	14.08	19.07	2.92	18.60	0.49	0.00	1.11	0.00	0.00
1993	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.84	22.56	0.11	0.00	0.67	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.03	0.00	-0.43	0.00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.67	18.87	0.00	11.80	16.90	19.07	4.66	19.51	0.12	0.00	0.52	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 92-06\XB 92-06.spw
File Creation Date	: Jul 10, 2009 10:30:21
File Last Modified Date	: Jul 10, 2009 10:30:21
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 92-06
Simulation Start Date	: Jan 01, 1992
Simulation End Date	: Dec 31, 2006
Simulation Run Date	: Jul 10, 2009 10:30
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 92-06 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 92-06\XB 92-06.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 92-06 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\92-06.clm (Sep 16, 2008 00:00)
Evaporation Defaults:	Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9206 - Jan 01, 1992 to Dec 31, 2006 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\92-06.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9206 - Jan 01, 1992 to Dec 31, 2006 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\92-06.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1992	44.04	24.81	13.18	0.00	11.63	14.08	19.07	2.92	18.60	1.24	0.00	4.17	0.00	0.00
1993	44.00	32.48	20.49	0.00	11.99	22.31	19.07	6.01	23.38	0.70	0.00	2.19	0.00	0.00
1994	44.00	29.49	17.58	0.00	11.92	12.01	19.07	2.04	17.12	-0.02	0.00	-0.43	0:00	0.00
1995	44.00	32.59	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.59	18.80	0.00	11.79	16.79	19.07	4.61	19.46	0.12	0.00	0.54	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 93-07\XB 93-07.spw
File Creation Date	: Jul 10, 2009 10:39:20
File Last Modified Date	: Jul 10, 2009 10:39:20
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 93-07
Simulation Start Date	: Jan 01, 1993
Simulation End Date	: Dec 31, 2007
Simulation Run Date	: Jul 10, 2009 10:39
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 93-07 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 93-07\XB 93-07.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 93-07 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\93-07.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9307 - Jan 01, 1993 to Dec 31, 2007 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\93-07.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9307 - Jan 01, 1993 to Dec 31, 2007 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\93-07.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1993	44.00	27.37	15.43	0.00	11.95	21.44	19.07	5.31	23.26	1.78	0.00	6.05	0.00	0.00
1994	44.00	29.02	17.10	0.00	11.92	12.01	19.07	2.04	17.12	0.13	0.00	-0.12	0.00	0.00
1995	44.00	32.58	20.78	0.00	11.81	18.32	19.07	4.81	20.78	0.02	0.00	-0.02	0.00	0.00
1996	44.04	31.74	19.99	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.24	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.51	18.73	0.00	11.78	16.82	19.07	4.66	19.44	0.13	0.00	0.59	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 94-80\XB 94-80.spw
File Creation Date : Jul 10, 2009 10:51:44
File Last Modified Date : Jul 10, 2009 10:51:45
Description : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 94-80
Simulation Start Date : Jan 01, 1994
Simulation End Date : Dec 31, 2008
Simulation Run Date : Jul 10, 2009 10:51
SPAW Interface Version : 6.02.75
Field Model Version : 6.02.71
Soil Equations : Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 94-80
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 94-80\XB 94-80.fld (Jul 10, 200900:00)
Climate : Dewey Burdock 94-80 climatic data
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\94-80.clm (Sep 16, 2008 00:00)
Evaporation Defaults: Dewey-Burdock Evap. Defaults
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation : SD9480 - Jan 01, 1994 to Dec 31, 2008
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\94-80.txt (Sep 16, 2008 00:00)
Air Temperature : SD9480 - Jan 01, 1994 to Dec 31, 2008
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\94-80.txt (Sep 16, 2008 00:00)
Management : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1) : Bare feedlot or fallow field
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil : Burdock TP8, TP9, TP10 Revised Soils Composite
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1994	44.00	24.52	12.61	0.00	11.92	12.01	19.07	2.04	17.12	0.79	0.00	3.72	0.00	0.00
1995	44.00	30.36	18.55	0.00	11.81	18.32	19.07	3.71	21.87	1.14	0.00	2.18	0.00	0.00
1996	44.04	31.72	19.98	0.00	11.74	17.60	19.07	4.70	20.23	-0.01	0.00	0.25	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.02	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.28	18.49	0.00	11.79	16.43	19.07	4.56	19.15	0.13	0.00	0.53	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 95-81\XB 95-81.spw
File Creation Date	: Jul 10, 2009 11:04:03
File Last Modified Date	: Jul 10, 2009 11:04:04
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 95-81
Simulation Start Date	: Jan 01, 1995
Simulation End Date	: Dec 31, 2009
Simulation Run Date	: Jul 10, 2009 11:04
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 95-81 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 95-81\XB 95-81.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 95-81 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\95-81.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9581 - Jan 01, 1995 to Dec 31, 2009 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\95-81.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9581 - Jan 01, 1995 to Dec 31, 2009 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\95-81.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1995	44.00	26.88	15.09	0.00	11.79	18.14	19.07	3.71	21.71	1.59	0.00	5.03	0.00	0.00
1996	44.04	30.95	19.20	0.00	11.74	17.60	19.07	4.26	20.66	0.33	0.00	1.13	0.00	0.00
1997	44.00	32.11	20.57	0.00	11.54	17.73	19.07	5.01	20.24	-0.05	0.00	-0.28	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.27	18.52	0.00	11.74	16.52	19.07	4.68	19.16	0.12	0.00	0.52	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 96-82\XB 96-82.spw
File Creation Date	: Jul 10, 2009 11:13:04
File Last Modified Date	: Jul 10, 2009 11:13:04
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 96-82
Simulation Start Date	: Jan 01, 1996
Simulation End Date	: Dec 31, 2010
Simulation Run Date	: Jul 10, 2009 11:13
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 96-82 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 96-82\XB 96-82.fld (Jul 10, 200900:00)
Climate	: Dewey Burdock 96-82 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\96-82.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9682 - Jan 01, 1996 to Dec 31, 2010 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\96-82.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9682 - Jan 01, 1996 to Dec 31, 2010 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\96-82.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1996	44.04	26.04	14.30	0.00	11.74	17.60	19.07	4.09	20.84	1.44	0.00	5.09	0.00	0.00
1997	44.00	30.92	19.38	0.00	11.54	17.73	19.07	4.66	20.59	0.43	0.00	0.78	0.00	0.00
1998	44.00	34.14	22.18	0.00	11.96	24.28	19.07	8.76	22.63	0.14	0.00	0.31	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.32	18.57	0.00	11.75	16.77	19.07	4.85	19.24	0.13	0.00	0.54	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 97-83\XB 97-83.spw
File Creation Date	: Jul 10, 2009 12:47:44
File Last Modified Date	: Jul 10, 2009 12:47:46
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 97-83
Simulation Start Date	: Jan 01, 1997
Simulation End Date	: Dec 31, 2011
Simulation Run Date	: Jul 10, 2009 12:47
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 97-83 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 97-83\XB 97-83.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 97-83 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\97-83.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9783 - Jan 01, 1997 to Dec 31, 2011 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\97-83.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9783 - Jan 01, 1997 to Dec 31, 2011 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\97-83.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1997	44.00	25.87	14.32	0.00	11.54	17.73	19.07	4.04	21.21	1.65	0.00	5.25	0.00	0.00
1998	44.00	33.69	21.73	0.00	11.96	24.28	19.07	8.35	23.04	0.37	0.00	0.94	0.00	0.00
1999	44.00	31.54	19.62	0.00	11.91	17.17	19.07	5.57	18.75	-0.18	0.00	-0.69	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.27	18.51	0.00	11.75	16.74	19.07	4.82	19.24	0.13	0.00	0.60	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 98-84\XB 98-84.spw
File Creation Date	: Jul 10, 2009 12:59:28
File Last Modified Date	: Jul 10, 2009 12:59:29
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 98-84
Simulation Start Date	: Jan 01, 1998
Simulation End Date	: Dec 31, 2012
Simulation Run Date	: Jul 10, 2009 12:59
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 98-84 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 98-84\XB 98-84.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 98-84 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\98-84.clm (Sep 16, 2008 00:00)
Evaporation Defaults:	Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9884 - Jan 01, 1998 to Dec 31, 2012 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\98-84.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9884 - Jan 01, 1998 to Dec 31, 2012 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\98-84.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1998	44.00	28.00	16.04	0.00	11.96	24.28	19.07	7.33	24.06	1.96	0.00	6.06	0.00	0.00
1999	44.00	31.37	19.45	0.00	11.91	17.17	19.07	5.56	18.77	-0.13	0.00	-0.56	0.00	0.00
2000	44.04	29.37	17.30	0.00	12.07	14.51	19.07	3.82	17.69	0.04	0.00	0.35	0.00	0.00
2001	44.00	30.91	19.16	0.00	11.75	18.10	19.07	6.25	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.32	18.54	0.00	11.78	16.61	19.07	4.72	19.18	0.12	0.00	0.52	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 99-85\XB 99-85.spw
File Creation Date	: Jul 10, 2009 13:07:36
File Last Modified Date	: Jul 10, 2009 13:07:36
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 99-85
Simulation Start Date	: Jan 01, 1999
Simulation End Date	: Dec 31, 2013
Simulation Run Date	: Jul 10, 2009 13:07
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 99-85 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 99-85\XB 99-85.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 99-85 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\99-85.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD9985 - Jan 01, 1999 to Dec 31, 2013 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\99-85.txt (Sep 16, 2008 00:00)
Air Temperature	: SD9985 - Jan 01, 1999 to Dec 31, 2013 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\99-85.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
1999	44.00	25.40	13.48	0.00	11.91	17.17	19.07	5.17	19.16	1.36	0.00	4.32	0.00	0.00
2000	44.04	27.72	15.64	0.00	12.07	14.51	19.07	3.82	17.69	0.52	0.00	1.53	0.00	0.00
2001	44.00	30.90	19.15	0.00	11.75	18.10	19.07	6.24	19.18	0.01	0.00	0.01	0.00	0.00
2002	44.00	29.77	18.13	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.22	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.82	18.06	0.00	11.76	15.78	19.07	4.37	18.71	0.12	0.00	0.53	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 00-86\XB 00-86.spw
File Creation Date	: Jul 10, 2009 13:34:02
File Last Modified Date	: Jul 10, 2009 13:34:02
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 00-86
Simulation Start Date	: Jan 01, 2000
Simulation End Date	: Dec 31, 2014
Simulation Run Date	: Jul 10, 2009 13:34
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 00-86 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 00-86\XB 00-86.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 00-86 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\00-86.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0086 - Jan 01, 2000 to Dec 31, 2014 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\00-86.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0086 - Jan 01, 2000 to Dec 31, 2014 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\00-86.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2000	44.04	25.34	13.27	0.00	12.07	14.51	19.07	3.82	17.69	0.87	0.00	3.55	0.00	0.00
2001	44.00	28.24	16.49	0.00	11.75	18.10	19.07	5.62	19.80	1.01	0.00	2.30	0.00	0.00
2002	44.00	29.75	18.12	0.00	11.63	13.11	19.07	2.65	17.90	-0.01	0.00	-0.21	0.00	0.00
2003	44.00	30.46	18.55	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.22	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.13	18.37	0.00	11.76	16.21	19.07	4.47	19.04	0.13	0.00	0.54	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 01-87\XB 01-87.spw
File Creation Date : Jul 10, 2009 13:43:16
File Last Modified Date : Jul 10, 2009 13:43:16
Description : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 01-87
Simulation Start Date : Jan 01, 2001
Simulation End Date : Dec 31, 2015
Simulation Run Date : Jul 10, 2009 13:43
SPAW Interface Version : 6.02.75
Field Model Version : 6.02.71
Soil Equations : Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)
Field : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 01-87
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 01-87\XB 01-87.fld (Jul 11, 200900:00)
Climate : Dewey Burdock 01-87 climatic data
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\01-87.clm (Sep 16, 2008 00:00)
Evaporation Defaults: Dewey-Burdock Evap. Defaults
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation : SD0187 - Jan 01, 2001 to Dec 31, 2015
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\01-87.txt (Sep 16, 2008 00:00)
Air Temperature : SD0187 - Jan 01, 2001 to Dec 31, 2015
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\01-87.txt (Sep 16, 2008 00:00)
Management : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1) : Bare feedlot or fallow field
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil : Burdock TP8, TP9, TP10 Revised Soils Composite
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2001	44.00	25.47	13.72	0.00	11.75	18.10	19.07	5.62	19.80	1.37	0.00	4.71	0.00	0.00
2002	44.00	28.12	16.49	0.00	11.63	13.11	19.07	2.65	17.90	0.49	0.00	0.92	0.00	0.00
2003	44.00	30.44	18.53	0.00	11.91	14.69	19.07	3.07	18.79	0.02	0.00	0.24	0.00	0.00
2004	44.04	29.36	17.92	0.00	11.44	12.18	19.07	1.89	17.91	0.01	0.00	-0.02	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.13	18.38	0.00	11.75	16.13	19.07	4.37	19.08	0.12	0.00	0.58	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 02-88\XB 02-88.spw
File Creation Date	: Jul 10, 2009 13:52:27
File Last Modified Date	: Jul 10, 2009 13:52:28
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 02-88
Simulation Start Date	: Jan 01, 2002
Simulation End Date	: Dec 31, 2016
Simulation Run Date	: Jul 10, 2009 13:52
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 02-88 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 02-88\XB 02-88.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 02-88 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\02-88.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0288 - Jan 01, 2002 to Dec 31, 2016 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\02-88.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0288 - Jan 01, 2002 to Dec 31, 2016 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\02-88.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
2002	44.00	25.11	13.48	0.00	11.63	13.11	19.07	2.65	17.89	0.91	0.00	3.51	0.00	0.00
2003	44.00	27.40	15.49	0.00	11.91	14.69	19.07	3.07	18.79	0.96	0.00	2.34	0.00	0.00
2004	44.04	29.33	17.89	0.00	11.44	12.18	19.07	1.89	17.91	0.03	0.00	0.00	0.00	0.00
2005	44.00	31.17	19.51	0.00	11.66	20.16	19.07	8.29	19.27	-0.05	0.00	-0.19	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
2016	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	29.93	18.17	0.00	11.75	15.78	19.07	4.28	18.81	0.12	0.00	0.52	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 03-89\XB 03-89.spw
File Creation Date	: Jul 10, 2009 14:01:13
File Last Modified Date	: Jul 10, 2009 14:01:14
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 03-89
Simulation Start Date	: Jan 01, 2003
Simulation End Date	: Dec 31, 2017
Simulation Run Date	: Jul 10, 2009 14:01
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 03-89 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 03-89\XB 03-89.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 03-89 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\03-89.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0289 - Jan 01, 2003 to Dec 31, 2017 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\03-89.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0289 - Jan 01, 2003 to Dec 31, 2017 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\03-89.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2003	44.00	25.36	13.46	0.00	11.91	14.69	19.07	3.49	18.37	1.02	0.00	3.89	0.00	0.00
2004	44.04	26.62	15.18	0.00	11.44	12.18	19.07	1.89	17.91	0.86	0.00	1.88	0.00	0.00
2005	44.00	31.08	19.42	0.00	11.66	20.16	19.07	8.28	19.28	-0.03	0.00	-0.11	0.00	0.00
2006	44.00	28.68	16.89	0.00	11.79	13.22	19.07	3.32	17.18	0.01	0.00	0.28	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
2016	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
2017	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.93	18.16	0.00	11.77	15.94	19.07	4.41	18.83	0.13	0.00	0.55	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

```
File                    : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 04-90\XB 04-90.spw
File Creation Date      : Jul 10, 2009 14:59:42
File Last Modified Date : Jul 10, 2009 14:59:43
Description             : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 04-90
Simulation Start Date   : Jan 01, 2004
Simulation End Date     : Dec 31, 2018
Simulation Run Date     : Jul 10, 2009 14:59
SPAW Interface Version  : 6.02.75
Field Model Version     : 6.02.71
Soil Equations          : Saxton et al. 2005
```

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

```
Field                  : Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 04-90
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 04-90\XB 04-90.fld (Jul 11, 200900:00)
Climate                : Dewey Burdock 04-90 climatic data
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\04-90.clm (Sep 16, 2008 00:00)
  Evaporation Defaults: Dewey-Burdock Evap. Defaults
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
  Precipitation        : SD0490 - Jan 01, 2004 to Dec 31, 2018
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\04-90.txt (Sep 16, 2008 00:00)
  Air Temperature      : SD0490 - Jan 01, 2004 to Dec 31, 2018
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\04-90.txt (Sep 16, 2008 00:00)
Management             : Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
  Crop ( 1)            : Bare feedlot or fallow field
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil                   : Burdock TP8, TP9, TP10 Revised Soils Composite
                         G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)
```

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2004	44.04	24.68	13.26	0.00	11.42	12.16	19.07	1.89	17.91	0.94	0.00	3.72	0.00	0.00
2005	44.00	28.85	17.18	0.00	11.66	20.16	19.07	7.55	20.02	0.90	0.00	1.93	0.00	0.00
2006	44.00	28.66	16.87	0.00	11.79	13.22	19.07	3.32	17.18	0.02	0.00	0.30	0.00	0.00
2007	44.00	29.09	17.64	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.16	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
2016	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
2017	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
2018	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.08	18.33	0.00	11.75	16.24	19.07	4.57	18.99	0.13	0.00	0.53	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 05-91\XB 05-91.spw
File Creation Date	: Jul 10, 2009 15:10:11
File Last Modified Date	: Jul 10, 2009 15:10:12
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 05-91
Simulation Start Date	: Jan 01, 2005
Simulation End Date	: Dec 31, 2019
Simulation Run Date	: Jul 10, 2009 15:10
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 05-91 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 05-91\XB 05-91.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 05-91 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\05-91.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0591 - Jan 01, 2005 to Dec 31, 2019 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\05-91.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0591 - Jan 01, 2005 to Dec 31, 2019 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\05-91.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
2005	44.00	25.35	13.69	0.00	11.66	20.16	19.07	7.55	20.02	1.53	0.00	4.80	0.00	0.00
2006	44.00	27.61	15.82	0.00	11.79	13.22	19.07	3.23	17.28	0.32	0.00	1.13	0.00	0.00
2007	44.00	29.08	17.63	0.00	11.45	14.33	19.07	4.44	17.51	0.03	0.00	-0.15	0.00	0.00
2008	44.04	30.81	18.73	0.00	12.08	16.74	19.07	4.92	18.80	0.00	0.00	0.08	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
2016	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
2017	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
2018	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
2019	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET in	AET in	EVAP in	TRAN in	INT in	PRECIP in	IRRIG in	RUNOFF in	INFIL in	PERC in	DEEPDRN in	DLT-SM in	STRESS	YLDRED
44.04	30.09	18.31	0.00	11.78	16.27	19.07	4.74	18.83	0.12	0.00	0.39	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 06-92\XB 06-92.spw
File Creation Date	: Jul 10, 2009 15:18:33
File Last Modified Date	: Jul 10, 2009 15:18:34
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 06-92
Simulation Start Date	: Jan 01, 2006
Simulation End Date	: Dec 31, 2020
Simulation Run Date	: Jul 10, 2009 15:18
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 06-92 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 06-92\XB 06-92.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 06-92 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\06-92.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0692 - Jan 01, 2006 to Dec 31, 2020 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\06-92.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0692 - Jan 01, 2006 to Dec 31, 2020 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\06-92.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2006	44.00	24.32	12.57	0.00	11.75	13.13	19.07	3.23	17.22	0.91	0.00	3.74	0.00	0.00
2007	44.00	26.12	14.67	0.00	11.45	14.33	19.07	4.44	17.51	0.92	0.00	1.91	0.00	0.00
2008	44.04	30.66	18.58	0.00	12.08	16.74	19.07	4.89	18.84	0.05	0.00	0.21	0.00	0.00
2009	44.00	28.60	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.24	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
2016	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
2017	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
2018	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
2019	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
2020	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	29.99	18.22	0.00	11.77	15.86	19.07	4.44	18.72	0.12	0.00	0.37	0.00	0.00

SUMMARY OF ANNUAL VALUES FROM SPAW SIMULATION

SIMULATION BY:
John Dwyer
Project Engineer
Knight Piesold

SIMULATION FOR:

File	: G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 07-93\XB 07-93.spw
File Creation Date	: Jul 10, 2009 15:27:28
File Last Modified Date	: Jul 10, 2009 15:27:29
Description	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 07-93
Simulation Start Date	: Jan 01, 2007
Simulation End Date	: Dec 31, 2021
Simulation Run Date	: Jul 10, 2009 15:27
SPAW Interface Version	: 6.02.75
Field Model Version	: 6.02.71
Soil Equations	: Saxton et al. 2005

DATABASE FILES USED: DESCRIPTION/FILE (DATE)

Field	: Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 07-93 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 07-93\XB 07-93.fld (Jul 11, 200900:00)
Climate	: Dewey Burdock 07-93 climatic data G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\07-93.clm (Sep 16, 2008 00:00)
Evaporation Defaults	: Dewey-Burdock Evap. Defaults G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\Defaults\Dewey-Burdock.evpd (Aug 23, 2008 00:00)
Precipitation	: SD0793 - Jan 01, 2007 to Dec 31, 2021 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\07-93.txt (Sep 16, 2008 00:00)
Air Temperature	: SD0793 - Jan 01, 2007 to Dec 31, 2021 G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Climates\15-yr\07-93.txt (Sep 16, 2008 00:00)
Management	: Combined-0.05 in per day Mar 29-May10 and Sep25-Oct 31; 0.11 in/day May11-Sep24; bare soil; 314.5 acres G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Managements\XD-217d-bare.mgmt (Jun 23, 2009 00:00)
Crop (1)	: Bare feedlot or fallow field G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Crops\Bare Soil.crop (Jun 10, 2009 00:00)
Soil	: Burdock TP8, TP9, TP10 Revised Soils Composite G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Database\Soils\BRev 8-9-10.soil (Jun 23, 2009 00:00)

NUMBER OF SOIL LAYERS: 7
THICKNESS OF SOIL LAYERS: (IN) 1.00 5.00 11.00 11.00 8.00 12.00 24.00

ACCUMULATIVE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

YEAR	PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
	in	in	in	in	in	in	in	in	in	in	in	in		
2007	44.00	24.35	12.90	0.00	11.45	14.33	19.07	4.44	17.51	0.95	0.00	3.66	0.00	0.00
2008	44.04	29.29	17.20	0.00	12.08	16.74	19.07	3.39	20.33	0.93	0.00	2.20	0.00	0.00
2009	44.00	28.59	17.28	0.00	11.31	13.46	19.07	4.20	17.02	-0.03	0.00	-0.23	0.00	0.00
2010	44.00	33.79	21.94	0.00	11.85	21.88	19.07	6.79	22.32	0.08	0.00	0.30	0.00	0.00
2011	44.00	30.63	18.84	0.00	11.78	16.16	19.07	4.66	18.79	-0.03	0.00	-0.03	0.00	0.00
2012	44.04	32.65	20.61	0.00	12.04	16.89	19.07	3.56	20.36	-0.06	0.00	-0.18	0.00	0.00
2013	44.00	28.16	16.53	0.00	11.63	11.75	19.07	2.57	16.62	0.01	0.00	0.08	0.00	0.00
2014	44.00	35.08	23.16	0.00	11.93	23.59	19.07	7.33	23.41	0.10	0.00	0.15	0.00	0.00
2015	44.00	29.71	17.84	0.00	11.87	12.36	19.07	2.28	17.27	-0.15	0.00	-0.41	0.00	0.00
2016	44.04	28.55	16.74	0.00	11.81	13.79	19.07	4.28	16.76	-0.01	0.00	0.03	0.00	0.00
2017	44.00	29.93	18.08	0.00	11.85	15.58	19.07	4.14	18.67	0.10	0.00	0.49	0.00	0.00
2018	44.00	31.85	20.19	0.00	11.65	19.14	19.07	6.58	19.97	0.00	0.00	-0.23	0.00	0.00
2019	44.00	29.52	17.60	0.00	11.92	15.03	19.07	4.59	17.59	-0.03	0.00	0.02	0.00	0.00
2020	44.04	30.27	18.64	0.00	11.63	14.08	19.07	3.06	18.46	-0.04	0.00	-0.14	0.00	0.00
2021	44.00	33.76	21.77	0.00	11.99	22.31	19.07	6.86	22.53	0.11	0.00	0.66	0.00	0.00

AVERAGE ANNUAL VALUES OF SOIL HYDROLOGIC BUDGET

PET	AET	EVAP	TRAN	INT	PRECIP	IRRIG	RUNOFF	INFIL	PERC	DEEPDRN	DLT-SM	STRESS	YLDRED
in	in	in	in	in	in	in	in	in	in	in	in		
44.04	30.41	18.63	0.00	11.79	16.47	19.07	4.58	19.17	0.13	0.00	0.42	0.00	0.00

Knight Piésold
CONSULTING

SPAW Model Results

Burdock Pond

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 80-94

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 80-94\XB 80-94.pnd
File Creation Date : Jul 09, 2009 14:55:31
File Last Modified Date : Jul 09, 2009 14:55:31
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 80-94
Simulation Start Date : Jan 01, 1980
Simulation End Date : Dec 31, 1994
Simulation Run Date : Jul 09, 2009 14:55
SPAW Interface Version : Jul 09, 2009 14:55:31
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 80-94 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 80-94\XB 80-94.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 80-94 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 80-94\XB 80-94.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1980	515.75	425.51	90.23	16.33	10.82	0	3.45	0	501.47	0	0	0	0	0	26.9	0	0	398.61	101.18
1981	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
1982	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
1983	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
1984	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
1985	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
1986	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.93	508.89	7.04	16.29	12.01	0	2.45	0	501.47	0	0	0	0	0	30.67	0	0	478.23	21.57

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 81-95

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 81-95\XB 81-95.pnd
File Creation Date : Jul 09, 2009 15:39:54
File Last Modified Date : Jul 09, 2009 15:39:54
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 81-95
Simulation Start Date : Jan 01, 1981
Simulation End Date : Dec 31, 1995
Simulation Run Date : Jul 09, 2009 15:39
SPAW Interface Version : Jul 09, 2009 15:39:54
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 81-95 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 81-95\XB 81-95.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 81-95 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 81-95\XB 81-95.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1981	511.59	420.75	90.83	13.46	8.55	0	2.93	0	500.1	0	0	0	0	0	26.74	0	0	394.01	105.78
1982	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
1983	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
1984	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
1985	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
1986	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.02	508.81	7.21	18.42	12.09	0	2.45	0	501.47	0	0	0	0	0	30.67	0	0	478.14	21.65

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 82-96

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 82-96\XB 82-96.pnd
File Creation Date : Jul 09, 2009 16:11:28
File Last Modified Date : Jul 09, 2009 16:11:28
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 82-96
Simulation Start Date : Jan 01, 1982
Simulation End Date : Dec 31, 1996
Simulation Run Date : Jul 09, 2009 16:11
SPAW Interface Version : Jul 09, 2009 16:11:28
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 82-96 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 82-96\XB 82-96.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 82-96 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 82-96\XB 82-96.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1982	518.31	426.94	91.37	21.83	13.74	0	4.47	0	500.1	0	0	0	0	0	26.8	0	0	400.14	99.66
1983	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
1984	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
1985	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
1986	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.23	509.2	7.03	16.69	12.25	0	2.51	0	501.47	0	0	0	0	0	30.68	0	0	478.52	21.27

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 83-97

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 83-97\XB 83-97.pnd
File Creation Date : Jul 09, 2009 17:45:28
File Last Modified Date : Jul 09, 2009 17:45:28
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 83-97
Simulation Start Date : Jan 01, 1983
Simulation End Date : Dec 31, 1997
Simulation Run Date : Jul 09, 2009 17:45
SPAW Interface Version : Jul 09, 2009 17:45:28
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 83-97 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 83-97\XB 83-97.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 83-97 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 83-97\XB 83-97.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1983	513.59	422.75	90.85	16.08	9.96	0	3.53	0	500.1	0	0	0	0	0	26.73	0	0	396.02	103.77
1984	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
1985	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
1986	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.01	509.07	6.93	16.42	12.11	0	2.42	0	501.47	0	0	0	0	0	30.68	0	0	478.4	21.4

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 84-98

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 84-98\XB 84-98.pnd
File Creation Date : Jul 10, 2009 08:55:47
File Last Modified Date : Jul 10, 2009 08:55:47
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 84-98
Simulation Start Date : Jan 01, 1984
Simulation End Date : Dec 31, 1998
Simulation Run Date : Jul 10, 2009 08:55
SPAW Interface Version : Jul 10, 2009 08:55:47
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 84-98 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 84-98\XB 84-98.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 84-98 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 84-98\XB 84-98.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1984	514.22	424.8	89.43	15.65	10.31	0	2.44	0	501.47	0	0	0	0	0	26.85	0	0	397.94	101.85
1985	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
1986	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.42	509.22	7.2	16.88	12.41	0	2.54	0	501.47	0	0	0	0	0	30.68	0	0	478.55	21.24

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 85-99

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 85-99\XB 85-99.pnd
File Creation Date : Jul 10, 2009 09:14:56
File Last Modified Date : Jul 10, 2009 09:14:56
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 85-99
Simulation Start Date : Jan 01, 1985
Simulation End Date : Dec 31, 1999
Simulation Run Date : Jul 10, 2009 09:14
SPAW Interface Version : Jul 10, 2009 09:14:56
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 85-99 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 85-99\XB 85-99.fpln Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 85-99 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 85-99\XB 85-99.fpln Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1985	509.66	420.45	89.21	11.75	7.58	0	1.98	0	500.1	0	0	0	0	0	26.73	0	0	393.72	106.07
1986	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.58	509.59	7	16.98	12.54	0	2.57	0	501.47	0	0	0	0	0	30.7	0	0	478.89	20.9

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 86-00

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 86-00\XB 86-00.pnd
File Creation Date : Jul 10, 2009 09:24:21
File Last Modified Date : Jul 10, 2009 09:24:21
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 86-00
Simulation Start Date : Jan 01, 1986
Simulation End Date : Dec 31, 2000
Simulation Run Date : Jul 10, 2009 09:24
SPAW Interface Version : Jul 10, 2009 09:24:21
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 86-00 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 86-00\XB 86-00.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 86-00 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 86-00\XB 86-00.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1986	519.01	426.15	92.86	22.02	13.74	0	5.17	0	500.1	0	0	0	0	0	26.84	0	0	399.31	100.48
1987	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.65	509.7	6.95	17.06	12.57	0	2.61	0	501.47	0	0	0	0	0	30.7	0	0	479	20.79

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 87-01

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 87-01\XB 87-01.pnd
File Creation Date : Jul 10, 2009 09:35:20
File Last Modified Date : Jul 10, 2009 09:35:20
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 87-01
Simulation Start Date : Jan 01, 1987
Simulation End Date : Dec 31, 2001
Simulation Run Date : Jul 10, 2009 09:35
SPAW Interface Version : Jul 10, 2009 09:35:20
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 87-01 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 87-01\XB 87-01.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 87-01 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 87-01\XB 87-01.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1987	510.45	421.1	89.34	12.37	8	0	2.34	0	500.1	0	0	0	0	0	26.78	0	0	394.35	105.45
1988	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
1989	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.44	509.44	7.01	16.8	12.47	0	2.5	0	501.47	0	0	0	0	0	30.69	0	0	478.75	21.04

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 88-02

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 88-02\XB 88-02.pnd
File Creation Date : Jul 10, 2009 09:45:01
File Last Modified Date : Jul 10, 2009 09:45:01
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 88-02
Simulation Start Date : Jan 01, 1988
Simulation End Date : Dec 31, 2002
Simulation Run Date : Jul 10, 2009 09:45
SPAW Interface Version : Jul 10, 2009 09:45:01
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 88-02 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 88-02\XB 88-02.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 88-02 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 88-02\XB 88-02.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1988	513.03	424.12	88.91	13.4	8.49	0	3.07	0	501.47	0	0	0	0	0	26.8	0	0	397.33	102.47
1989	513.88	513.15	0.73	15.56	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.45	509.53	6.92	16.82	12.44	0	2.54	0	501.47	0	0	0	0	0	30.68	0	0	478.85	20.95

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 89-03

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 89-03\XB 89-03.pnd
File Creation Date : Jul 10, 2009 10:06:33
File Last Modified Date : Jul 10, 2009 10:06:33
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 89-03
Simulation Start Date : Jan 01, 1989
Simulation End Date : Dec 31, 2003
Simulation Run Date : Jul 10, 2009 10:06
SPAW Interface Version : Jul 10, 2009 10:06:33
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 89-03 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 89-03\XB 89-03.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 89-03 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 89-03\XB 89-03.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runc ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1989	513.17	423.54	89.64	15.49	9.58	0	3.49	0	500.1	0	0	0	0	0	26.71	0	0	396.83	102.97
1990	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runc ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.51	509.47	7.04	16.9	12.52	0	2.51	0	501.47	0	0	0	0	0	30.69	0	0	478.78	21.01

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 90-04

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 90-04\XB 90-04.pnd
File Creation Date : Jul 09, 2009 13:57:49
File Last Modified Date : Jul 09, 2009 13:57:49
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil, no return RO
Simulation Start Date : Jan 01, 1990
Simulation End Date : Dec 31, 2004
Simulation Run Date : Jul 09, 2009 13:57
SPAW Interface Version : Jul 09, 2009 13:57:49
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock 06-10-09 Trials\XB-217d-bare\XB-217d-bare.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock 06-10-09 Trials\XB-217d-bare\XB-217d-bare.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1990	516.66	426.53	90.13	19.11	12.13	0	4.43	0	500.1	0	0	0	0	0	26.79	0	0	399.75	100.05
1991	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.41	509.26	7.14	16.84	12.43	0	2.5	0	501.47	0	0	0	0	0	30.68	0	0	478.59	21.21

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 91-05

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 91-05\XB 91-05.pnd
File Creation Date : Jul 10, 2009 10:19:20
File Last Modified Date : Jul 10, 2009 10:19:20
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 91-05
Simulation Start Date : Jan 01, 1991
Simulation End Date : Dec 31, 2005
Simulation Run Date : Jul 10, 2009 10:19
SPAW Interface Version : Jul 10, 2009 10:19:20
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 91-05 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 91-05\XB 91-05.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 91-05 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 91-05\XB 91-05.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runc ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1991	512.86	423.23	89.63	14.99	9.91	0	2.85	0	500.1	0	0	0	0	0	26.78	0	0	396.45	103.35
1992	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.26	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runc ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.49	509.36	7.12	16.9	12.54	0	2.47	0	501.47	0	0	0	0	0	30.69	0	0	478.68	21.12

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 92-06

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 92-06\XB 92-06.pnd
File Creation Date : Jul 10, 2009 10:31:49
File Last Modified Date : Jul 10, 2009 10:31:50
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 92-06
Simulation Start Date : Jan 01, 1992
Simulation End Date : Dec 31, 2006
Simulation Run Date : Jul 10, 2009 10:31
SPAW Interface Version : Jul 10, 2009 10:31:49
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 92-06 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 92-06\XB 92-06.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 92-06 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 92-06\XB 92-06.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1992	512.78	423.71	89.07	14.07	8.87	0	2.44	0	501.47	0	0	0	0	0	26.8	0	0	396.91	102.88
1993	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.06	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.36	509.27	7.09	16.79	12.42	0	2.47	0	501.47	0	0	0	0	0	30.68	0	0	478.59	21.2

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 93-07

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 93-07\XB 93-07.pnd
File Creation Date : Jul 10, 2009 10:41:59
File Last Modified Date : Jul 10, 2009 10:41:59
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 93-07
Simulation Start Date : Jan 01, 1993
Simulation End Date : Dec 31, 2007
Simulation Run Date : Jul 10, 2009 10:41
SPAW Interface Version : Jul 10, 2009 10:41:59
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 93-07 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 93-07\XB 93-07.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 93-07 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 93-07\XB 93-07.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1993	518.4	427.65	90.75	21.42	13.86	0	4.43	0	500.1	0	0	0	0	0	26.85	0	0	400.79	99
1994	510.64	510.51	0.13	12	8.8	0	1.74	0	500.1	0	0	0	0	0	30.81	0	0	479.7	20.09
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.4	509.1	7.3	16.82	12.37	0	2.56	0	501.47	0	0	0	0	0	30.67	0	0	478.43	21.36

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 94-80

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 94-80\XB 94-80.pnd
File Creation Date : Jul 10, 2009 10:53:20
File Last Modified Date : Jul 10, 2009 10:53:20
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 94-80
Simulation Start Date : Jan 01, 1994
Simulation End Date : Dec 31, 2008
Simulation Run Date : Jul 10, 2009 10:53
SPAW Interface Version : Jul 10, 2009 10:53:20
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 94-80 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 94-80\XB 94-80.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 94-80 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 94-80\XB 94-80.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1994	510.06	419.18	90.88	12	7.59	0	2.36	0	500.1	0	0	0	0	0	26.73	0	0	392.45	107.34
1995	516.24	515	1.24	18.32	13.44	0	2.69	0	500.1	0	0	0	0	0	30.97	0	0	484.03	15.76
1996	517.08	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41	12.38
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.09	508.94	7.15	16.43	12.17	0	2.45	0	501.47	0	0	0	0	0	30.68	0	0	478.26	21.53

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 95-81

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 95-81\XB 95-81.pnd
File Creation Date : Jul 10, 2009 11:05:09
File Last Modified Date : Jul 10, 2009 11:05:09
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 95-81
Simulation Start Date : Jan 01, 1995
Simulation End Date : Dec 31, 2009
Simulation Run Date : Jul 10, 2009 11:05
SPAW Interface Version : Jul 10, 2009 11:05:09
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 95-81 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 95-81\XB 95-81.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 95-81 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 95-81\XB 95-81.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1995	515.04	422.92	92.12	18.14	11.6	0	3.34	0	500.1	0	0	0	0	0	26.81	0	0	396.12
1996	517.06	518.52	-1.44	17.59	13.07	0	2.54	0	501.47	0	0	0	0	0	31.11	0	0	487.41
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
516.15	508.96	7.19	16.52	12.2	0	2.48	0	501.47	0	0	0	0	0	30.67	0	0	478.29

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 96-82

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 96-82\XB 96-82.pnd
File Creation Date : Jul 10, 2009 11:14:30
File Last Modified Date : Jul 10, 2009 11:14:30
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 96-82
Simulation Start Date : Jan 01, 1996
Simulation End Date : Dec 31, 2010
Simulation Run Date : Jul 10, 2009 11:14
SPAW Interface Version : Jul 10, 2009 11:14:30
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 96-82 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 96-82\XB 96-82.fpln Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 96-82 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 96-82\XB 96-82.fpln Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1996	516.34	425.66	90.68	17.59	11.35	0	3.52	0	501.47	0	0	0	0	0	26.86	0	0	398.8	100.99
1997	515.79	517.19	-1.4	17.73	13.43	0	2.26	0	500.1	0	0	0	0	0	30.97	0	0	486.22	13.58
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.39	509.16	7.23	16.77	12.38	0	2.54	0	501.47	0	0	0	0	0	30.67	0	0	478.49	21.3

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 97-83

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 97-83\XB 97-83.pnd
File Creation Date : Jul 10, 2009 12:49:16
File Last Modified Date : Jul 10, 2009 12:49:16
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 97-83
Simulation Start Date : Jan 01, 1997
Simulation End Date : Dec 31, 2011
Simulation Run Date : Jul 10, 2009 12:49
SPAW Interface Version : Jul 10, 2009 12:49:16
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 97-83 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 97-83\XB 97-83.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 97-83 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 97-83\XB 97-83.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runc ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1997	514.82	425.54	89.28	17.73	11.22	0	3.5	0	500.1	0	0	0	0	0	26.78	0	0	398.76	101.03
1998	522.01	518.03	3.98	24.29	17.28	0	4.62	0	500.1	0	0	0	0	0	30.96	0	0	487.06	12.73
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.96	17.86
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	516.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runc ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.35	509	7.35	16.74	12.31	0	2.57	0	501.47	0	0	0	0	0	30.66	0	0	478.34	21.45

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 98-84

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 98-84\XB 98-84.pnd
File Creation Date : Jul 10, 2009 13:00:58
File Last Modified Date : Jul 10, 2009 13:00:58
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 98-84
Simulation Start Date : Jan 01, 1998
Simulation End Date : Dec 31, 2012
Simulation Run Date : Jul 10, 2009 13:00
SPAW Interface Version : Jul 10, 2009 13:00:58
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 98-84 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 98-84\XB 98-84.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 98-84 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 98-84\XB 98-84.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
1998	521.14	427.88	93.26	24.29	15.09	0	5.95	0	500.1	0	0	0	0	0	26.84	0	0	401.04	98.75
1999	515.75	520.12	-4.37	17.17	13.4	0	2.25	0	500.1	0	0	0	0	0	31.14	0	0	488.99	10.81
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.24	509.14	7.1	16.62	12.23	0	2.53	0	501.47	0	0	0	0	0	30.67	0	0	478.47	21.32

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 99-85

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 99-85\XB 99-85.pnd
File Creation Date : Jul 10, 2009 13:08:52
File Last Modified Date : Jul 10, 2009 13:08:52
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 99-85
Simulation Start Date : Jan 01, 1999
Simulation End Date : Dec 31, 2013
Simulation Run Date : Jul 10, 2009 13:08
SPAW Interface Version : Jul 10, 2009 13:08:52
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 99-85 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 99-85\XB 99-85.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 99-85 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 99-85\XB 99-85.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
1999	514.89	425.99	88.89	17.17	11.22	0	3.56	0	500.1	0	0	0	0	0	26.81	0	0	399.19	100.61
2000	514.29	513.59	0.71	14.51	11.13	0	1.7	0	501.47	0	0	0	0	0	30.94	0	0	482.65	17.14
2001	516.56	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.45	508.37	7.08	15.78	11.66	0	2.31	0	501.47	0	0	0	0	0	30.64	0	0	477.72	22.07

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 00-86

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 00-86\XB 00-86.pnd
File Creation Date : Jul 10, 2009 13:35:17
File Last Modified Date : Jul 10, 2009 13:35:17
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 00-86
Simulation Start Date : Jan 01, 2000
Simulation End Date : Dec 31, 2014
Simulation Run Date : Jul 10, 2009 13:35
SPAW Interface Version : Jul 10, 2009 13:35:17
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 00-86 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 00-86\XB 00-86.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 00-86 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 00-86\XB 00-86.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2000	513.72	424.12	89.6	14.51	9.54	0	2.71	0	501.47	0	0	0	0	0	26.88	0	0	397.25	102.55
2001	516.55	515.75	0.79	18.1	13.67	0	2.77	0	500.1	0	0	0	0	0	30.93	0	0	484.82	14.97
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.76	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.84	508.51	7.33	16.21	11.93	0	2.43	0	501.47	0	0	0	0	0	30.65	0	0	477.86	21.94

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 01-87

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 01-87\XB 01-87.pnd
File Creation Date : Jul 10, 2009 13:44:37
File Last Modified Date : Jul 10, 2009 13:44:38
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 01-87
Simulation Start Date : Jan 01, 2001
Simulation End Date : Dec 31, 2015
Simulation Run Date : Jul 10, 2009 13:44
SPAW Interface Version : Jul 10, 2009 13:44:37
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 01-87 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 01-87\XB 01-87.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 01-87 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 01-87\XB 01-87.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2001	515.81	425.42	90.39	18.1	11.57	0	4.14	0	500.1	0	0	0	0	0	26.79	0	0	398.63	101.17
2002	511.43	512.73	-1.3	13.1	9.48	0	1.84	0	500.1	0	0	0	0	0	30.78	0	0	481.95	17.85
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.77	508.52	7.25	16.14	11.85	0	2.45	0	501.47	0	0	0	0	0	30.65	0	0	477.87	21.93

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 02-88

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 02-88\XB 02-88.pnd
File Creation Date : Jul 10, 2009 13:54:02
File Last Modified Date : Jul 10, 2009 13:54:02
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 02-88
Simulation Start Date : Jan 01, 2002
Simulation End Date : Dec 31, 2016
Simulation Run Date : Jul 10, 2009 13:54
SPAW Interface Version : Jul 10, 2009 13:54:01
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 02-88 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 02-88\XB 02-88.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 02-88 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 02-88\XB 02-88.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2002	510.82	421.72	89.1	13.1	8.24	0	2.47	0	500.1	0	0	0	0	0	26.71	0	0	395.01	104.78
2003	513.21	512.78	0.43	14.69	11.06	0	2.05	0	500.1	0	0	0	0	0	30.81	0	0	481.97	17.82
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
2016	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.44	508.38	7.06	15.78	11.63	0	2.34	0	501.47	0	0	0	0	0	30.65	0	0	477.73	22.07

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 03-89

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 03-89\XB 03-89.pnd
File Creation Date : Jul 10, 2009 14:03:26
File Last Modified Date : Jul 10, 2009 14:03:26
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 03-89
Simulation Start Date : Jan 01, 2003
Simulation End Date : Dec 31, 2017
Simulation Run Date : Jul 10, 2009 14:03
SPAW Interface Version : Jul 10, 2009 14:03:26
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 03-89 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 03-89\XB 03-89.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 03-89 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 03-89\XB 03-89.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2003	512.59	423.06	89.53	14.69	9.58	0	2.91	0	500.1	0	0	0	0	0	26.78	0	0	396.29	103.51
2004	511.57	511	0.57	12.19	8.33	0	1.76	0	501.47	0	0	0	0	0	30.77	0	0	480.23	19.56
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	518.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.16	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
2016	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
2017	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.61	508.5	7.11	15.94	11.71	0	2.43	0	501.47	0	0	0	0	0	30.65	0	0	477.84	21.95

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 04-90

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 04-90\XB 04-90.pnd
File Creation Date : Jul 10, 2009 15:01:32
File Last Modified Date : Jul 10, 2009 15:01:32
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 04-90
Simulation Start Date : Jan 01, 2004
Simulation End Date : Dec 31, 2018
Simulation Run Date : Jul 10, 2009 15:01
SPAW Interface Version : Jul 10, 2009 15:01:31
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 04-90 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 04-90\XB 04-90.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 04-90 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 04-90\XB 04-90.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2004	510.88	420.79	90.09	12.17	7.28	0	2.13	0	501.47	0	0	0	0	0	26.75	0	0	394.04	105.75
2005	518.63	518.94	-0.31	20.16	15.57	0	2.95	0	500.1	0	0	0	0	0	31.06	0	0	487.88	11.91
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
2016	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
2017	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
2018	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.89	508.74	7.14	16.24	11.92	0	2.49	0	501.47	0	0	0	0	0	30.66	0	0	478.08	21.71

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 05-91

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 05-91\XB 05-91.pnd
File Creation Date : Jul 10, 2009 15:11:27
File Last Modified Date : Jul 10, 2009 15:11:27
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 05-91
Simulation Start Date : Jan 01, 2005
Simulation End Date : Dec 31, 2019
Simulation Run Date : Jul 10, 2009 15:11
SPAW Interface Version : Jul 10, 2009 15:11:27
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 05-91 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 05-91\XB 05-91.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 05-91 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 05-91\XB 05-91.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2005	517.87	428.09	89.78	20.16	13.12	0	4.65	0	500.1	0	0	0	0	0	26.85	0	0	401.23	98.56
2006	511.85	512.38	-0.52	13.22	9.83	0	1.92	0	500.1	0	0	0	0	0	30.79	0	0	481.58	18.21
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.58	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
2016	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
2017	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
2018	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
2019	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runo	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.96	508.91	7.05	16.27	11.95	0	2.54	0	501.47	0	0	0	0	0	30.66	0	0	478.25	21.54

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 06-92

SIMULATION FOR:

File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 06-92\XB 06-92.pnd
File Creation Date : Jul 10, 2009 15:19:57
File Last Modified Date : Jul 10, 2009 15:19:57
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 06-92
Simulation Start Date : Jan 01, 2006
Simulation End Date : Dec 31, 2020
Simulation Run Date : Jul 10, 2009 15:19
SPAW Interface Version : Jul 10, 2009 15:19:57
Pond Model Version : 6.02.71

WATERSHED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 06-92 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 06-92\XB 06-92.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:

DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 06-92 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 06-92\XB 06-92.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 295.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
	ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
2006	511.19	421.93	89.26	13.13	8.32	0	2.77	0	500.1	0	0	0	0	0	26.72	0	0	395.21	104.58
2007	512.74	511.96	0.78	14.34	10.38	0	2.25	0	500.1	0	0	0	0	0	30.76	0	0	481.2	18.59
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
2016	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
2017	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
2018	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
2019	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
2020	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow	Outflow	Change	Precip	Precip Vol	WS Runoff	Bank Runc	Interflow	Ext Input	Seep In	Supply In	Drwdwn In	Pipe In	Spill In	Vol Evap	Vol Infil	Vol Seep	Irrig	Irrig Def
ac-ft	ac-ft	ac-ft	in	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft	ac-ft
515.54	508.62	6.92	15.86	11.68	0	2.39	0	501.47	0	0	0	0	0	30.66	0	0	477.97	21.83

A SUMMARY OF ACCUMULATIVE ANNUAL POND VOLUMES 07-93

SIMULATION FOR:
File : G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Ponds\Burdock July 09\XB 07-93\XB 07-93.pnd
File Creation Date : Jul 10, 2009 15:29:03
File Last Modified Date : Jul 10, 2009 15:29:03
Description : Burdock 302 AF Pond, 0.05 in/da from Mar-May and Oct; 0.11in/day May11-Sep24;314.5ac, bare soil; 07-93
Simulation Start Date : Jan 01, 2007
Simulation End Date : Dec 31, 2021
Simulation Run Date : Jul 10, 2009 15:29
SPAW Interface Version : Jul 10, 2009 15:29:02
Pond Model Version : 6.02.71

WATERSHED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 07-93 0.00
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 07-93\XB 07-93.fpin Dec 30, 1899 00:00

IRRIGATED FIELDS:
DESCRIPTION/FILE (DATE) AREA (AC)
Burdock-0.05/day from Mar29-May10 and Sep25-Oct31;0.11/day May11-Sep24; bare soil; 314.5 acres; 07-93 314.50
G:\102\00279.02\Data Info\DB Land Application-Irrigation\SPAW Model\Projects\Fields\Burdock July 09\XB 07-93\XB 07-93.fpin Dec 30, 1899 00:00

POND PROFILE
MAX AREA (AC) = 12.05
MAX DEPTH (FT) = 32.50
MAX VOLUME (AC-FT) = 296.99
IRRIGATION LIMIT (FT) = 1.00
EXTERNAL INPUT UPPER LIMIT (FT)= 0.00
EXTERNAL INPUT LOWER LIMIT (FT)= 0.00
SUPPLY PUMP LOWER LIMIT (FT) = 0.00
DRAWDOWN PUMP UPPER LIMIT (FT) = 0.00
DRAWDOWN PUMP LOWER LIMIT (FT) = 0.00
SPILLWAY CREST (FT) = 32.50
INITIAL DEPTH (FT) = 0.00
INFIL. INTO DRY SOIL (IN) = 0.00

ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Year	Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
2007	512.18	422.14	90.04	14.34	8.92	0	3.16	0	500.1	0	0	0	0	0	26.72	0	0	395.41	104.38
2008	516.75	516.56	0.19	16.74	12.91	0	2.37	0	501.47	0	0	0	0	0	31.07	0	0	485.5	14.3
2009	512.18	511.58	0.6	13.46	9.96	0	2.12	0	500.1	0	0	0	0	0	30.82	0	0	480.76	19.03
2010	519.33	518.79	0.54	21.88	15.94	0	3.28	0	500.1	0	0	0	0	0	31.01	0	0	487.78	12.01
2011	514.37	514.89	-0.53	16.16	11.7	0	2.57	0	500.1	0	0	0	0	0	30.9	0	0	483.99	15.8
2012	516.37	517.79	-1.42	16.9	13.11	0	1.79	0	501.47	0	0	0	0	0	31.11	0	0	486.69	13.11
2013	510.18	510.4	-0.22	11.75	8.72	0	1.35	0	500.1	0	0	0	0	0	30.74	0	0	479.66	20.13
2014	521.25	517.6	3.65	23.59	16.85	0	4.3	0	500.1	0	0	0	0	0	31.01	0	0	486.59	13.2
2015	511.06	514.58	-3.52	12.37	9.47	0	1.48	0	500.1	0	0	0	0	0	30.98	0	0	483.6	16.19
2016	513.94	514.37	-0.43	13.79	10.41	0	2.06	0	501.47	0	0	0	0	0	30.91	0	0	483.46	16.33
2017	513.88	513.15	0.73	15.58	10.9	0	2.88	0	500.1	0	0	0	0	0	30.71	0	0	482.44	17.35
2018	517.5	517.01	0.49	19.14	14.18	0	3.22	0	500.1	0	0	0	0	0	30.91	0	0	486.09	13.7
2019	513.64	514.14	-0.5	15.03	11.7	0	1.84	0	500.1	0	0	0	0	0	30.91	0	0	483.23	16.56
2020	513.63	514.19	-0.56	14.07	10.59	0	1.57	0	501.47	0	0	0	0	0	30.91	0	0	483.28	16.51
2021	520.21	518.53	1.68	22.3	17.02	0	3.09	0	500.1	0	0	0	0	0	31.03	0	0	487.5	12.29

AVERAGE ANNUAL VOLUMES BY MAJOR IMPOUNDMENT PROCESSES

Inflow ac-ft	Outflow ac-ft	Change ac-ft	Precip in	Precip Vol ac-ft	WS Runoff ac-ft	Bank Runo ac-ft	Interflow ac-ft	Ext Input ac-ft	Seep In ac-ft	Supply In ac-ft	Drwdwn In ac-ft	Pipe In ac-ft	Spill In ac-ft	Vol Evap ac-ft	Vol Infil ac-ft	Vol Seep ac-ft	Irrig ac-ft	Irrig Def ac-ft
516.1	509.07	7.03	16.47	12.16	0	2.47	0	501.47	0	0	0	0	0	30.67	0	0	478.4	21.39

Knight Piésold
CONSULTING

Monthly Runoff Water Balance

Dewey Area

1984-1998 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Jan	1984	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1984	35.00	0.00	0	0.00	0.28	1.23	0.00	-0.95	0.00E+00
Mar	1984	35.00	0.26	0.01	0.09	0.8	1.98	0.00	-1.09	0.00E+00
Apr	1984	35.00	28.04	1.07	9.61	3.59	3.3	52.41	-42.51	5.14E-05
May	1984	35.00	24.90	0.95	8.54	2.93	4.4	54.16	-47.09	5.14E-05
Jun	1984	35.00	5.24	0.2	1.80	1.91	5.76	52.41	-54.46	5.14E-05
Jul	1984	35.00	9.70	0.37	3.32	2.38	7.08	54.16	-55.53	5.14E-05
Aug	1984	35.00	9.44	0.36	3.23	1.66	6.95	54.16	-56.19	5.14E-05
Sep	1984	35.00	0.00	0	0.00	0.4	5.5	52.41	-57.51	5.14E-05
Oct	1984	35.00	0.52	0.02	0.16	0.63	3.74	54.16	-57.09	5.14E-05
Nov	1984	35.00	4.46	0.17	1.53	0.57	2.03	52.41	-52.34	5.14E-05
Dec	1984	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.75	0.00E+00
Jan	1985	35.00	0.00	0	0.00	0.17	0.92	0.00	-0.75	0.00E+00
Feb	1985	35.00	0.00	0	0.00	0.57	1.23	0.00	-0.68	0.00E+00
Mar	1985	35.00	0.00	0	0.00	0.77	1.98	0.00	-1.21	0.00E+00
Apr	1985	35.00	47.44	1.81	16.26	3.15	3.3	52.41	-36.30	5.14E-05
May	1985	35.00	2.62	0.1	0.90	1.05	4.4	54.16	-58.61	5.14E-05
Jun	1985	35.00	1.57	0.06	0.54	1.03	5.76	52.41	-56.60	5.14E-05
Jul	1985	35.00	2.36	0.09	0.81	1.2	7.08	54.16	-59.23	5.14E-05
Aug	1985	35.00	0.00	0	0.00	0.5	6.95	54.16	-60.61	5.14E-05
Sep	1985	35.00	12.32	0.47	4.22	1.99	5.5	52.41	-51.70	5.14E-05
Oct	1985	35.00	1.05	0.04	0.36	0.68	3.74	54.16	-56.86	5.14E-05
Nov	1985	35.00	0.00	0	0.00	0.22	2.03	52.41	-54.22	5.14E-05
Dec	1985	35.00	0.00	0	0.00	0.41	1.1	0.00	-0.69	0.00E+00
Jan	1986	35.00	0.00	0	0.00	1.63	0.92	0.00	0.71	0.00E+00
Feb	1986	35.00	0.00	0	0.71	1.06	1.28	0.00	0.49	0.00E+00
Mar	1986	35.00	0.00	0	0.49	0.52	1.98	0.00	-0.97	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	52.41	-41.39	5.14E-05
May	1986	35.00	6.39	0.32	2.88	1.07	4.4	54.16	-54.61	5.14E-05
Jun	1986	35.00	76.00	2.9	26.06	4.67	5.76	52.41	-27.24	5.14E-05
Jul	1986	35.00	6.81	0.26	2.34	1.63	7.08	54.16	-57.27	5.14E-05
Aug	1986	35.00	6.61	0.26	2.34	1.19	6.95	54.16	-57.58	5.14E-05
Sep	1986	35.00	36.17	1.38	12.40	3.52	5.5	52.41	-41.99	5.14E-05
Oct	1986	35.00	55.30	2.11	18.96	3.86	3.74	54.16	-35.06	5.14E-05
Nov	1986	35.00	2.10	0.08	0.72	0.86	2.03	52.41	-52.86	5.14E-05
Dec	1986	35.00	0.00	0	0.00	0.09	1.1	0.00	-1.01	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.23	0.00	-0.36	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	52.41	-52.00	5.14E-05
May	1987	35.00	26.73	1.02	9.17	2.97	4.4	52.41	-44.66	5.14E-05
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	52.41	-57.31	5.14E-05
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	52.41	-52.39	5.14E-05
Aug	1987	35.00	2.38	0.09	0.81	1.04	6.95	52.41	-57.51	5.14E-05
Sep	1987	35.00	2.62	0.1	0.90	0.76	5.5	52.41	-56.25	5.14E-05
Oct	1987	35.00	0.28	0.01	0.09	0.42	3.74	52.41	-55.64	5.14E-05
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	52.41	-51.84	5.14E-05
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	52.41	-54.54	5.14E-05
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	52.41	-47.25	5.14E-05
Jun	1988	35.00	41.93	1.6	14.36	2.76	5.76	52.41	-41.01	5.14E-05
Jul	1988	35.00	28.57	1.09	9.79	2.18	7.08	52.41	-47.52	5.14E-05
Aug	1988	35.00	27.78	1.06	9.52	1.87	6.95	52.41	-47.97	5.14E-05
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	52.41	-56.71	5.14E-05
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	52.41	-56.06	5.14E-05
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	52.41	-53.83	5.14E-05
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.6	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.16	1.14	1.98	0.00	-0.68	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	52.41	-50.36	5.14E-05
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	52.41	-54.32	5.14E-05
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	52.41	-56.25	5.14E-05
Jul	1989	35.00	26.47	1.01	9.08	2.21	7.08	52.41	-48.21	5.14E-05
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	52.41	-52.96	5.14E-05
Sep	1989	35.00	64.47	2.46	22.10	3.94	5.5	52.41	-31.87	5.14E-05
Oct	1989	35.00	2.88	0.11	0.99	1.07	3.74	52.41	-54.09	5.14E-05
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	52.41	-54.21	5.14E-05
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.06	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.28	0.00	-0.88	0.00E+00

1984-1998 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	52.41	-49.63	5.14E-05
May	1990	35.00	56.09	2.14	19.23	4.45	4.4	52.41	-33.13	5.14E-05
Jun	1990	35.00	8.65	0.33	2.97	1.22	5.76	52.41	-53.99	5.14E-05
Jul	1990	35.00	54.51	2.08	18.69	3.84	7.08	52.41	-36.96	5.14E-05
Aug	1990	35.00	5.24	0.2	1.80	0.86	6.95	52.41	-56.70	5.14E-05
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	52.41	-43.39	5.14E-05
Oct	1990	35.00	1.83	0.07	0.63	0.89	3.74	52.41	-54.63	5.14E-05
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	52.41	-50.99	5.14E-05
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.23	0.00	-0.33	0.00E+00
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	52.41	-52.60	5.14E-05
May	1991	35.00	56.35	2.15	19.32	4.91	4.4	52.41	-32.58	5.14E-05
Jun	1991	35.00	39.05	1.49	13.39	3.16	5.76	52.41	-41.62	5.14E-05
Jul	1991	35.00	0.26	0.01	0.09	0.36	7.08	52.41	-59.04	5.14E-05
Aug	1991	35.00	13.89	0.53	4.76	1.52	6.95	52.41	-53.08	5.14E-05
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	52.41	-57.62	5.14E-05
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	52.41	-53.58	5.14E-05
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	52.41	-53.84	5.14E-05
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.23	0.00	-0.09	0.00E+00
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.68	3.3	52.41	-53.72	5.14E-05
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	52.41	-43.54	5.14E-05
Jun	1992	35.00	13.37	0.51	4.58	1.88	5.76	52.41	-51.71	5.14E-05
Jul	1992	35.00	45.08	1.72	15.46	3.92	7.08	52.41	-40.12	5.14E-05
Aug	1992	35.00	14.68	0.56	5.03	1.74	6.95	52.41	-52.59	5.14E-05
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	52.41	-57.83	5.14E-05
Oct	1992	35.00	1.57	0.06	0.54	0.61	3.74	52.41	-55.00	5.14E-05
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	52.41	-54.24	5.14E-05
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	5.77	0.22	1.98	3.58	1.98	0.00	3.58	0.00E+00
Apr	1993	35.00	13.89	0.53	8.34	1.71	3.3	52.41	-45.66	5.14E-05
May	1993	35.00	16.77	0.64	5.75	1.98	4.4	52.41	-49.08	5.14E-05
Jun	1993	35.00	101.69	3.88	34.86	6.14	5.76	52.41	-17.17	5.14E-05
Jul	1993	35.00	28.57	1.09	9.79	2.67	7.08	52.41	-47.03	5.14E-05
Aug	1993	35.00	20.18	0.77	6.92	1.82	6.95	52.41	-50.62	5.14E-05
Sep	1993	35.00	2.10	0.08	0.72	1	5.5	52.41	-56.19	5.14E-05
Oct	1993	35.00	12.58	0.48	4.31	1.46	3.74	52.41	-50.38	5.14E-05
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	52.41	-53.72	5.14E-05
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.28	0.00	-0.92	0.00E+00
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.96	0.38	3.41	1.62	3.3	52.41	-50.68	5.14E-05
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	52.41	-51.39	5.14E-05
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	52.41	-54.79	5.14E-05
Jul	1994	35.00	16.25	0.62	5.57	2.04	7.08	52.41	-51.88	5.14E-05
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	52.41	-58.55	5.14E-05
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	52.41	-57.59	5.14E-05
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	52.41	-49.56	5.14E-05
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	52.41	-54.14	5.14E-05
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.23	0.00	-0.53	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	52.41	-53.90	5.14E-05
May	1995	35.00	38.53	1.47	13.21	4.42	4.4	52.41	-39.18	5.14E-05
Jun	1995	35.00	39.57	1.51	13.57	3.09	5.76	52.41	-41.51	5.14E-05
Jul	1995	35.00	1.31	0.05	0.45	1.07	7.08	52.41	-57.97	5.14E-05
Aug	1995	35.00	1.57	0.06	0.54	0.55	6.95	52.41	-58.27	5.14E-05
Sep	1995	35.00	53.73	2.05	18.42	3.61	5.5	52.41	-35.88	5.14E-05
Oct	1995	35.00	5.50	0.21	1.89	1.43	3.74	52.41	-52.83	5.14E-05
Nov	1995	35.00	2.36	0.09	0.81	0.81	2.03	52.41	-52.82	5.14E-05
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.23	0.00	-0.99	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	52.41	-42.83	5.14E-05

1984-1998 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
May	1996	35.00	35.38	1.35	12.13	3.69	4.4	52.41	-40.99	5.14E-05
Jun	1996	35.00	17.56	0.67	6.02	1.85	5.76	52.41	-50.30	5.14E-05
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	52.41	-58.76	5.14E-05
Aug	1996	35.00	32.78	1.25	11.23	2.72	6.95	52.41	-45.41	5.14E-05
Sep	1996	35.00	6.55	0.25	2.25	1.37	5.5	52.41	-54.30	5.14E-05
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	52.41	-51.85	5.14E-05
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	52.41	-53.94	5.14E-05
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	52.41	-47.80	5.14E-05
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	52.41	-44.63	5.14E-05
Jun	1997	35.00	34.07	1.3	11.68	3.17	5.76	52.41	-43.32	5.14E-05
Jul	1997	35.00	67.62	2.58	23.18	4.61	7.08	52.41	-31.70	5.14E-05
Aug	1997	35.00	5.50	0.21	1.89	1.05	6.95	52.41	-56.42	5.14E-05
Sep	1997	35.00	2.36	0.09	0.81	0.73	5.5	52.41	-56.37	5.14E-05
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	52.41	-55.09	5.14E-05
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	52.41	-53.29	5.14E-05
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.28	0.00	0.49	0.00E+00
Mar	1998	35.00	19.39	0.74	7.14	2.02	1.98	0.00	7.18	0.00E+00
Apr	1998	35.00	0.00	0	7.18	0.27	3.3	52.41	-48.26	5.14E-05
May	1998	35.00	31.19	1.19	10.69	3.58	4.4	52.41	-42.54	5.14E-05
Jun	1998	35.00	51.63	1.97	17.70	3.36	5.76	52.41	-37.11	5.14E-05
Jul	1998	35.00	45.34	1.73	15.55	3.38	7.08	52.41	-40.57	5.14E-05
Aug	1998	35.00	29.35	1.12	10.06	2.36	6.95	52.41	-46.94	5.14E-05
Sep	1998	35.00	33.55	1.28	11.50	2.08	5.5	52.41	-44.33	5.14E-05
Oct	1998	35.00	44.55	1.7	15.28	4.16	3.74	52.41	-36.72	5.14E-05
Nov	1998	35.00	8.65	0.33	2.97	1.42	2.03	52.41	-50.06	5.14E-05
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
				5.22		16.66	44.00		7.18	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see
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1985-1999 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Jan	1985	35.00	0.00	0	0.00	0.17	0.92	0.00	-0.75	0.00E+00
Feb	1985	35.00	0.00	0	0.00	0.57	1.23	0.00	-0.66	0.00E+00
Mar	1985	35.00	0.00	0	0.00	0.77	1.98	0.00	-1.21	0.00E+00
Apr	1985	35.00	47.44	1.81	16.26	3.15	3.3	52.41	-36.30	5.14E-05
May	1985	35.00	2.62	0.1	0.90	1.05	4.4	54.16	-58.61	5.14E-05
Jun	1985	35.00	1.57	0.06	0.54	1.03	5.76	52.41	-56.60	5.14E-05
Jul	1985	35.00	2.38	0.09	0.81	1.2	7.08	54.16	-59.23	5.14E-05
Aug	1985	35.00	0.00	0	0.00	0.5	6.95	54.16	-60.61	5.14E-05
Sep	1985	35.00	12.32	0.47	4.22	1.99	5.5	52.41	-61.70	5.14E-05
Oct	1985	35.00	1.05	0.04	0.36	0.68	3.74	54.16	-58.86	5.14E-05
Nov	1985	35.00	0.00	0	0.00	0.22	2.03	52.41	-54.22	5.14E-05
Dec	1985	35.00	0.00	0	0.00	0.41	1.1	0.00	-0.69	0.00E+00
Jan	1986	35.00	0.00	0	0.00	1.63	0.92	0.00	0.71	0.00E+00
Feb	1986	35.00	0.00	0	0.71	1.06	1.23	0.00	0.54	0.00E+00
Mar	1986	35.00	0.00	0	0.54	0.52	1.98	0.00	-0.92	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	52.41	-41.39	5.14E-05
May	1986	35.00	8.39	0.32	2.88	1.07	4.4	54.16	-54.61	5.14E-05
Jun	1986	35.00	75.74	2.89	25.97	4.87	5.76	52.41	-27.33	5.14E-05
Jul	1986	35.00	6.29	0.24	2.16	1.63	7.08	54.16	-57.45	5.14E-05
Aug	1986	35.00	6.81	0.26	2.34	1.19	6.95	54.16	-57.56	5.14E-05
Sep	1986	35.00	36.17	1.38	12.40	3.52	5.5	52.41	-41.99	5.14E-05
Oct	1986	35.00	55.30	2.11	18.96	3.88	3.74	54.16	-35.06	5.14E-05
Nov	1986	35.00	2.10	0.08	0.72	0.86	2.03	52.41	-52.86	5.14E-05
Dec	1986	35.00	0.00	0	0.00	0.09	1.1	0.00	-1.01	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.28	0.00	-0.41	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	52.41	-52.00	5.14E-05
May	1987	35.00	22.02	0.84	7.55	2.97	4.4	54.16	-48.04	5.14E-05
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	52.41	-57.31	5.14E-05
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	54.16	-54.14	5.14E-05
Aug	1987	35.00	2.36	0.09	0.81	1.04	6.95	54.16	-59.26	5.14E-05
Sep	1987	35.00	2.62	0.1	0.90	0.76	5.5	52.41	-58.25	5.14E-05
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	54.16	-57.39	5.14E-05
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	52.41	-51.84	5.14E-05
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.78	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	52.41	-54.54	5.14E-05
May	1988	35.00	20.16	0.77	6.92	2.64	4.4	52.41	-47.25	5.14E-05
Jun	1988	35.00	41.93	1.6	14.38	2.78	5.76	52.41	-41.01	5.14E-05
Jul	1988	35.00	28.57	1.09	9.79	2.18	7.08	52.41	-47.52	5.14E-05
Aug	1988	35.00	27.78	1.06	9.52	1.87	6.95	52.41	-47.97	5.14E-05
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	52.41	-56.71	5.14E-05
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	52.41	-56.06	5.14E-05
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	52.41	-53.83	5.14E-05
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.6	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.18	1.14	1.98	0.00	-0.66	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	52.41	-60.36	5.14E-05
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	52.41	-54.32	5.14E-05
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	52.41	-58.25	5.14E-05
Jul	1989	35.00	26.47	1.01	9.08	2.21	7.06	52.41	-46.21	5.14E-05
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	52.41	-52.96	5.14E-05
Sep	1989	35.00	64.47	2.46	22.10	3.94	5.5	52.41	-31.87	5.14E-05
Oct	1989	35.00	2.88	0.11	0.99	1.07	3.74	52.41	-64.09	5.14E-05
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	52.41	-54.21	5.14E-05
Dec	1989	35.00	0.00	0	0.00	0.58	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.23	0.00	-0.83	0.00E+00
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	52.41	-49.63	5.14E-05
May	1990	35.00	56.09	2.14	19.23	4.45	4.4	52.41	-33.13	5.14E-05
Jun	1990	35.00	6.55	0.25	2.25	1.22	5.76	52.41	-54.71	5.14E-05
Jul	1990	35.00	54.51	2.08	18.69	3.84	7.08	52.41	-36.96	5.14E-05
Aug	1990	35.00	5.24	0.2	1.80	0.86	6.95	52.41	-56.70	5.14E-05
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	52.41	-43.39	5.14E-05
Oct	1990	35.00	1.83	0.07	0.63	0.89	3.74	52.41	-54.63	5.14E-05
Nov	1990	35.00	8.81	0.26	2.34	1.12	2.03	52.41	-50.99	5.14E-05
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.28	0.00	-0.38	0.00E+00

1985-1999 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	52.41	-52.60	5.14E-05
May	1991	35.00	56.35	2.15	19.32	4.91	4.4	52.41	-32.58	5.14E-05
Jun	1991	35.00	39.05	1.49	13.39	3.16	5.76	52.41	-41.62	5.14E-05
Jul	1991	35.00	0.26	0.01	0.09	0.36	7.08	52.41	-59.04	5.14E-05
Aug	1991	35.00	13.89	0.53	4.76	1.52	6.95	52.41	-53.08	5.14E-05
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	52.41	-57.62	5.14E-05
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	52.41	-53.58	5.14E-05
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	52.41	-53.84	5.14E-05
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.23	0.00	-0.09	0.00E+00
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.66	3.3	52.41	-53.72	5.14E-05
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	52.41	-43.54	5.14E-05
Jun	1992	35.00	13.37	0.51	4.58	1.88	5.76	52.41	-51.71	5.14E-05
Jul	1992	35.00	45.06	1.72	15.46	3.92	7.08	52.41	-40.12	5.14E-05
Aug	1992	35.00	14.68	0.56	5.03	1.74	6.95	52.41	-52.59	5.14E-05
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	52.41	-57.83	5.14E-05
Oct	1992	35.00	1.57	0.06	0.54	0.61	3.74	52.41	-55.00	5.14E-05
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	52.41	-54.24	5.14E-05
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	5.77	0.22	1.98	3.58	1.98	0.00	3.58	0.00E+00
Apr	1993	35.00	13.89	0.53	8.34	1.71	3.3	52.41	-45.66	5.14E-05
May	1993	35.00	16.77	0.64	5.75	1.98	4.4	52.41	-49.08	5.14E-05
Jun	1993	35.00	101.69	3.88	34.86	6.14	5.76	52.41	-17.17	5.14E-05
Jul	1993	35.00	28.57	1.09	9.79	2.67	7.08	52.41	-47.03	5.14E-05
Aug	1993	35.00	20.18	0.77	6.92	1.82	6.95	52.41	-50.62	5.14E-05
Sep	1993	35.00	2.10	0.08	0.72	1	5.5	52.41	-56.19	5.14E-05
Oct	1993	35.00	12.58	0.48	4.31	1.48	3.74	52.41	-50.36	5.14E-05
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	52.41	-53.72	5.14E-05
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.23	0.00	-0.87	0.00E+00
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.96	0.38	3.41	1.62	3.3	52.41	-50.68	5.14E-05
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	52.41	-51.39	5.14E-05
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	52.41	-54.79	5.14E-05
Jul	1994	35.00	16.25	0.62	5.57	2.04	7.08	52.41	-51.86	5.14E-05
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	52.41	-58.55	5.14E-05
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	52.41	-57.59	5.14E-05
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	52.41	-49.56	5.14E-05
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	52.41	-54.14	5.14E-05
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.28	0.00	-0.58	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	52.41	-53.90	5.14E-05
May	1995	35.00	38.53	1.47	13.21	4.42	4.4	52.41	-39.18	5.14E-05
Jun	1995	35.00	39.57	1.51	13.57	3.09	5.76	52.41	-41.51	5.14E-05
Jul	1995	35.00	1.31	0.05	0.45	1.07	7.08	52.41	-57.97	5.14E-05
Aug	1995	35.00	1.57	0.06	0.54	0.55	6.95	52.41	-58.27	5.14E-05
Sep	1995	35.00	53.73	2.05	18.42	3.61	5.5	52.41	-35.88	5.14E-05
Oct	1995	35.00	5.50	0.21	1.89	1.43	3.74	52.41	-52.83	5.14E-05
Nov	1995	35.00	2.36	0.09	0.81	0.81	2.03	52.41	-52.82	5.14E-05
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.23	0.00	-0.99	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	52.41	-42.83	5.14E-05
May	1996	35.00	35.38	1.35	12.13	3.69	4.4	52.41	-40.99	5.14E-05
Jun	1996	35.00	17.56	0.67	6.02	1.85	5.76	52.41	-50.30	5.14E-05
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	52.41	-58.76	5.14E-05
Aug	1996	35.00	32.76	1.25	11.23	2.72	6.95	52.41	-45.41	5.14E-05
Sep	1996	35.00	6.55	0.25	2.25	1.37	5.5	52.41	-54.30	5.14E-05
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	52.41	-51.85	5.14E-05
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	52.41	-53.94	5.14E-05
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	52.41	-47.80	5.14E-05

1985-1999 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	52.41	-44.63	5.14E-05
Jun	1997	35.00	34.07	1.3	11.68	3.17	5.76	52.41	-43.32	5.14E-05
Jul	1997	35.00	67.62	2.58	23.18	4.61	7.08	52.41	-31.70	5.14E-05
Aug	1997	35.00	5.50	0.21	1.89	1.05	6.95	52.41	-58.42	5.14E-05
Sep	1997	35.00	2.36	0.09	0.81	0.73	5.5	52.41	-58.37	5.14E-05
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	52.41	-56.09	5.14E-05
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	52.41	-53.29	5.14E-05
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.64	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.23	0.00	0.54	0.00E+00
Mar	1998	35.00	19.39	0.74	7.19	2.02	1.98	0.00	7.23	0.00E+00
Apr	1998	35.00	0.00	0	7.23	0.27	3.3	52.41	-48.21	5.14E-05
May	1998	35.00	31.19	1.19	10.69	3.58	4.4	52.41	-42.54	5.14E-05
Jun	1998	35.00	51.63	1.97	17.70	3.36	5.76	52.41	-37.11	5.14E-05
Jul	1998	35.00	45.34	1.73	15.55	3.38	7.08	52.41	-40.57	5.14E-05
Aug	1998	35.00	29.35	1.12	10.08	2.36	6.95	52.41	-46.94	5.14E-05
Sep	1998	35.00	33.55	1.28	11.50	2.08	5.5	52.41	-44.33	5.14E-05
Oct	1998	35.00	44.55	1.7	15.28	4.16	3.74	52.41	-36.72	5.14E-05
Nov	1998	35.00	8.65	0.33	2.97	1.42	2.03	52.41	-50.08	5.14E-05
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1999	35.00	0.00	0	0.00	0.55	0.92	0.00	-0.37	0.00E+00
Feb	1999	35.00	0.00	0	0.00	0.12	1.28	0.00	-1.16	0.00E+00
Mar	1999	35.00	0.00	0	0.00	0.55	1.98	0.00	-1.43	0.00E+00
Apr	1999	35.00	26.21	1	8.99	3.76	3.3	52.41	-42.97	5.14E-05
May	1999	35.00	2.36	0.09	0.81	1.17	4.4	52.41	-54.83	5.14E-05
Jun	1999	35.00	85.18	3.25	29.20	5.57	5.76	52.41	-23.40	5.14E-05
Jul	1999	35.00	4.98	0.19	1.71	0.98	7.08	52.41	-56.80	5.14E-05
Aug	1999	35.00	31.45	1.2	10.78	1.96	6.95	52.41	-46.62	5.14E-05
Sep	1999	35.00	20.44	0.76	7.01	1.79	5.5	52.41	-49.11	5.14E-05
Oct	1999	35.00	0.00	0	0.00	0.04	3.74	52.41	-56.11	5.14E-05
Nov	1999	35.00	0.79	0.03	0.27	0.56	2.03	52.41	-53.61	5.14E-05
Dec	1999	35.00	0.00	0	0.00	0.12	1.1	0.00	-0.98	0.00E+00
				5.42		16.98	44.00		7.23	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Dewey test pits, see
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1986-2000 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Jan	1986	35.00	0.00	0	0.00	0.07	0.92	0.00	-0.85	0.00E+00
Feb	1986	35.00	0.00	0	0.00	1.06	1.23	0.00	-0.17	0.00E+00
Mar	1986	35.00	0.00	0	0.00	0.52	1.98	0.00	-1.46	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	52.41	-41.39	5.14E-05
May	1986	35.00	8.39	0.32	2.88	1.07	4.4	54.16	-54.81	5.14E-05
Jun	1986	35.00	66.05	2.52	22.64	4.87	5.76	52.41	-30.66	5.14E-05
Jul	1986	35.00	5.24	0.2	1.80	1.63	7.08	54.16	-57.81	5.14E-05
Aug	1986	35.00	6.81	0.26	2.34	1.19	6.95	54.16	-57.58	5.14E-05
Sep	1986	35.00	31.97	1.22	10.96	3.52	5.5	52.41	-43.43	5.14E-05
Oct	1986	35.00	55.30	2.11	18.96	3.88	3.74	54.16	-35.06	5.14E-05
Nov	1986	35.00	2.10	0.08	0.72	0.86	2.03	52.41	-52.86	5.14E-05
Dec	1986	35.00	0.00	0	0.00	0.09	1.1	0.00	-1.01	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.23	0.00	-0.36	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	52.41	-52.00	5.14E-05
May	1987	35.00	22.02	0.84	7.55	2.97	4.4	54.16	-48.04	5.14E-05
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	52.41	-57.31	5.14E-05
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	54.16	-54.14	5.14E-05
Aug	1987	35.00	2.36	0.09	0.81	1.04	6.96	54.16	-59.28	5.14E-05
Sep	1987	35.00	2.62	0.1	0.90	0.76	5.5	52.41	-56.25	5.14E-05
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	54.16	-57.39	5.14E-05
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	52.41	-51.84	5.14E-05
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.28	0.00	-1.07	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	52.41	-54.54	5.14E-05
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	54.16	-49.00	5.14E-05
Jun	1988	35.00	41.93	1.6	14.38	2.78	5.76	52.41	-41.01	5.14E-05
Jul	1988	35.00	26.57	1.09	9.79	2.18	7.08	54.16	-49.26	5.14E-05
Aug	1988	35.00	27.78	1.06	9.52	1.87	6.95	54.16	-49.71	5.14E-05
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	52.41	-56.71	5.14E-05
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	54.16	-57.81	5.14E-05
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	52.41	-53.83	5.14E-05
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.6	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.18	1.14	1.98	0.00	-0.66	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	52.41	-50.36	5.14E-05
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	52.41	-54.32	5.14E-05
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	52.41	-56.25	5.14E-05
Jul	1989	35.00	26.47	1.01	9.08	2.21	7.08	52.41	-48.21	5.14E-05
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	52.41	-52.96	5.14E-05
Sep	1989	35.00	64.47	2.46	22.10	3.94	5.5	52.41	-31.87	5.14E-05
Oct	1989	35.00	2.88	0.11	0.99	1.07	3.74	52.41	-54.09	5.14E-05
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	52.41	-54.21	5.14E-05
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.23	0.00	-0.83	0.00E+00
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	52.41	-49.63	5.14E-05
May	1990	35.00	56.09	2.14	19.23	4.45	4.4	52.41	-33.13	5.14E-05
Jun	1990	35.00	6.55	0.25	2.25	1.22	5.76	52.41	-54.71	5.14E-05
Jul	1990	35.00	54.25	2.07	18.60	3.84	7.08	52.41	-37.05	5.14E-05
Aug	1990	35.00	5.24	0.2	1.80	0.86	6.95	52.41	-56.70	5.14E-05
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	52.41	-43.39	5.14E-05
Oct	1990	35.00	1.83	0.07	0.63	0.89	3.74	52.41	-54.63	5.14E-05
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	52.41	-50.99	5.14E-05
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.61	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.23	0.00	-0.33	0.00E+00
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	52.41	-52.60	5.14E-05
May	1991	35.00	56.35	2.15	19.32	4.91	4.4	52.41	-32.58	5.14E-05
Jun	1991	35.00	39.05	1.49	13.39	3.16	5.76	52.41	-41.62	5.14E-05
Jul	1991	35.00	0.26	0.01	0.09	0.36	7.08	52.41	-59.04	5.14E-05
Aug	1991	35.00	13.89	0.53	4.76	1.52	6.95	52.41	-53.08	5.14E-05
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	52.41	-57.62	5.14E-05
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	52.41	-53.58	5.14E-05
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	52.41	-53.84	5.14E-05
Dec	1991	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.28	0.00	-0.14	0.00E+00

1988-2000 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.66	3.3	52.41	-53.72	5.14E-05
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	52.41	-43.54	5.14E-05
Jun	1992	35.00	13.37	0.51	4.58	1.88	5.76	52.41	-51.71	5.14E-05
Jul	1992	35.00	45.08	1.72	15.46	3.92	7.08	52.41	-40.12	5.14E-05
Aug	1992	35.00	14.66	0.56	5.03	1.74	6.95	52.41	-52.59	5.14E-05
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	52.41	-57.83	5.14E-05
Oct	1992	35.00	1.57	0.06	0.54	0.81	3.74	52.41	-55.00	5.14E-05
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	52.41	-54.24	5.14E-05
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	5.77	0.22	1.98	3.56	1.98	0.00	3.56	0.00E+00
Apr	1993	35.00	13.89	0.53	8.34	1.71	3.3	52.41	-45.66	5.14E-05
May	1993	35.00	16.77	0.64	5.75	1.98	4.4	52.41	-49.08	5.14E-05
Jun	1993	35.00	101.69	3.88	34.86	6.14	5.76	52.41	-17.17	5.14E-05
Jul	1993	35.00	28.57	1.09	9.79	2.67	7.08	52.41	-47.03	5.14E-05
Aug	1993	35.00	20.18	0.77	6.92	1.82	6.95	52.41	-50.62	5.14E-05
Sep	1993	35.00	2.10	0.08	0.72	1	5.5	52.41	-56.19	5.14E-05
Oct	1993	35.00	12.58	0.48	4.31	1.48	3.74	52.41	-50.36	5.14E-05
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	52.41	-53.72	5.14E-05
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.23	0.00	-0.87	0.00E+00
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.96	0.38	3.41	1.62	3.3	52.41	-50.68	5.14E-05
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	52.41	-51.39	5.14E-05
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	52.41	-54.79	5.14E-05
Jul	1994	35.00	16.25	0.62	5.57	2.04	7.08	52.41	-51.88	5.14E-05
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	52.41	-58.55	5.14E-05
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	52.41	-57.59	5.14E-05
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	52.41	-49.56	5.14E-05
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	52.41	-54.14	5.14E-05
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.23	0.00	-0.53	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	52.41	-53.90	5.14E-05
May	1995	35.00	38.53	1.47	13.21	4.42	4.4	52.41	-39.18	5.14E-05
Jun	1995	35.00	39.57	1.51	13.57	3.09	5.76	52.41	-41.51	5.14E-05
Jul	1995	35.00	1.31	0.05	0.45	1.07	7.08	52.41	-57.97	5.14E-05
Aug	1995	35.00	1.57	0.06	0.54	0.55	6.95	52.41	-58.27	5.14E-05
Sep	1995	35.00	53.73	2.05	18.42	3.61	5.5	52.41	-35.88	5.14E-05
Oct	1995	35.00	5.50	0.21	1.89	1.43	3.74	52.41	-52.83	5.14E-05
Nov	1995	35.00	2.36	0.09	0.81	0.81	2.03	52.41	-52.82	5.14E-05
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.28	0.00	-1.04	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	52.41	-42.83	5.14E-05
May	1996	35.00	35.38	1.35	12.13	3.69	4.4	52.41	-40.99	5.14E-05
Jun	1996	35.00	17.56	0.67	6.02	1.85	5.76	52.41	-50.30	5.14E-05
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	52.41	-58.76	5.14E-05
Aug	1996	35.00	32.76	1.25	11.23	2.72	6.95	52.41	-45.41	5.14E-05
Sep	1996	35.00	6.55	0.25	2.25	1.37	5.5	52.41	-54.30	5.14E-05
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	52.41	-51.85	5.14E-05
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	52.41	-53.94	5.14E-05
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	52.41	-47.80	5.14E-05
May	1997	35.00	27.28	1.04	9.35	2.84	4.4	52.41	-44.63	5.14E-05
Jun	1997	35.00	34.07	1.3	11.68	3.17	5.76	52.41	-43.32	5.14E-05
Jul	1997	35.00	67.62	2.58	23.18	4.61	7.08	52.41	-31.70	5.14E-05
Aug	1997	35.00	5.50	0.21	1.89	1.05	6.95	52.41	-56.42	5.14E-05
Sep	1997	35.00	2.36	0.09	0.81	0.73	5.5	52.41	-56.37	5.14E-05
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	52.41	-55.09	5.14E-05
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	52.41	-53.29	5.14E-05
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.23	0.00	0.54	0.00E+00
Mar	1998	35.00	19.39	0.74	7.19	2.02	1.98	0.00	7.23	0.00E+00
Apr	1998	35.00	0.00	0	7.23	0.27	3.3	52.41	-48.21	5.14E-05

1986-2000 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
May	1998	35.00	31.19	1.19	10.69	3.58	4.4	52.41	-42.54	5.14E-05
Jun	1998	35.00	51.63	1.97	17.70	3.38	5.76	52.41	-37.11	5.14E-05
Jul	1998	35.00	45.34	1.73	15.55	3.38	7.08	52.41	-40.57	5.14E-05
Aug	1998	35.00	29.35	1.12	10.06	2.36	6.95	52.41	-46.94	5.14E-05
Sep	1998	35.00	33.55	1.28	11.50	2.08	5.5	52.41	-44.33	5.14E-05
Oct	1998	35.00	44.55	1.7	15.28	4.16	3.74	52.41	-36.72	5.14E-05
Nov	1998	35.00	8.65	0.33	2.97	1.42	2.03	52.41	-50.06	5.14E-05
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1999	35.00	0.00	0	0.00	0.55	0.92	0.00	-0.37	0.00E+00
Feb	1999	35.00	0.00	0	0.00	0.12	1.23	0.00	-1.11	0.00E+00
Mar	1999	35.00	0.00	0	0.00	0.55	1.98	0.00	-1.43	0.00E+00
Apr	1999	35.00	26.21	1	8.99	3.76	3.3	52.41	-42.97	5.14E-05
May	1999	35.00	2.36	0.09	0.81	1.17	4.4	52.41	-54.83	5.14E-05
Jun	1999	35.00	85.18	3.25	29.20	5.57	5.76	52.41	-23.40	5.14E-05
Jul	1999	35.00	4.98	0.19	1.71	0.98	7.08	52.41	-56.80	5.14E-05
Aug	1999	35.00	31.45	1.2	10.78	1.96	6.95	52.41	-46.62	5.14E-05
Sep	1999	35.00	20.44	0.78	7.01	1.79	5.5	52.41	-49.11	5.14E-05
Oct	1999	35.00	0.00	0	0.00	0.04	3.74	52.41	-56.11	5.14E-05
Nov	1999	35.00	0.79	0.03	0.27	0.56	2.03	52.41	-53.61	5.14E-05
Dec	1999	35.00	0.00	0	0.00	0.12	1.1	0.00	-0.98	0.00E+00
Jan	2000	35.00	0.00	0	0.00	0.16	0.92	0.00	-0.76	0.00E+00
Feb	2000	35.00	0.26	0.01	0.09	1.09	1.28	0.00	-0.10	0.00E+00
Mar	2000	35.00	8.12	0.31	2.79	1.48	1.98	0.00	2.29	0.00E+00
Apr	2000	35.00	69.45	2.65	26.10	4.74	3.3	52.41	-24.87	5.14E-05
May	2000	35.00	0.52	0.02	0.16	0.78	4.4	52.41	-55.85	5.14E-05
Jun	2000	35.00	0.00	0	0.00	0.43	5.76	52.41	-57.74	5.14E-05
Jul	2000	35.00	16.51	0.63	5.66	2.24	7.08	52.41	-51.59	5.14E-05
Aug	2000	35.00	1.57	0.06	0.54	0.69	6.95	52.41	-58.13	5.14E-05
Sep	2000	35.00	4.46	0.17	1.53	1.03	5.5	52.41	-55.35	5.14E-05
Oct	2000	35.00	2.88	0.11	0.99	1.08	3.74	52.41	-54.08	5.14E-05
Nov	2000	35.00	0.00	0	0.00	0.43	2.03	52.41	-54.01	5.14E-05
Dec	2000	35.00	0.00	0	0.00	0.38	1.1	0.00	-0.74	0.00E+00
				5.46		17.06	44.00		7.23	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Dewey test pits, see
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1988-2002 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (In)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Jan	1988	35.00	0.00	0	0.00	0.24	0.92	0.00	-0.68	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	52.41	-54.54	5.14E-05
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	54.16	-49.00	5.14E-05
Jun	1988	35.00	40.36	1.54	13.84	2.78	5.76	52.41	-41.55	5.14E-05
Jul	1988	35.00	22.02	0.84	7.55	2.18	7.08	54.16	-51.51	5.14E-05
Aug	1988	35.00	27.78	1.06	9.52	1.87	6.95	54.16	-49.71	5.14E-05
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	52.41	-56.71	5.14E-05
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	54.16	-57.81	5.14E-05
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	52.41	-53.83	5.14E-05
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.6	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.16	1.14	1.98	0.00	-0.66	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	52.41	-50.36	5.14E-05
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	54.16	-56.07	5.14E-05
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	52.41	-56.25	5.14E-05
Jul	1989	35.00	20.18	0.77	6.92	2.21	7.08	54.16	-52.11	5.14E-05
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	54.16	-54.71	5.14E-05
Sep	1989	35.00	64.47	2.46	22.10	3.94	5.5	52.41	-31.87	5.14E-05
Oct	1989	35.00	2.88	0.11	0.99	1.07	3.74	54.16	-55.84	5.14E-05
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	52.41	-54.21	5.14E-05
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.28	0.00	-0.88	0.00E+00
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	52.41	-49.63	5.14E-05
May	1990	35.00	52.94	2.02	18.15	4.45	4.4	54.16	-35.96	5.14E-05
Jun	1990	35.00	6.55	0.25	2.25	1.22	5.76	52.41	-54.71	5.14E-05
Jul	1990	35.00	54.25	2.07	18.60	3.84	7.08	54.16	-36.80	5.14E-05
Aug	1990	35.00	4.98	0.19	1.71	0.86	6.95	54.16	-58.54	5.14E-05
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	52.41	-43.39	5.14E-05
Oct	1990	35.00	1.83	0.07	0.63	0.89	3.74	54.16	-56.38	5.14E-05
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	52.41	-50.99	5.14E-05
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.23	0.00	-0.33	0.00E+00
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	52.41	-52.60	5.14E-05
May	1991	35.00	56.35	2.15	19.32	4.91	4.4	52.41	-32.58	5.14E-05
Jun	1991	35.00	39.05	1.49	13.39	3.16	5.76	52.41	-41.62	5.14E-05
Jul	1991	35.00	0.26	0.01	0.09	0.36	7.08	52.41	-59.04	5.14E-05
Aug	1991	35.00	13.89	0.53	4.76	1.52	6.95	52.41	-53.08	5.14E-05
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	52.41	-57.62	5.14E-05
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	52.41	-53.68	5.14E-05
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	52.41	-53.84	5.14E-05
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.23	0.00	-0.09	0.00E+00
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.68	3.3	52.41	-53.72	5.14E-05
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	52.41	-43.54	5.14E-05
Jun	1992	35.00	13.37	0.51	4.58	1.88	5.76	52.41	-51.71	5.14E-05
Jul	1992	35.00	45.08	1.72	15.46	3.92	7.08	52.41	-40.12	5.14E-05
Aug	1992	35.00	9.17	0.35	3.15	1.74	6.95	52.41	-54.48	5.14E-05
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	52.41	-57.83	5.14E-05
Oct	1992	35.00	1.57	0.06	0.54	0.81	3.74	52.41	-55.00	5.14E-05
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	52.41	-54.24	5.14E-05
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	5.77	0.22	1.98	3.58	1.98	0.00	3.58	0.00E+00
Apr	1993	35.00	13.89	0.53	8.34	1.71	3.3	52.41	-45.66	5.14E-05
May	1993	35.00	16.77	0.64	5.75	1.98	4.4	52.41	-49.08	5.14E-05
Jun	1993	35.00	101.69	3.88	34.88	6.14	5.76	52.41	-17.17	5.14E-05
Jul	1993	35.00	28.57	1.09	9.79	2.67	7.08	52.41	-47.03	5.14E-05
Aug	1993	35.00	20.18	0.77	6.92	1.82	6.95	52.41	-50.82	5.14E-05
Sep	1993	35.00	2.10	0.08	0.72	1	5.5	52.41	-56.19	5.14E-05
Oct	1993	35.00	12.58	0.48	4.31	1.48	3.74	52.41	-50.36	5.14E-05
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	52.41	-53.72	5.14E-05
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.28	0.00	-0.92	0.00E+00

1988-2002 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.98	0.38	3.41	1.62	3.3	52.41	-50.68	5.14E-05
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	52.41	-51.39	5.14E-05
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	52.41	-54.79	5.14E-05
Jul	1994	35.00	16.25	0.62	5.57	2.04	7.08	52.41	-51.88	5.14E-05
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	52.41	-58.55	5.14E-05
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	52.41	-57.59	5.14E-05
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	52.41	-49.56	5.14E-05
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	52.41	-54.14	5.14E-05
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.23	0.00	-0.53	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	52.41	-53.90	5.14E-05
May	1995	35.00	38.53	1.47	13.21	4.42	4.4	52.41	-39.16	5.14E-05
Jun	1995	35.00	39.57	1.51	13.57	3.09	5.76	52.41	-41.51	5.14E-05
Jul	1995	35.00	1.31	0.05	0.45	1.07	7.08	52.41	-57.97	5.14E-05
Aug	1995	35.00	1.57	0.06	0.54	0.55	6.95	52.41	-58.27	5.14E-05
Sep	1995	35.00	53.73	2.05	16.42	3.61	5.5	52.41	-35.88	5.14E-05
Oct	1995	35.00	5.50	0.21	1.89	1.43	3.74	52.41	-52.83	5.14E-05
Nov	1995	35.00	2.36	0.09	0.81	0.81	2.03	52.41	-52.82	5.14E-05
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.23	0.00	-0.99	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	52.41	-42.83	5.14E-05
May	1996	35.00	35.38	1.35	12.13	3.69	4.4	52.41	-40.99	5.14E-05
Jun	1996	35.00	17.56	0.67	6.02	1.85	5.76	52.41	-50.30	5.14E-05
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	52.41	-58.76	5.14E-05
Aug	1996	35.00	32.76	1.25	11.23	2.72	6.95	52.41	-45.41	5.14E-05
Sep	1996	35.00	6.55	0.25	2.25	1.37	5.5	52.41	-54.30	5.14E-05
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	52.41	-51.65	5.14E-05
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	52.41	-53.94	5.14E-05
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	52.41	-47.80	5.14E-05
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	52.41	-44.63	5.14E-05
Jun	1997	35.00	34.07	1.3	11.68	3.17	5.76	52.41	-43.32	5.14E-05
Jul	1997	35.00	67.62	2.58	23.18	4.61	7.08	52.41	-31.70	5.14E-05
Aug	1997	35.00	5.50	0.21	1.89	1.05	6.95	52.41	-56.42	5.14E-05
Sep	1997	35.00	2.36	0.09	0.81	0.73	5.5	52.41	-56.37	5.14E-05
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	52.41	-55.09	5.14E-05
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	52.41	-53.29	5.14E-05
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.28	0.00	0.49	0.00E+00
Mar	1998	35.00	19.39	0.74	7.14	2.02	1.98	0.00	[illegible]	0.00E+00
Apr	1998	35.00	0.00	0	7.18	0.27	3.3	52.41	-48.26	5.14E-05
May	1998	35.00	31.19	1.19	10.69	3.58	4.4	52.41	-42.64	5.14E-05
Jun	1998	35.00	51.63	1.97	17.70	3.36	5.78	52.41	-37.11	5.14E-05
Jul	1998	35.00	45.34	1.73	15.55	3.38	7.06	52.41	-40.57	5.14E-05
Aug	1998	35.00	29.35	1.12	10.06	2.36	6.95	52.41	-46.94	5.14E-05
Sep	1998	35.00	33.55	1.28	11.50	2.08	5.5	52.41	-44.33	5.14E-05
Oct	1998	35.00	44.55	1.7	15.28	4.16	3.74	52.41	-36.72	5.14E-05
Nov	1998	35.00	8.65	0.33	2.97	1.42	2.03	52.41	-50.06	5.14E-05
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1999	35.00	0.00	0	0.00	0.55	0.92	0.00	-0.37	0.00E+00
Feb	1999	35.00	0.00	0	0.00	0.12	1.23	0.00	-1.11	0.00E+00
Mar	1999	35.00	0.00	0	0.00	0.55	1.98	0.00	-1.43	0.00E+00
Apr	1999	35.00	26.21	1	8.99	3.76	3.3	52.41	-42.97	5.14E-05
May	1999	35.00	2.36	0.09	0.81	1.17	4.4	52.41	-54.83	5.14E-05
Jun	1999	35.00	85.18	3.25	29.20	5.57	5.76	52.41	-23.40	5.14E-05
Jul	1999	35.00	4.98	0.19	1.71	0.98	7.08	52.41	-56.80	5.14E-05
Aug	1999	35.00	31.45	1.2	10.76	1.96	6.95	52.41	-46.62	5.14E-05
Sep	1999	35.00	20.44	0.78	7.01	1.79	5.5	52.41	-49.11	5.14E-05
Oct	1999	35.00	0.00	0	0.00	0.04	3.74	52.41	-56.11	5.14E-05
Nov	1999	35.00	0.79	0.03	0.27	0.56	2.03	52.41	-53.61	5.14E-05
Dec	1999	35.00	0.00	0	0.00	0.12	1.1	0.00	-0.98	0.00E+00
Jan	2000	35.00	0.00	0	0.00	0.16	0.92	0.00	-0.76	0.00E+00
Feb	2000	35.00	0.26	0.01	0.09	1.09	1.23	0.00	-0.05	0.00E+00
Mar	2000	35.00	8.12	0.31	2.79	1.48	1.98	0.00	2.29	0.00E+00
Apr	2000	35.00	69.45	2.65	26.10	4.74	3.3	52.41	-24.87	5.14E-05

1988-2002 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
May	2000	35.00	0.52	0.02	0.18	0.78	4.4	52.41	-55.85	5.14E-05
Jun	2000	35.00	0.00	0	0.00	0.43	5.76	52.41	-57.74	5.14E-05
Jul	2000	35.00	16.51	0.63	5.66	2.24	7.08	52.41	-51.69	5.14E-05
Aug	2000	35.00	1.57	0.06	0.54	0.69	6.95	52.41	-58.13	5.14E-05
Sep	2000	35.00	4.46	0.17	1.53	1.03	5.5	52.41	-55.35	5.14E-05
Oct	2000	35.00	2.88	0.11	0.99	1.08	3.74	52.41	-54.08	5.14E-05
Nov	2000	35.00	0.00	0	0.00	0.43	2.03	52.41	-54.01	5.14E-05
Dec	2000	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.74	0.00E+00
Jan	2001	35.00	0.00	0	0.00	0.06	0.92	0.00	-0.86	0.00E+00
Feb	2001	35.00	0.00	0	0.00	0.58	1.23	0.00	-0.65	0.00E+00
Mar	2001	35.00	0.00	0	0.00	0.95	1.98	0.00	-1.03	0.00E+00
Apr	2001	35.00	19.66	0.75	6.74	2.46	3.3	52.41	-46.51	5.14E-05
May	2001	35.00	10.75	0.41	3.68	1.67	4.4	52.41	-51.46	5.14E-05
Jun	2001	35.00	38.00	1.45	13.03	3.22	5.76	52.41	-41.92	5.14E-05
Jul	2001	35.00	90.42	3.45	31.00	4.96	7.08	52.41	-23.53	5.14E-05
Aug	2001	35.00	6.81	0.26	2.34	1.26	6.95	52.41	-55.77	5.14E-05
Sep	2001	35.00	0.00	0	0.00	0.33	5.5	52.41	-57.58	5.14E-05
Oct	2001	35.00	6.29	0.24	2.16	1.18	3.74	52.41	-52.81	5.14E-05
Nov	2001	35.00	5.77	0.22	1.98	1.3	2.03	52.41	-51.16	5.14E-05
Dec	2001	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	2002	35.00	0.00	0	0.00	0.04	0.92	0.00	-0.88	0.00E+00
Feb	2002	35.00	0.00	0	0.00	0.21	1.28	0.00	-1.07	0.00E+00
Mar	2002	35.00	0.00	0	0.00	1.44	1.98	0.00	-0.54	0.00E+00
Apr	2002	35.00	4.98	0.19	1.71	1.69	3.3	52.41	-52.31	5.14E-05
May	2002	35.00	6.03	0.23	2.07	1.68	4.4	52.41	-53.06	5.14E-05
Jun	2002	35.00	6.03	0.23	2.07	1.23	5.76	52.41	-54.87	5.14E-05
Jul	2002	35.00	1.57	0.06	0.54	0.74	7.08	52.41	-58.21	5.14E-05
Aug	2002	35.00	31.19	1.19	10.69	2.38	6.95	52.41	-46.29	5.14E-05
Sep	2002	35.00	27.78	1.06	9.52	2.47	5.5	52.41	-45.92	5.14E-05
Oct	2002	35.00	2.62	0.1	0.90	0.82	3.74	52.41	-54.43	5.14E-05
Nov	2002	35.00	0.26	0.01	0.09	0.33	2.03	52.41	-54.02	5.14E-05
Dec	2002	35.00	0.00	0	0.00	0.08	1.1	0.00	-1.02	0.00E+00
				5.40		18.82	44.00		7.18	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see
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2002-1988 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Jan	2002	35.00	0.00	0	0.00	0.04	0.92	0.00	-0.88	0.00E+00
Feb	2002	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	2002	35.00	0.00	0	0.00	1.44	1.98	0.00	-0.54	0.00E+00
Apr	2002	35.00	4.98	0.19	1.71	1.69	3.3	52.41	-52.31	5.14E-05
May	2002	35.00	6.03	0.23	2.07	1.68	4.4	54.16	-54.81	5.14E-05
Jun	2002	35.00	6.03	0.23	2.07	1.23	5.76	52.41	-54.87	5.14E-05
Jul	2002	35.00	1.57	0.06	0.54	0.74	7.08	54.16	-59.96	5.14E-05
Aug	2002	35.00	30.93	1.18	10.60	2.38	6.95	54.16	-48.13	5.14E-05
Sep	2002	35.00	16.77	0.64	5.75	2.47	5.5	52.41	-49.69	5.14E-05
Oct	2002	35.00	2.62	0.1	0.90	0.82	3.74	54.16	-56.18	5.14E-05
Nov	2002	35.00	0.26	0.01	0.09	0.33	2.03	52.41	-54.02	5.14E-05
Dec	2002	35.00	0.00	0	0.00	0.08	1.1	0.00	-1.02	0.00E+00
Jan	2003	35.00	0.00	0	0.00	0.47	0.92	0.00	-0.45	0.00E+00
Feb	2003	35.00	0.00	0	0.00	0.43	1.23	0.00	-0.80	0.00E+00
Mar	2003	35.00	13.63	0.52	4.67	1.92	1.98	0.00	4.61	0.00E+00
Apr	2003	35.00	15.46	0.59	9.91	1.96	3.3	52.41	-43.84	5.14E-05
May	2003	35.00	12.32	0.47	4.22	1.95	4.4	54.16	-52.39	5.14E-05
Jun	2003	35.00	14.15	0.54	4.85	2.8	5.76	52.41	-50.52	5.14E-05
Jul	2003	35.00	0.00	0	0.00	0.05	7.08	54.16	-61.19	5.14E-05
Aug	2003	35.00	21.23	0.81	7.28	1.69	6.95	54.16	-51.94	5.14E-05
Sep	2003	35.00	10.75	0.41	3.68	1.58	5.5	52.41	-52.65	5.14E-05
Oct	2003	35.00	0.52	0.02	0.18	0.6	3.74	54.16	-57.12	5.14E-05
Nov	2003	35.00	0.26	0.01	0.09	0.44	2.03	52.41	-53.91	5.14E-05
Dec	2003	35.00	2.10	0.08	0.72	0.6	1.1	0.00	0.22	0.00E+00
Jan	2004	35.00	0.00	0	0.22	0.3	0.92	0.00	-0.40	0.00E+00
Feb	2004	35.00	0.00	0	0.00	1.3	1.28	0.00	0.02	0.00E+00
Mar	2004	35.00	0.00	0	0.02	0.06	1.98	0.00	-1.90	0.00E+00
Apr	2004	35.00	0.00	0	0.00	0.32	3.3	52.41	-55.39	5.14E-05
May	2004	35.00	1.31	0.05	0.45	0.97	4.4	54.16	-57.14	5.14E-05
Jun	2004	35.00	1.05	0.04	0.36	1.26	5.76	52.41	-56.55	5.14E-05
Jul	2004	35.00	9.44	0.36	3.23	2.21	7.08	54.16	-55.79	5.14E-05
Aug	2004	35.00	1.57	0.06	0.54	0.98	6.95	54.16	-59.59	5.14E-05
Sep	2004	35.00	23.69	0.9	8.09	2.81	6.5	52.41	-47.21	5.14E-05
Oct	2004	35.00	16.06	0.69	6.20	1.69	3.74	54.16	-49.81	5.14E-05
Nov	2004	35.00	0.00	0	0.00	0.2	2.03	52.41	-54.24	5.14E-05
Dec	2004	35.00	0.00	0	0.00	0.08	1.1	0.00	-1.02	0.00E+00
Jan	2005	35.00	0.00	0	0.00	0.47	0.92	0.00	-0.45	0.00E+00
Feb	2005	35.00	0.00	0	0.00	0.1	1.23	0.00	-1.13	0.00E+00
Mar	2005	35.00	13.10	0.5	4.49	1.68	1.98	0.00	4.19	0.00E+00
Apr	2005	35.00	27.52	1.05	13.63	2.73	3.3	52.41	-39.35	5.14E-05
May	2005	35.00	16.25	0.62	5.57	2.66	4.4	52.41	-48.58	5.14E-05
Jun	2005	35.00	112.70	4.3	38.64	6.24	5.76	52.41	-13.29	5.14E-05
Jul	2005	35.00	31.71	1.21	10.67	2.07	7.08	52.41	-46.55	5.14E-05
Aug	2005	35.00	22.26	0.85	7.64	1.91	6.95	52.41	-49.81	5.14E-05
Sep	2005	35.00	0.00	0	0.00	0.37	5.5	52.41	-57.54	5.14E-05
Oct	2005	35.00	13.63	0.52	4.67	1.49	3.74	52.41	-49.99	5.14E-05
Nov	2005	35.00	0.00	0	0.00	0.04	2.03	52.41	-54.40	5.14E-05
Dec	2005	35.00	0.00	0	0.00	0.4	1.1	0.00	-0.70	0.00E+00
Jan	2006	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	2006	35.00	0.00	0	0.00	0.51	1.23	0.00	-0.72	0.00E+00
Mar	2006	35.00	0.00	0	0.00	0.93	1.98	0.00	-1.05	0.00E+00
Apr	2006	35.00	6.03	0.23	2.07	1.35	3.3	52.41	-52.29	5.14E-05
May	2006	35.00	18.08	0.69	6.20	2.11	4.4	52.41	-48.50	5.14E-05
Jun	2006	35.00	6.29	0.24	2.16	1.35	5.76	52.41	-54.66	5.14E-05
Jul	2006	35.00	51.63	1.97	17.70	3.15	7.08	52.41	-38.64	5.14E-05
Aug	2006	35.00	9.44	0.36	3.23	1.34	6.95	52.41	-54.79	5.14E-05
Sep	2006	35.00	8.12	0.31	2.79	0.91	5.5	52.41	-54.22	5.14E-05
Oct	2006	35.00	1.57	0.06	0.54	0.69	3.74	52.41	-54.92	5.14E-05
Nov	2006	35.00	0.00	0	0.00	0.26	2.03	52.41	-54.18	5.14E-05
Dec	2006	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.74	0.00E+00
Jan	2007	35.00	0.00	0	0.00	0.14	0.92	0.00	-0.78	0.00E+00
Feb	2007	35.00	0.00	0	0.00	0.44	1.23	0.00	-0.79	0.00E+00
Mar	2007	35.00	26.21	1	8.99	1.74	1.98	0.00	[illegible]	0.00E+00
Apr	2007	35.00	2.88	0.11	9.73	1.09	3.3	52.41	-44.89	5.14E-05
May	2007	35.00	15.99	0.61	5.48	1.72	4.4	52.41	-49.61	5.14E-05
Jun	2007	35.00	1.31	0.05	0.45	0.67	5.76	52.41	-57.05	5.14E-05
Jul	2007	35.00	55.56	2.12	19.05	3.5	7.08	52.41	-36.94	5.14E-05
Aug	2007	35.00	15.99	0.61	5.48	2.05	6.95	52.41	-51.83	5.14E-05
Sep	2007	35.00	1.31	0.05	0.45	0.83	5.5	52.41	-56.63	5.14E-05
Oct	2007	35.00	13.10	0.5	4.49	1.72	3.74	52.41	-49.94	5.14E-05
Nov	2007	35.00	0.00	0	0.00	0.06	2.03	52.41	-54.38	5.14E-05
Dec	2007	35.00	0.00	0	0.00	0.37	1.1	0.00	-0.73	0.00E+00
Jan	1980	35.00	0.00	0	0.00	0.59	0.92	0.00	-0.33	0.00E+00
Feb	1980	35.00	0.00	0	0.00	0.77	1.28	0.00	-0.51	0.00E+00

2002-1986 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
Mar	1980	35.00	0.00	0	0.00	2.82	1.98	0.00	0.84	0.00E+00
Apr	1980	35.00	21.49	0.82	8.21	1.72	3.3	52.41	-45.78	5.14E-05
May	1980	35.00	30.14	1.15	10.33	3.33	4.4	52.41	-43.15	5.14E-05
Jun	1980	35.00	28.31	1.08	9.70	1.99	5.76	52.41	-46.48	5.14E-05
Jul	1980	35.00	3.41	0.13	1.17	0.97	7.08	52.41	-57.35	5.14E-05
Aug	1980	35.00	14.94	0.57	5.12	1.85	6.95	52.41	-52.39	5.14E-05
Sep	1980	35.00	2.10	0.08	0.72	0.39	5.5	52.41	-56.80	5.14E-05
Oct	1980	35.00	5.77	0.22	1.98	1.01	3.74	52.41	-53.16	5.14E-05
Nov	1980	35.00	3.67	0.14	1.26	0.62	2.03	52.41	-52.56	5.14E-05
Dec	1980	35.00	0.00	0	0.00	0.68	1.1	0.00	-0.42	0.00E+00
Jan	1981	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1981	35.00	0.00	0	0.00	0.27	1.23	0.00	-0.96	0.00E+00
Mar	1981	35.00	5.77	0.22	1.98	0.66	1.98	0.00	0.66	0.00E+00
Apr	1981	35.00	1.31	0.05	1.11	0.74	3.3	52.41	-53.87	5.14E-05
May	1981	35.00	27.26	1.04	9.35	3.22	4.4	52.41	-44.25	5.14E-05
Jun	1981	35.00	22.28	0.85	7.64	1.73	5.76	52.41	-48.80	5.14E-05
Jul	1981	35.00	23.33	0.89	8.00	2.54	7.08	52.41	-48.95	5.14E-05
Aug	1981	35.00	6.56	0.25	2.25	1	6.95	52.41	-56.12	5.14E-05
Sep	1981	35.00	0.00	0	0.00	0.16	5.5	52.41	-57.75	5.14E-05
Oct	1981	35.00	34.60	1.32	11.86	2.92	3.74	52.41	-41.37	5.14E-05
Nov	1981	35.00	0.00	0	0.00	0.04	2.03	52.41	-54.40	5.14E-05
Dec	1981	35.00	0.00	0	0.00	0.1	1.1	0.00	-1.00	0.00E+00
Jan	1982	35.00	0.00	0	0.00	0.18	0.92	0.00	-0.74	0.00E+00
Feb	1982	35.00	0.00	0	0.00	0.05	1.23	0.00	-1.18	0.00E+00
Mar	1982	35.00	0.00	0	0.00	1.34	1.98	0.00	-0.64	0.00E+00
Apr	1982	35.00	2.36	0.09	0.81	1	3.3	52.41	-53.90	5.14E-05
May	1982	35.00	43.24	1.65	14.83	4.18	4.4	52.41	-37.81	5.14E-05
Jun	1982	35.00	72.60	2.77	24.89	4.45	5.76	52.41	-28.83	5.14E-05
Jul	1982	35.00	19.66	0.75	6.74	2.2	7.08	52.41	-50.55	5.14E-05
Aug	1982	35.00	42.98	1.64	14.74	3.29	6.95	52.41	-41.33	5.14E-05
Sep	1982	35.00	17.56	0.67	6.02	2.42	5.5	52.41	-49.47	5.14E-05
Oct	1982	35.00	9.44	0.36	3.23	1.27	3.74	52.41	-51.65	5.14E-05
Nov	1982	35.00	12.58	0.48	4.31	1.3	2.03	52.41	-48.83	5.14E-05
Dec	1982	35.00	0.00	0	0.00	0.2	1.1	0.00	-0.90	0.00E+00
Jan	1983	35.00	0.00	0	0.00	0.22	0.92	0.00	-0.70	0.00E+00
Feb	1983	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1983	35.00	4.46	0.17	1.53	0.89	1.98	0.00	0.44	0.00E+00
Apr	1983	35.00	1.05	0.04	0.80	0.75	3.3	52.41	-54.16	5.14E-05
May	1983	35.00	11.27	0.43	3.86	1.95	4.4	52.41	-51.00	5.14E-05
Jun	1983	35.00	52.68	2.01	18.06	4.25	5.76	52.41	-35.86	5.14E-05
Jul	1983	35.00	6.29	0.24	2.16	1.05	7.08	52.41	-56.28	5.14E-05
Aug	1983	35.00	46.65	1.78	15.99	3.31	6.95	52.41	-40.06	5.14E-05
Sep	1983	35.00	0.26	0.01	0.09	0.28	5.5	52.41	-57.54	5.14E-05
Oct	1983	35.00	4.46	0.17	1.53	1.6	3.74	52.41	-53.02	5.14E-05
Nov	1983	35.00	12.58	0.48	4.31	1.6	2.03	52.41	-48.53	5.14E-05
Dec	1983	35.00	0.00	0	0.00	0.05	1.1	0.00	-1.05	0.00E+00
Jan	1984	35.00	0.00	0	0.00	1.37	0.92	0.00	0.45	0.00E+00
Feb	1984	35.00	0.00	0	0.45	0.28	1.28	0.00	-0.55	0.00E+00
Mar	1984	35.00	0.26	0.01	0.09	0.8	1.98	0.00	-1.09	0.00E+00
Apr	1984	35.00	33.28	1.27	11.41	3.59	3.3	52.41	-40.71	5.14E-05
May	1984	35.00	29.62	1.13	10.15	2.93	4.4	52.41	-43.73	5.14E-05
Jun	1984	35.00	21.49	0.82	7.37	1.91	5.76	52.41	-48.89	5.14E-05
Jul	1984	35.00	17.04	0.65	5.84	2.38	7.08	52.41	-51.27	5.14E-05
Aug	1984	35.00	16.25	0.62	5.57	1.68	6.95	52.41	-52.11	5.14E-05
Sep	1984	35.00	0.00	0	0.00	0.4	5.5	52.41	-57.51	5.14E-05
Oct	1984	35.00	0.52	0.02	0.18	0.63	3.74	52.41	-55.34	5.14E-05
Nov	1984	35.00	4.46	0.17	1.53	0.57	2.03	52.41	-52.34	5.14E-05
Dec	1984	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1985	35.00	0.00	0	0.00	0.17	0.92	0.00	-0.75	0.00E+00
Feb	1985	35.00	0.00	0	0.00	0.57	1.23	0.00	-0.66	0.00E+00
Mar	1985	35.00	0.00	0	0.00	0.77	1.98	0.00	-1.21	0.00E+00
Apr	1985	35.00	47.44	1.81	16.26	3.15	3.3	52.41	-36.30	5.14E-05
May	1985	35.00	2.62	0.1	0.90	1.05	4.4	52.41	-54.86	5.14E-05
Jun	1985	35.00	1.57	0.06	0.54	1.03	5.76	52.41	-56.60	5.14E-05
Jul	1985	35.00	2.36	0.09	0.81	1.2	7.08	52.41	-57.48	5.14E-05
Aug	1985	35.00	0.00	0	0.00	0.5	6.95	52.41	-58.86	5.14E-05
Sep	1985	35.00	12.58	0.48	4.31	1.99	5.5	52.41	-51.61	5.14E-05
Oct	1985	35.00	1.05	0.04	0.36	0.68	3.74	52.41	-55.11	5.14E-05
Nov	1985	35.00	0.00	0	0.00	0.22	2.03	52.41	-54.22	5.14E-05
Dec	1985	35.00	0.00	0	0.00	0.41	1.1	0.00	-0.69	0.00E+00
Jan	1986	35.00	0.00	0	0.00	1.63	0.92	0.00	0.71	0.00E+00
Feb	1986	35.00	0.00	0	0.71	1.06	1.23	0.00	0.54	0.00E+00
Mar	1986	35.00	0.00	0	0.54	0.52	1.98	0.00	-0.92	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	52.41	-41.39	5.14E-05

2002-1988 Estimated Monthly Water Balance for Evap Pond--Dewey Site (XD Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Dewey Perm. (cm/sec)
May	1986	35.00	8.39	0.32	2.88	1.07	4.4	52.41	-52.87	5.14E-05
Jun	1986	35.00	76.00	2.9	26.06	4.87	5.76	52.41	-27.24	5.14E-05
Jul	1986	35.00	8.91	0.34	3.06	1.63	7.08	52.41	-54.81	5.14E-05
Aug	1986	35.00	6.81	0.26	2.34	1.19	6.95	52.41	-55.84	5.14E-05
Sep	1986	35.00	38.79	1.48	13.30	3.52	5.5	52.41	-41.09	5.14E-05
Oct	1986	35.00	55.30	2.11	18.96	3.88	3.74	52.41	-33.31	5.14E-05
Nov	1986	35.00	2.10	0.08	0.72	0.86	2.03	52.41	-52.86	5.14E-05
Dec	1986	35.00	0.00	0	0.00	0.09	1.1	0.00	-1.01	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.23	0.00	-0.36	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	52.41	-52.00	5.14E-05
May	1987	35.00	26.73	1.02	9.17	2.97	4.4	52.41	-44.68	5.14E-05
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	52.41	-57.31	5.14E-05
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	52.41	-52.39	5.14E-05
Aug	1987	35.00	2.36	0.09	0.81	1.04	6.95	52.41	-57.51	5.14E-05
Sep	1987	35.00	2.62	0.1	0.90	0.76	5.5	52.41	-56.25	5.14E-05
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	52.41	-55.64	5.14E-05
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	52.41	-51.84	5.14E-05
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.28	0.00	-1.07	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.83	3.3	52.41	-54.54	5.14E-05
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	52.41	-47.25	5.14E-05
Jun	1988	35.00	41.93	1.6	14.38	2.78	5.76	52.41	-41.01	5.14E-05
Jul	1988	35.00	28.57	1.09	9.79	2.18	7.08	52.41	-47.52	5.14E-05
Aug	1988	35.00	27.78	1.06	9.52	1.87	6.95	52.41	-47.97	5.14E-05
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	52.41	-56.71	5.14E-05
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	52.41	-56.06	5.14E-05
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	52.41	-53.83	5.14E-05
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
				4.78		15.62	44.00		8.75	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see
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Knight Piésold CONSULTING

Monthly Runoff Water Balance

Burdock Area

1984-1998 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Jan	1984	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1984	35.00	0.00	0	0.00	0.28	1.23	0.00	-0.95	0.00E+00
Mar	1984	35.00	0.26	0.01	0.09	0.8	1.98	0.00	-1.09	0.00E+00
Apr	1984	35.00	28.04	1.07	9.81	3.59	3.3	8.11	1.79	7.95E-06
May	1984	35.00	24.90	0.95	10.33	2.93	4.4	8.38	0.48	7.95E-06
Jun	1984	35.00	5.24	0.2	2.27	1.91	5.76	8.11	-9.69	7.95E-06
Jul	1984	35.00	9.70	0.37	3.32	2.38	7.08	8.38	-9.76	7.95E-06
Aug	1984	35.00	8.65	0.33	2.97	1.68	6.95	8.38	-10.69	7.95E-06
Sep	1984	35.00	0.00	0	0.00	0.4	5.5	8.11	-13.21	7.95E-06
Oct	1984	35.00	0.52	0.02	0.18	0.63	3.74	8.38	-11.31	7.95E-06
Nov	1984	35.00	4.46	0.17	1.53	0.57	2.03	8.11	-8.05	7.95E-06
Dec	1984	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1985	35.00	0.00	0	0.00	0.17	0.92	0.00	-0.75	0.00E+00
Feb	1985	35.00	0.00	0	0.00	0.57	1.23	0.00	-0.66	0.00E+00
Mar	1985	35.00	0.00	0	0.00	0.77	1.98	0.00	-1.21	0.00E+00
Apr	1985	35.00	47.44	1.81	16.26	3.15	3.3	8.11	8.00	7.95E-06
May	1985	35.00	2.82	0.1	8.90	1.05	4.4	8.38	-2.83	7.95E-06
Jun	1985	35.00	1.57	0.08	0.54	1.03	5.76	8.11	-12.30	7.95E-06
Jul	1985	35.00	2.36	0.09	0.81	1.2	7.08	8.38	-13.45	7.95E-06
Aug	1985	35.00	0.00	0	0.00	0.5	6.95	8.38	-14.83	7.95E-06
Sep	1985	35.00	12.32	0.47	4.22	1.99	5.5	8.11	-7.40	7.95E-06
Oct	1985	35.00	1.05	0.04	0.36	0.68	3.74	8.38	-11.08	7.95E-06
Nov	1985	35.00	0.00	0	0.00	0.22	2.03	8.11	-9.92	7.95E-06
Dec	1985	35.00	0.00	0	0.00	0.41	1.1	0.00	-0.69	0.00E+00
Jan	1986	35.00	0.00	0	0.00	1.63	0.92	0.00	0.71	0.00E+00
Feb	1986	35.00	0.00	0	0.71	1.06	1.28	0.00	0.49	0.00E+00
Mar	1986	35.00	0.00	0	0.49	0.52	1.98	0.00	-0.97	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	8.11	2.91	7.95E-06
May	1986	35.00	8.39	0.32	5.79	1.07	4.4	8.38	-5.93	7.95E-06
Jun	1986	35.00	68.40	2.61	23.45	4.87	5.76	8.11	14.46	7.95E-06
Jul	1986	35.00	5.24	0.2	16.25	1.63	7.08	8.38	2.41	7.95E-06
Aug	1986	35.00	6.81	0.26	4.75	1.19	6.95	8.38	-9.39	7.95E-06
Sep	1986	35.00	18.08	0.69	6.20	3.52	5.5	8.11	-3.89	7.95E-06
Oct	1986	35.00	50.84	1.94	17.43	3.88	3.74	8.38	9.19	7.95E-06
Nov	1986	35.00	2.10	0.08	9.91	0.88	2.03	8.11	0.63	7.95E-06
Dec	1986	35.00	0.00	0	0.63	0.09	1.1	0.00	-0.38	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.23	0.00	-0.36	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	8.11	-7.70	7.95E-06
May	1987	35.00	25.16	0.96	8.63	2.97	4.4	8.11	-0.92	7.95E-06
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	8.11	-13.01	7.95E-06
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	8.11	-8.09	7.95E-06
Aug	1987	35.00	2.36	0.09	0.81	1.04	6.95	8.11	-13.21	7.95E-06
Sep	1987	35.00	1.83	0.07	0.63	0.78	5.5	8.11	-12.22	7.95E-06
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	8.11	-11.34	7.95E-06
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	8.11	-7.55	7.95E-06
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	8.11	-10.24	7.95E-06
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	8.11	-2.95	7.95E-06
Jun	1988	35.00	40.36	1.54	13.84	2.78	5.76	8.11	2.75	7.95E-06
Jul	1988	35.00	23.33	0.89	10.74	2.18	7.08	8.11	-2.27	7.95E-06
Aug	1988	35.00	25.42	0.97	8.72	1.87	6.95	8.11	-4.46	7.95E-06
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	8.11	-12.41	7.95E-06
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	8.11	-11.76	7.95E-06
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	8.11	-9.53	7.95E-06
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.8	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.18	1.14	1.98	0.00	-0.66	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	8.11	-6.06	7.95E-06
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	8.11	-10.02	7.95E-06
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	8.11	-11.95	7.95E-06
Jul	1989	35.00	19.13	0.73	6.56	2.21	7.08	8.11	-6.42	7.95E-06
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	8.11	-8.66	7.95E-06
Sep	1989	35.00	55.56	2.12	19.05	3.94	5.5	8.11	9.38	7.95E-06
Oct	1989	35.00	2.88	0.11	10.37	1.07	3.74	8.11	-0.42	7.95E-06
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	8.11	-9.91	7.95E-06
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.28	0.00	-0.88	0.00E+00

1984-1998 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	8.11	-5.33	7.95E-06
May	1990	35.00	61.59	2.35	21.12	4.45	4.4	8.11	13.06	7.95E-06
Jun	1990	35.00	3.15	0.12	14.13	1.22	5.76	8.11	1.48	7.95E-06
Jul	1990	35.00	46.91	1.79	17.56	3.84	7.08	8.11	6.21	7.95E-06
Aug	1990	35.00	4.98	0.19	7.92	0.86	6.95	8.11	-6.28	7.95E-06
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	8.11	0.91	7.95E-06
Oct	1990	35.00	1.83	0.07	1.54	0.89	3.74	8.11	-9.43	7.95E-06
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	8.11	-6.69	7.95E-06
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.23	0.00	-0.33	0.00E+00
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	8.11	-8.31	7.95E-06
May	1991	35.00	63.42	2.42	21.75	4.91	4.4	8.11	14.14	7.95E-06
Jun	1991	35.00	33.28	1.27	25.55	3.16	5.76	8.11	14.84	7.95E-06
Jul	1991	35.00	0.26	0.01	14.93	0.36	7.08	8.11	0.10	7.95E-06
Aug	1991	35.00	13.89	0.53	4.86	1.52	6.95	8.11	-8.68	7.95E-06
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	8.11	-13.32	7.95E-06
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	8.11	-9.29	7.95E-06
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	8.11	-9.54	7.95E-06
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.23	0.00	-0.09	0.00E+00
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.66	3.3	8.11	-9.42	7.95E-06
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	8.11	0.76	7.95E-06
Jun	1992	35.00	11.27	0.43	4.62	1.88	5.76	8.11	-7.37	7.95E-06
Jul	1992	35.00	20.18	0.77	6.92	3.92	7.08	8.11	-4.35	7.95E-06
Aug	1992	35.00	8.39	0.32	2.88	1.74	6.95	8.11	-10.45	7.95E-06
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	8.11	-13.53	7.95E-06
Oct	1992	35.00	1.57	0.06	0.54	0.61	3.74	8.11	-10.70	7.95E-06
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	8.11	-9.94	7.95E-06
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	7.60	0.29	2.61	3.58	1.98	0.00	4.21	0.00E+00
Apr	1993	35.00	9.17	0.35	7.36	1.71	3.3	8.11	-2.35	7.95E-06
May	1993	35.00	13.37	0.51	4.58	1.98	4.4	8.11	-5.95	7.95E-06
Jun	1993	35.00	99.59	3.8	34.15	6.14	5.76	8.11	26.41	7.95E-06
Jul	1993	35.00	22.54	0.86	34.14	2.87	7.08	8.11	21.62	7.95E-06
Aug	1993	35.00	12.58	0.48	25.93	1.82	6.95	8.11	12.69	7.95E-06
Sep	1993	35.00	2.10	0.08	13.41	1	5.5	8.11	0.79	7.95E-06
Oct	1993	35.00	12.58	0.48	5.11	1.46	3.74	8.11	-5.27	7.95E-06
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	8.11	-9.42	7.95E-06
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.28	0.00	-0.92	0.00E+00
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.98	0.38	3.41	1.62	3.3	8.11	-6.38	7.95E-06
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	8.11	-7.09	7.95E-06
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	8.11	-10.50	7.95E-06
Jul	1994	35.00	12.06	0.46	4.13	2.04	7.08	8.11	-9.02	7.95E-06
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	8.11	-14.25	7.95E-06
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	8.11	-13.29	7.95E-06
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	8.11	-5.26	7.95E-06
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	8.11	-9.84	7.95E-06
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.23	0.00	-0.53	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	8.11	-9.60	7.95E-06
May	1995	35.00	41.41	1.58	14.20	4.42	4.4	8.11	6.10	7.95E-06
Jun	1995	35.00	24.64	0.94	14.55	3.09	5.76	8.11	3.77	7.95E-06
Jul	1995	35.00	0.79	0.03	4.04	1.07	7.08	8.11	-10.08	7.95E-06
Aug	1995	35.00	0.26	0.01	0.09	0.55	6.95	8.11	-14.42	7.95E-06
Sep	1995	35.00	49.80	1.9	17.07	3.61	5.5	8.11	7.07	7.95E-06
Oct	1995	35.00	5.50	0.21	8.96	1.43	3.74	8.11	-1.47	7.95E-06
Nov	1995	35.00	2.36	0.09	0.81	0.81	2.03	8.11	-8.52	7.95E-06
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.23	0.00	-0.99	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	8.11	1.47	7.95E-06

1984-1998 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
May	1996	35.00	41.41	1.58	15.67	3.69	4.4	8.11	8.85	7.95E-06
Jun	1996	35.00	9.17	0.35	9.89	1.85	5.76	8.11	-2.03	7.95E-06
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.06	8.11	-14.48	7.95E-06
Aug	1996	35.00	32.76	1.25	11.23	2.72	6.95	8.11	-1.11	7.95E-06
Sep	1996	35.00	3.41	0.13	1.17	1.37	5.5	8.11	-11.07	7.95E-06
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	8.11	-7.55	7.95E-06
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	8.11	-9.64	7.95E-08
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	8.11	-3.50	7.95E-06
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	8.11	-0.33	7.95E-06
Jun	1997	35.00	22.80	0.87	7.82	3.17	5.76	8.11	-2.89	7.95E-06
Jul	1997	35.00	55.30	2.11	18.96	4.61	7.08	8.11	8.38	7.95E-06
Aug	1997	35.00	5.24	0.2	10.17	1.05	6.95	8.11	-3.84	7.95E-06
Sep	1997	35.00	1.83	0.07	0.63	0.73	5.5	8.11	-12.25	7.95E-06
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	8.11	-10.79	7.95E-08
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	8.11	-8.99	7.95E-06
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.89	0.78	1.28	0.00	0.49	0.00E+00
Mar	1998	35.00	18.87	0.72	8.96	2.02	1.98	0.00	7.00	0.00E+00
Apr	1998	35.00	0.00	0	7.00	0.27	3.3	8.11	-4.14	7.95E-06
May	1998	35.00	30.66	1.17	10.51	3.58	4.4	8.11	1.56	7.95E-06
Jun	1998	35.00	44.55	1.7	16.86	3.36	5.76	8.11	6.34	7.95E-06
Jul	1998	35.00	38.00	1.45	19.37	3.38	7.08	8.11	7.56	7.95E-06
Aug	1998	35.00	15.20	0.58	12.77	2.38	6.95	8.11	0.07	7.95E-06
Sep	1998	35.00	32.76	1.25	11.30	2.06	5.5	8.11	-0.23	7.95E-06
Oct	1998	35.00	41.15	1.57	14.11	4.16	3.74	8.11	8.41	7.95E-06
Nov	1998	35.00	5.24	0.2	8.21	1.42	2.03	8.11	-0.51	7.95E-06
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
				4.68		16.88	44.00		26.41	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see G:\102\00279.02\Data Info\DB Land Application-Irrigation\Dewey-Burdock\Soil Hydr Props\Dewey_Burdock_Soil.xls

1985-1999 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Jan	1985	35.00	0.00	0	0.00	0.17	0.92	0.00	-0.75	0.00E+00
Feb	1985	35.00	0.00	0	0.00	0.67	1.23	0.00	-0.66	0.00E+00
Mar	1985	35.00	0.00	0	0.00	0.77	1.98	0.00	-1.21	0.00E+00
Apr	1985	35.00	47.44	1.81	16.26	3.15	3.3	8.11	8.00	7.95E-06
May	1985	35.00	2.62	0.1	8.90	1.05	4.4	8.38	-2.83	7.95E-06
Jun	1985	35.00	1.57	0.06	0.54	1.03	5.76	8.11	-12.30	7.95E-06
Jul	1985	35.00	2.36	0.09	0.81	1.2	7.08	8.38	-13.45	7.95E-06
Aug	1985	35.00	0.00	0	0.00	0.5	8.95	8.38	-14.83	7.95E-06
Sep	1985	35.00	12.32	0.47	4.22	1.99	5.5	8.11	-7.40	7.95E-06
Oct	1985	35.00	1.05	0.04	0.36	0.68	3.74	8.38	-11.08	7.95E-06
Nov	1985	35.00	0.00	0	0.00	0.22	2.03	8.11	-9.92	7.95E-06
Dec	1985	35.00	0.00	0	0.00	0.41	1.1	0.00	-0.69	0.00E+00
Jan	1986	35.00	0.00	0	0.00	1.63	0.92	0.00	0.71	0.00E+00
Feb	1986	35.00	0.00	0	0.71	1.06	1.23	0.00	0.54	0.00E+00
Mar	1986	35.00	0.00	0	0.54	0.52	1.98	0.00	-0.92	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	8.11	2.91	7.95E-06
May	1986	35.00	8.39	0.32	5.79	1.07	4.4	8.38	-5.93	7.95E-06
Jun	1986	35.00	65.76	2.51	22.55	4.87	5.76	8.11	13.55	7.95E-06
Jul	1986	35.00	5.24	0.2	15.35	1.63	7.08	8.38	1.52	7.95E-06
Aug	1986	35.00	6.81	0.26	3.85	1.19	6.95	8.38	-10.29	7.95E-06
Sep	1986	35.00	18.08	0.69	6.20	3.62	5.5	8.11	-3.89	7.95E-06
Oct	1986	35.00	49.01	1.87	16.80	3.88	3.74	8.38	8.56	7.95E-06
Nov	1986	35.00	2.10	0.08	9.28	0.86	2.03	8.11	0.00	7.95E-06
Dec	1986	35.00	0.00	0	0.00	0.09	1.1	0.00	-1.01	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.28	0.00	-0.41	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	8.11	-7.70	7.95E-06
May	1987	35.00	25.18	0.96	8.63	2.97	4.4	8.38	-1.19	7.95E-06
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	8.11	-13.01	7.95E-06
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	8.38	-8.36	7.95E-06
Aug	1987	35.00	2.36	0.09	0.81	1.04	8.95	8.38	-13.48	7.95E-06
Sep	1987	35.00	1.83	0.07	0.63	0.76	5.5	8.11	-12.22	7.95E-06
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	8.38	-11.81	7.95E-06
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	8.11	-7.55	7.95E-06
Dec	1987	35.00	0.26	0.01	0.09	0.26	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	8.11	-10.24	7.95E-06
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	8.11	-2.95	7.95E-06
Jun	1988	35.00	40.38	1.54	13.84	2.78	5.76	8.11	[illegible]	7.95E-06
Jul	1988	35.00	23.33	0.89	10.74	2.18	7.08	8.11	-2.27	7.95E-06
Aug	1988	35.00	25.42	0.97	8.72	1.87	8.95	8.11	-4.48	7.95E-06
Sep	1988	35.00	1.05	0.04	0.36	0.64	5.5	8.11	-12.41	7.95E-06
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	8.11	-11.78	7.95E-06
Nov	1988	35.00	0.26	0.01	0.09	0.62	2.03	8.11	-9.53	7.95E-06
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.8	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.18	1.14	1.98	0.00	-0.66	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	8.11	-6.06	7.95E-06
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	8.11	-10.02	7.95E-06
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	8.11	-11.95	7.95E-06
Jul	1989	35.00	19.13	0.73	6.56	2.21	7.08	8.11	-6.42	7.95E-06
Aug	1989	35.00	14.41	0.55	4.94	1.46	8.95	8.11	-8.66	7.95E-06
Sep	1989	35.00	55.56	2.12	19.05	3.94	5.5	8.11	9.38	7.95E-06
Oct	1989	35.00	2.88	0.11	10.37	1.07	3.74	8.11	-0.42	7.95E-06
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	8.11	-9.91	7.95E-06
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.23	0.00	-0.83	0.00E+00
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	8.11	-5.33	7.95E-06
May	1990	35.00	61.59	2.35	21.12	4.45	4.4	8.11	13.05	7.95E-06
Jun	1990	35.00	3.15	0.12	14.13	1.22	5.76	8.11	1.48	7.95E-06
Jul	1990	35.00	48.91	1.79	17.58	3.84	7.08	8.11	8.21	7.95E-06
Aug	1990	35.00	4.98	0.19	7.92	0.88	6.95	8.11	-6.28	7.95E-06
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	8.11	0.91	7.95E-06
Oct	1990	35.00	1.83	0.07	1.54	0.89	3.74	8.11	-9.43	7.95E-06
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	8.11	-8.69	7.95E-06
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.28	0.00	-0.38	0.00E+00

1985-1999 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (In)	Beg. Mon. Pond Depth (In/mo)	Mon. Precip. (In/mo)	Mo. PET (In/mo)	Mo. Seepage (In/mo)	End Mon. Pond Depth (In/mo)	Burdock Perm. (cm/sec)
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.63	1.58	3.3	8.11	-8.31	7.95E-06
May	1991	35.00	63.42	2.42	21.75	4.91	4.4	8.11	14.14	7.95E-06
Jun	1991	35.00	33.28	1.27	25.55	3.16	5.76	8.11	14.84	7.95E-06
Jul	1991	35.00	0.26	0.01	14.93	0.38	7.08	8.11	0.10	7.95E-06
Aug	1991	35.00	13.89	0.53	4.86	1.52	6.95	8.11	-8.68	7.95E-06
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	8.11	-13.32	7.95E-06
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	8.11	-9.29	7.95E-06
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	8.11	-9.54	7.95E-06
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.23	0.00	-0.09	0.00E+00
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.68	3.3	8.11	-9.42	7.95E-06
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	8.11	0.76	7.95E-06
Jun	1992	35.00	11.27	0.43	4.62	1.88	5.76	8.11	-7.37	7.95E-06
Jul	1992	35.00	20.18	0.77	6.92	3.92	7.08	8.11	-4.35	7.95E-06
Aug	1992	35.00	8.39	0.32	2.88	1.74	6.95	8.11	-10.45	7.95E-06
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	8.11	-13.53	7.95E-06
Oct	1992	35.00	1.57	0.06	0.54	0.61	3.74	8.11	-10.70	7.95E-06
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	8.11	-9.94	7.95E-06
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	7.60	0.29	2.61	3.58	1.98	0.00	4.21	0.00E+00
Apr	1993	35.00	9.17	0.35	7.35	1.71	3.3	8.11	-2.35	7.95E-06
May	1993	35.00	13.37	0.51	4.58	1.98	4.4	8.11	-5.95	7.95E-06
Jun	1993	35.00	99.59	3.8	34.15	6.14	5.76	8.11	26.41	7.95E-06
Jul	1993	35.00	22.54	0.86	34.14	2.67	7.08	8.11	21.62	7.95E-06
Aug	1993	35.00	12.58	0.48	25.93	1.82	6.95	8.11	12.69	7.95E-06
Sep	1993	35.00	2.10	0.08	13.41	1	5.5	8.11	0.79	7.95E-06
Oct	1993	35.00	12.58	0.48	5.11	1.48	3.74	8.11	-5.27	7.95E-06
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	8.11	-9.42	7.95E-06
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.23	0.00	-0.87	0.00E+00
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.96	0.38	3.41	1.62	3.3	8.11	-6.38	7.95E-06
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	8.11	-7.09	7.95E-06
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	8.11	-10.50	7.95E-06
Jul	1994	35.00	12.06	0.46	4.13	2.04	7.08	8.11	-9.02	7.95E-06
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	8.11	-14.25	7.95E-06
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	8.11	-13.29	7.95E-06
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	8.11	-5.26	7.95E-06
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	8.11	-9.84	7.95E-06
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.28	0.00	-0.58	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	8.11	-9.60	7.95E-06
May	1995	35.00	41.41	1.58	14.20	4.42	4.4	8.11	6.10	7.95E-06
Jun	1995	35.00	24.84	0.94	14.55	3.09	5.76	8.11	3.77	7.95E-06
Jul	1995	35.00	0.79	0.03	4.04	1.07	7.08	8.11	-10.08	7.95E-06
Aug	1995	35.00	0.26	0.01	0.09	0.55	6.95	8.11	-14.42	7.95E-06
Sep	1995	35.00	49.80	1.9	17.07	3.61	5.5	8.11	7.07	7.95E-06
Oct	1995	35.00	5.50	0.21	6.96	1.43	3.74	8.11	-1.47	7.95E-06
Nov	1995	35.00	2.36	0.09	0.81	0.81	2.03	8.11	-8.52	7.95E-06
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.23	0.00	-0.99	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	26.83	1.1	9.68	3	3.3	8.11	1.47	7.95E-06
May	1996	35.00	41.41	1.58	15.67	3.69	4.4	8.11	6.85	7.95E-06
Jun	1996	35.00	9.17	0.35	9.99	1.85	5.76	8.11	-2.03	7.95E-06
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	8.11	-14.46	7.95E-06
Aug	1996	35.00	32.76	1.25	11.23	2.72	6.95	8.11	-1.11	7.95E-06
Sep	1996	35.00	3.41	0.13	1.17	1.37	5.5	8.11	-11.07	7.95E-06
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	8.11	-7.56	7.95E-06
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	8.11	-9.64	7.95E-06
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	8.11	-3.50	7.95E-06

1985-1999 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	8.11	-0.33	7.95E-06
Jun	1997	35.00	22.80	0.87	7.82	3.17	5.76	8.11	-2.89	7.95E-06
Jul	1997	35.00	55.30	2.11	18.96	4.61	7.08	8.11	8.38	7.95E-06
Aug	1997	35.00	5.24	0.2	10.17	1.05	8.95	8.11	-3.84	7.95E-06
Sep	1997	35.00	1.83	0.07	0.63	0.73	5.5	8.11	-12.25	7.95E-06
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	8.11	-10.79	7.95E-06
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	8.11	-8.99	7.95E-06
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.23	0.00	0.54	0.00E+00
Mar	1998	35.00	18.87	0.72	7.01	2.02	1.98	0.00	7.05	0.00E+00
Apr	1998	35.00	0.00	0	7.05	0.27	3.3	8.11	-4.09	7.95E-06
May	1998	35.00	30.66	1.17	10.51	3.58	4.4	8.11	1.58	7.95E-06
Jun	1998	35.00	44.55	1.7	16.86	3.36	5.76	8.11	6.34	7.95E-06
Jul	1998	35.00	38.00	1.45	19.37	3.38	7.08	8.11	7.58	7.95E-06
Aug	1998	35.00	15.20	0.58	12.77	2.36	6.95	8.11	0.07	7.95E-06
Sep	1998	35.00	32.76	1.25	11.30	2.08	5.5	8.11	-0.23	7.95E-06
Oct	1998	35.00	41.15	1.57	14.11	4.16	3.74	8.11	6.41	7.95E-06
Nov	1998	35.00	5.24	0.2	8.21	1.42	2.03	8.11	-0.51	7.95E-06
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1999	35.00	0.00	0	0.00	0.55	0.92	0.00	-0.37	0.00E+00
Feb	1999	35.00	0.00	0	0.00	0.12	1.28	0.00	-1.16	0.00E+00
Mar	1999	35.00	0.00	0	0.00	0.55	1.98	0.00	-1.43	0.00E+00
Apr	1999	35.00	26.21	1	8.99	3.76	3.3	8.11	1.33	7.95E-06
May	1999	35.00	2.36	0.09	2.14	1.17	4.4	8.11	-9.20	7.95E-06
Jun	1999	35.00	71.81	2.74	24.62	5.57	5.76	8.11	16.32	7.95E-06
Jul	1999	35.00	3.15	0.12	17.40	0.98	7.08	8.11	3.18	7.95E-06
Aug	1999	35.00	31.45	1.2	13.97	1.98	6.95	8.11	0.86	7.95E-06
Sep	1999	35.00	10.22	0.39	4.37	1.79	5.5	8.11	-7.45	7.95E-06
Oct	1999	35.00	0.00	0	0.00	0.04	3.74	8.11	-11.81	7.95E-06
Nov	1999	35.00	0.79	0.03	0.27	0.56	2.03	8.11	-9.31	7.95E-06
Dec	1999	35.00	0.00	0	0.00	0.12	1.1	0.00	-0.98	0.00E+00
				4.83		18.98	44.00		26.41	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see
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1986-2000 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Jan	1986	35.00	0.00	0	0.00	0.07	0.92	0.00	-0.85	0.00E+00
Feb	1986	35.00	0.00	0	0.00	1.06	1.23	0.00	-0.17	0.00E+00
Mar	1986	35.00	0.00	0	0.00	0.52	1.98	0.00	-1.46	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	8.11	2.91	7.95E-06
May	1986	35.00	8.39	0.32	5.79	1.07	4.4	8.38	-5.93	7.95E-06
Jun	1986	35.00	65.78	2.51	22.55	4.87	5.76	8.11	13.55	7.95E-06
Jul	1986	35.00	5.24	0.2	16.35	1.63	7.08	8.38	1.52	7.95E-06
Aug	1986	35.00	6.81	0.26	3.85	1.19	6.95	8.38	-10.29	7.95E-06
Sep	1986	35.00	18.08	0.69	6.20	3.52	5.5	8.11	-3.89	7.95E-06
Oct	1986	35.00	42.72	1.63	14.65	3.88	3.74	8.38	8.40	7.95E-06
Nov	1986	35.00	2.10	0.08	7.12	0.86	2.03	8.11	-2.16	7.95E-06
Dec	1986	35.00	0.00	0	0.00	0.09	1.1	0.00	-1.01	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.23	0.00	-0.36	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	8.11	-7.70	7.95E-06
May	1987	35.00	23.85	0.91	8.18	2.97	4.4	8.38	-1.64	7.95E-06
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	8.11	-13.01	7.95E-06
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	8.38	-8.36	7.95E-06
Aug	1987	35.00	2.36	0.09	0.81	1.04	6.95	8.38	-13.48	7.95E-06
Sep	1987	35.00	1.83	0.07	0.63	0.76	5.5	8.11	-12.22	7.95E-06
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	8.38	-11.61	7.95E-06
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	8.11	-7.55	7.95E-06
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.28	0.00	-1.07	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	8.11	-10.24	7.95E-06
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	8.38	-3.22	7.95E-06
Jun	1988	35.00	40.36	1.54	13.84	2.78	5.76	8.11	2.75	7.95E-06
Jul	1988	35.00	23.33	0.89	10.74	2.18	7.08	8.38	-2.54	7.95E-06
Aug	1988	35.00	25.42	0.97	8.72	1.87	6.95	8.38	-4.76	7.95E-06
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	8.11	-12.41	7.95E-06
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	8.38	-12.03	7.95E-06
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	8.11	-9.53	7.95E-06
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.6	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.16	1.14	1.98	0.00	-0.68	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	8.11	-6.06	7.95E-06
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	8.11	-10.02	7.95E-06
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	8.11	[illegible]	7.95E-06
Jul	1989	35.00	19.13	0.73	6.56	2.21	7.08	8.11	-6.42	7.95E-06
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	8.11	-8.66	7.95E-06
Sep	1989	35.00	55.56	2.12	19.05	3.94	5.5	8.11	9.38	7.95E-06
Oct	1989	35.00	2.88	0.11	10.37	1.07	3.74	8.11	-0.42	7.95E-06
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	8.11	-9.91	7.95E-06
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.23	0.00	-0.83	0.00E+00
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	8.11	-5.33	7.95E-06
May	1990	35.00	61.59	2.35	21.12	4.45	4.4	8.11	13.05	7.95E-06
Jun	1990	35.00	3.15	0.12	14.13	1.22	5.76	8.11	1.48	7.95E-06
Jul	1990	35.00	46.91	1.79	17.56	3.84	7.08	8.11	6.21	7.95E-06
Aug	1990	35.00	4.98	0.19	7.92	0.86	6.95	8.11	-6.28	7.95E-06
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	8.11	0.91	7.95E-06
Oct	1990	35.00	1.83	0.07	1.54	0.89	3.74	8.11	-9.43	7.95E-06
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	8.11	-6.69	7.95E-06
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.23	0.00	-0.33	0.00E+00
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	8.11	-8.31	7.95E-06
May	1991	35.00	63.42	2.42	21.75	4.91	4.4	8.11	14.14	7.95E-06
Jun	1991	35.00	33.28	1.27	25.55	3.18	5.76	8.11	14.84	7.95E-06
Jul	1991	35.00	0.26	0.01	14.93	0.36	7.08	8.11	0.10	7.95E-06
Aug	1991	35.00	13.89	0.53	4.86	1.52	6.95	8.11	-8.66	7.95E-06
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	8.11	-13.32	7.95E-06
Oct	1991	35.00	4.72	0.18	1.62	0.95	3.74	8.11	-9.29	7.95E-06
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	8.11	-9.54	7.95E-06
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.28	0.00	-0.14	0.00E+00

1986-2000 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.66	3.3	8.11	-9.42	7.95E-06
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	8.11	0.78	7.95E-06
Jun	1992	35.00	11.27	0.43	4.62	1.88	5.76	8.11	-7.37	7.95E-06
Jul	1992	35.00	20.18	0.77	8.92	3.92	7.08	8.11	-4.35	7.95E-06
Aug	1992	35.00	8.39	0.32	2.88	1.74	6.95	8.11	-10.45	7.95E-06
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	8.11	-13.53	7.95E-06
Oct	1992	35.00	1.57	0.06	0.54	0.61	3.74	8.11	-10.70	7.95E-06
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	8.11	-9.94	7.95E-06
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	7.60	0.29	2.61	3.58	1.98	0.00	4.21	0.00E+00
Apr	1993	35.00	9.17	0.35	7.35	1.71	3.3	8.11	-2.35	7.95E-06
May	1993	35.00	13.37	0.51	4.58	1.98	4.4	8.11	-5.95	7.95E-06
Jun	1993	35.00	99.59	3.8	34.15	6.14	5.76	8.11	26.41	7.95E-06
Jul	1993	35.00	22.54	0.86	34.14	2.67	7.08	8.11	21.62	7.95E-06
Aug	1993	35.00	12.58	0.48	25.93	1.82	6.95	8.11	12.69	7.95E-06
Sep	1993	35.00	2.10	0.08	13.41	1	5.5	8.11	0.79	7.95E-06
Oct	1993	35.00	12.58	0.48	5.11	1.48	3.74	8.11	-5.27	7.95E-06
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	8.11	-9.42	7.95E-06
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.23	0.00	-0.87	0.00E+00
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.96	0.38	3.41	1.62	3.3	8.11	-8.38	7.95E-06
May	1994	35.00	11.53	0.44	3.95	1.47	4.4	8.11	-7.09	7.95E-06
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	8.11	-10.50	7.95E-06
Jul	1994	35.00	12.06	0.46	4.13	2.04	7.08	8.11	-9.02	7.95E-06
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	8.11	-14.25	7.95E-06
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	8.11	-13.29	7.95E-06
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	8.11	-5.26	7.95E-06
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	8.11	-9.84	7.95E-06
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.23	0.00	-0.53	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	8.11	-9.60	7.95E-06
May	1995	35.00	41.41	1.58	14.20	4.42	4.4	8.11	6.10	7.95E-06
Jun	1995	35.00	24.64	0.94	14.55	3.09	5.76	8.11	3.77	7.95E-06
Jul	1995	35.00	0.79	0.03	4.04	1.07	7.08	8.11	-10.08	7.95E-06
Aug	1995	35.00	0.26	0.01	0.09	0.55	6.95	8.11	-14.42	7.95E-06
Sep	1995	35.00	49.80	1.9	17.07	3.61	5.5	8.11	7.07	7.95E-06
Oct	1995	35.00	5.50	0.21	8.96	1.43	3.74	8.11	-1.47	7.95E-06
Nov	1995	35.00	2.36	0.09	0.61	0.81	2.03	8.11	-8.52	7.95E-06
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.28	0.00	-1.04	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.08	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	8.11	1.47	7.95E-06
May	1996	35.00	41.41	1.58	15.87	3.69	4.4	8.11	6.85	7.95E-06
Jun	1996	35.00	9.17	0.35	9.99	1.85	5.76	8.11	-2.03	7.95E-06
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	8.11	-14.46	7.95E-06
Aug	1996	35.00	32.76	1.25	11.23	2.72	6.95	8.11	-1.11	7.95E-06
Sep	1996	35.00	3.41	0.13	1.17	1.37	5.5	8.11	-11.07	7.95E-06
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	8.11	-7.55	7.95E-06
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	8.11	-9.64	7.95E-06
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.46	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	8.11	-3.50	7.95E-06
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	8.11	-0.33	7.95E-06
Jun	1997	35.00	22.80	0.87	7.82	3.17	5.76	8.11	-2.89	7.95E-06
Jul	1997	35.00	55.30	2.11	18.96	4.61	7.08	8.11	8.38	7.95E-06
Aug	1997	35.00	5.24	0.2	10.17	1.05	6.95	8.11	-3.84	7.95E-06
Sep	1997	35.00	1.83	0.07	0.63	0.73	5.5	8.11	-12.25	7.95E-06
Oct	1997	35.00	1.05	0.04	0.38	0.7	3.74	8.11	-10.79	7.95E-06
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	8.11	-8.99	7.95E-06
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.23	0.00	0.54	0.00E+00
Mar	1998	35.00	18.87	0.72	7.01	2.02	1.98	0.00	7.05	0.00E+00
Apr	1998	35.00	0.00	0	7.05	0.27	3.3	8.11	-4.09	7.95E-06

1998-2000 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
May	1998	35.00	30.66	1.17	10.51	3.58	4.4	8.11	1.58	7.95E-06
Jun	1998	35.00	44.55	1.7	16.86	3.36	5.76	8.11	6.34	7.95E-06
Jul	1998	35.00	38.00	1.45	19.37	3.38	7.08	8.11	7.56	7.95E-06
Aug	1998	35.00	15.20	0.58	12.77	2.36	6.95	8.11	0.07	7.95E-06
Sep	1998	35.00	32.76	1.25	11.30	2.08	5.5	8.11	-0.23	7.95E-06
Oct	1998	35.00	41.15	1.57	14.11	4.16	3.74	8.11	6.41	7.95E-06
Nov	1998	35.00	5.24	0.2	8.21	1.42	2.03	8.11	-0.51	7.95E-06
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1999	35.00	0.00	0	0.00	0.55	0.92	0.00	-0.37	0.00E+00
Feb	1999	35.00	0.00	0	0.00	0.12	1.23	0.00	-1.11	0.00E+00
Mar	1999	35.00	0.00	0	0.00	0.55	1.98	0.00	-1.43	0.00E+00
Apr	1999	35.00	26.21	1	8.99	3.76	3.3	8.11	1.33	7.95E-06
May	1999	35.00	2.36	0.09	2.14	1.17	4.4	8.11	-9.20	7.95E-06
Jun	1999	35.00	71.81	2.74	24.62	5.57	5.76	8.11	16.32	7.95E-06
Jul	1999	35.00	3.15	0.12	17.40	0.98	7.08	8.11	3.18	7.95E-06
Aug	1999	35.00	31.45	1.2	13.97	1.96	6.95	8.11	0.86	7.95E-06
Sep	1999	35.00	10.22	0.39	4.37	1.79	5.5	8.11	-7.45	7.95E-06
Oct	1999	35.00	0.00	0	0.00	0.04	3.74	8.11	-11.81	7.95E-06
Nov	1999	35.00	0.79	0.03	0.27	0.56	2.03	8.11	-9.31	7.95E-06
Dec	1999	35.00	0.00	0	0.00	0.12	1.1	0.00	-0.98	0.00E+00
Jan	2000	35.00	0.00	0	0.00	0.16	0.92	0.00	-0.76	0.00E+00
Feb	2000	35.00	0.26	0.01	0.09	1.09	1.28	0.00	-0.10	0.00E+00
Mar	2000	35.00	8.12	0.31	2.79	1.48	1.98	0.00	2.29	0.00E+00
Apr	2000	35.00	69.45	2.65	26.10	4.74	3.3	8.11	19.42	7.95E-06
May	2000	35.00	0.52	0.02	19.60	0.78	4.4	8.11	7.87	7.95E-06
Jun	2000	35.00	0.00	0	7.87	0.43	5.76	8.11	-5.57	7.95E-06
Jul	2000	35.00	13.10	0.5	4.49	2.24	7.08	8.11	-8.46	7.95E-06
Aug	2000	35.00	1.57	0.06	0.54	0.69	6.95	8.11	-13.83	7.95E-06
Sep	2000	35.00	3.93	0.15	1.35	1.03	5.5	8.11	-11.23	7.95E-06
Oct	2000	35.00	2.88	0.11	0.99	1.08	3.74	8.11	-9.78	7.95E-06
Nov	2000	35.00	0.00	0	0.00	0.43	2.03	8.11	-9.71	7.95E-06
Dec	2000	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.74	0.00E+00
				4.89		17.06	44.00		26.41	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see
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1988-2002 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Jan	1988	35.00	0.00	0	0.00	0.24	0.92	0.00	-0.68	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	8.11	-10.24	7.95E-06
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	8.38	-3.22	7.95E-06
Jun	1988	35.00	40.38	1.54	13.84	2.78	5.76	8.11	2.75	7.95E-06
Jul	1988	35.00	22.02	0.84	10.29	2.18	7.08	8.38	-2.99	7.95E-06
Aug	1988	35.00	25.42	0.97	8.72	1.87	6.95	8.38	-4.75	7.95E-06
Sep	1988	35.00	1.05	0.04	0.38	0.84	5.5	8.11	-12.41	7.95E-06
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	8.38	-12.03	7.95E-06
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	8.11	-9.53	7.95E-06
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
Jan	1989	35.00	0.00	0	0.00	0.09	0.92	0.00	-0.83	0.00E+00
Feb	1989	35.00	0.00	0	0.00	0.6	1.23	0.00	-0.63	0.00E+00
Mar	1989	35.00	0.52	0.02	0.18	1.14	1.98	0.00	-0.66	0.00E+00
Apr	1989	35.00	10.75	0.41	3.68	1.67	3.3	8.11	-6.06	7.95E-06
May	1989	35.00	3.15	0.12	1.08	1.41	4.4	8.38	-10.29	7.95E-06
Jun	1989	35.00	2.10	0.08	0.72	1.2	5.76	8.11	-11.95	7.95E-06
Jul	1989	35.00	19.13	0.73	6.56	2.21	7.08	8.38	-8.69	7.95E-06
Aug	1989	35.00	14.41	0.55	4.94	1.46	6.95	8.38	-8.93	7.95E-06
Sep	1989	35.00	52.15	1.99	17.88	3.94	5.5	8.11	8.21	7.95E-06
Oct	1989	35.00	2.88	0.11	9.20	1.07	3.74	8.38	-1.86	7.95E-06
Nov	1989	35.00	0.00	0	0.00	0.23	2.03	8.11	-9.91	7.95E-06
Dec	1989	35.00	0.00	0	0.00	0.56	1.1	0.00	-0.54	0.00E+00
Jan	1990	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1990	35.00	0.00	0	0.00	0.4	1.28	0.00	-0.88	0.00E+00
Mar	1990	35.00	0.79	0.03	0.27	1.17	1.98	0.00	-0.54	0.00E+00
Apr	1990	35.00	11.01	0.42	3.77	2.31	3.3	8.11	-5.33	7.95E-06
May	1990	35.00	61.33	2.34	21.03	4.45	4.4	8.38	12.69	7.95E-06
Jun	1990	35.00	3.15	0.12	13.77	1.22	5.76	8.11	1.12	7.95E-06
Jul	1990	35.00	46.91	1.79	17.20	3.84	7.08	8.38	5.58	7.95E-06
Aug	1990	35.00	4.98	0.19	7.29	0.88	6.95	8.38	-7.19	7.95E-06
Sep	1990	35.00	35.12	1.34	12.04	2.48	5.5	8.11	0.91	7.95E-06
Oct	1990	35.00	1.83	0.07	1.54	0.89	3.74	8.38	-9.70	7.95E-06
Nov	1990	35.00	6.81	0.26	2.34	1.12	2.03	8.11	-6.69	7.95E-06
Dec	1990	35.00	0.79	0.03	0.27	0.32	1.1	0.00	-0.51	0.00E+00
Jan	1991	35.00	0.00	0	0.00	0.15	0.92	0.00	-0.77	0.00E+00
Feb	1991	35.00	0.00	0	0.00	0.9	1.23	0.00	-0.33	0.00E+00
Mar	1991	35.00	0.00	0	0.00	0.35	1.98	0.00	-1.63	0.00E+00
Apr	1991	35.00	4.46	0.17	1.53	1.58	3.3	8.11	-8.31	7.95E-06
May	1991	35.00	63.42	2.42	21.75	4.91	4.4	8.11	14.14	7.95E-06
Jun	1991	35.00	33.28	1.27	25.55	3.16	5.76	8.11	14.84	7.95E-06
Jul	1991	35.00	0.26	0.01	14.93	0.36	7.08	8.11	0.10	7.95E-06
Aug	1991	35.00	13.89	0.53	4.86	1.52	6.95	8.11	-8.68	7.95E-06
Sep	1991	35.00	0.00	0	0.00	0.29	5.5	8.11	-13.32	7.95E-06
Oct	1991	35.00	4.72	0.18	1.82	0.95	3.74	8.11	-9.29	7.95E-06
Nov	1991	35.00	0.26	0.01	0.09	0.51	2.03	8.11	-9.54	7.95E-06
Dec	1991	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1992	35.00	0.00	0	0.00	0.32	0.92	0.00	-0.60	0.00E+00
Feb	1992	35.00	1.83	0.07	0.63	0.51	1.23	0.00	-0.09	0.00E+00
Mar	1992	35.00	5.77	0.22	1.98	1.07	1.98	0.00	1.07	0.00E+00
Apr	1992	35.00	0.79	0.03	1.34	0.68	3.3	8.11	-9.42	7.95E-06
May	1992	35.00	30.66	1.17	10.51	2.76	4.4	8.11	0.76	7.95E-06
Jun	1992	35.00	11.27	0.43	4.62	1.88	5.76	8.11	-7.37	7.95E-06
Jul	1992	35.00	20.18	0.77	6.92	3.92	7.08	8.11	-4.35	7.95E-06
Aug	1992	35.00	8.39	0.32	2.88	1.74	6.95	8.11	-10.45	7.95E-06
Sep	1992	35.00	0.00	0	0.00	0.08	5.5	8.11	-13.53	7.95E-06
Oct	1992	35.00	1.57	0.06	0.54	0.61	3.74	8.11	-10.70	7.95E-06
Nov	1992	35.00	0.00	0	0.00	0.2	2.03	8.11	-9.94	7.95E-06
Dec	1992	35.00	0.00	0	0.00	0.33	1.1	0.00	-0.77	0.00E+00
Jan	1993	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	1993	35.00	0.00	0	0.00	0.13	1.23	0.00	-1.10	0.00E+00
Mar	1993	35.00	7.60	0.29	2.61	3.58	1.98	0.00	4.21	0.00E+00
Apr	1993	35.00	9.17	0.35	7.36	1.71	3.3	8.11	-2.35	7.95E-06
May	1993	35.00	13.37	0.51	4.58	1.98	4.4	8.11	-5.95	7.95E-06
Jun	1993	35.00	99.59	3.8	34.15	6.14	5.76	8.11	26.41	7.95E-06
Jul	1993	35.00	22.54	0.86	34.14	2.87	7.08	8.11	21.82	7.95E-06
Aug	1993	35.00	12.58	0.48	25.93	1.62	6.95	8.11	12.69	7.95E-06
Sep	1993	35.00	2.10	0.08	13.41	1	5.5	8.11	0.79	7.95E-06
Oct	1993	35.00	12.58	0.48	5.11	1.48	3.74	8.11	-5.27	7.95E-06
Nov	1993	35.00	0.00	0	0.00	0.72	2.03	8.11	-9.42	7.95E-06
Dec	1993	35.00	0.00	0	0.00	0.82	1.1	0.00	-0.28	0.00E+00
Jan	1994	35.00	0.00	0	0.00	0.6	0.92	0.00	-0.32	0.00E+00
Feb	1994	35.00	0.00	0	0.00	0.36	1.28	0.00	-0.92	0.00E+00

1988-2002 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Mar	1994	35.00	0.00	0	0.00	0.73	1.98	0.00	-1.25	0.00E+00
Apr	1994	35.00	9.96	0.38	3.41	1.62	3.3	8.11	-6.38	7.95E-06
May	1994	35.00	11.53	0.44	3.96	1.47	4.4	8.11	-7.09	7.95E-06
Jun	1994	35.00	6.29	0.24	2.16	1.22	5.76	8.11	-10.50	7.95E-06
Jul	1994	35.00	12.06	0.46	4.13	2.04	7.08	8.11	-9.02	7.95E-06
Aug	1994	35.00	1.05	0.04	0.36	0.45	6.95	8.11	-14.25	7.95E-06
Sep	1994	35.00	0.00	0	0.00	0.32	5.5	8.11	-13.29	7.95E-06
Oct	1994	35.00	12.84	0.49	4.40	2.19	3.74	8.11	-5.26	7.95E-08
Nov	1994	35.00	0.00	0	0.00	0.3	2.03	8.11	-9.84	7.95E-06
Dec	1994	35.00	0.00	0	0.00	0.71	1.1	0.00	-0.39	0.00E+00
Jan	1995	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1995	35.00	0.00	0	0.00	0.7	1.23	0.00	-0.53	0.00E+00
Mar	1995	35.00	0.00	0	0.00	0.63	1.98	0.00	-1.35	0.00E+00
Apr	1995	35.00	1.31	0.05	0.45	1.36	3.3	8.11	-9.60	7.95E-06
May	1995	35.00	41.41	1.58	14.20	4.42	4.4	8.11	6.10	7.95E-06
Jun	1995	35.00	24.64	0.94	14.55	3.09	5.76	8.11	3.77	7.95E-06
Jul	1995	35.00	0.79	0.03	4.04	1.07	7.08	8.11	-10.06	7.95E-06
Aug	1995	35.00	0.26	0.01	0.09	0.55	6.95	8.11	-14.42	7.95E-06
Sep	1995	35.00	49.80	1.9	17.07	3.61	5.5	8.11	7.07	7.95E-08
Oct	1995	35.00	5.50	0.21	8.96	1.43	3.74	8.11	-1.47	7.95E-08
Nov	1995	35.00	2.36	0.09	0.61	0.81	2.03	8.11	-8.52	7.95E-06
Dec	1995	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	1996	35.00	0.00	0	0.00	0.35	0.92	0.00	-0.57	0.00E+00
Feb	1996	35.00	0.00	0	0.00	0.24	1.23	0.00	-0.99	0.00E+00
Mar	1996	35.00	0.00	0	0.00	0.92	1.98	0.00	-1.06	0.00E+00
Apr	1996	35.00	28.83	1.1	9.88	3	3.3	8.11	1.47	7.95E-06
May	1996	35.00	41.41	1.58	15.67	3.69	4.4	8.11	6.85	7.95E-06
Jun	1996	35.00	9.17	0.35	9.99	1.85	5.76	8.11	-2.03	7.95E-06
Jul	1996	35.00	0.52	0.02	0.18	0.55	7.08	8.11	-14.46	7.95E-06
Aug	1996	35.00	32.78	1.25	11.23	2.72	6.95	8.11	-1.11	7.95E-06
Sep	1996	35.00	3.41	0.13	1.17	1.37	5.5	8.11	-11.07	7.95E-06
Oct	1996	35.00	7.34	0.28	2.52	1.79	3.74	8.11	-7.55	7.95E-06
Nov	1996	35.00	0.00	0	0.00	0.5	2.03	8.11	-9.64	7.95E-06
Dec	1996	35.00	0.00	0	0.00	0.62	1.1	0.00	-0.48	0.00E+00
Jan	1997	35.00	0.00	0	0.00	0.62	0.92	0.00	-0.30	0.00E+00
Feb	1997	35.00	0.00	0	0.00	0.48	1.23	0.00	-0.75	0.00E+00
Mar	1997	35.00	0.00	0	0.00	0.32	1.98	0.00	-1.66	0.00E+00
Apr	1997	35.00	15.73	0.6	5.39	2.52	3.3	8.11	-3.50	7.95E-06
May	1997	35.00	27.26	1.04	9.35	2.84	4.4	8.11	-0.33	7.95E-06
Jun	1997	35.00	22.80	0.87	7.82	3.17	5.76	8.11	-2.89	7.95E-06
Jul	1997	35.00	55.30	2.11	18.96	4.61	7.08	8.11	8.38	7.95E-06
Aug	1997	35.00	5.24	0.2	10.17	1.05	6.95	8.11	-3.84	7.95E-06
Sep	1997	35.00	1.83	0.07	0.63	0.73	5.5	8.11	-12.25	7.95E-06
Oct	1997	35.00	1.05	0.04	0.36	0.7	3.74	8.11	-10.79	7.95E-06
Nov	1997	35.00	2.10	0.08	0.72	0.43	2.03	8.11	-8.99	7.95E-06
Dec	1997	35.00	0.00	0	0.00	0.26	1.1	0.00	-0.84	0.00E+00
Jan	1998	35.00	0.00	0	0.00	0.52	0.92	0.00	-0.40	0.00E+00
Feb	1998	35.00	2.88	0.11	0.99	0.78	1.28	0.00	0.49	0.00E+00
Mar	1998	35.00	18.87	0.72	8.96	2.02	1.98	0.00	7.00	0.00E+00
Apr	1998	35.00	0.00	0	7.00	0.27	3.3	8.11	-4.14	7.95E-06
May	1998	35.00	30.66	1.17	10.51	3.58	4.4	8.11	1.58	7.95E-06
Jun	1998	35.00	44.55	1.7	16.86	3.36	5.76	8.11	8.34	7.95E-06
Jul	1998	35.00	38.00	1.45	19.37	3.38	7.08	8.11	7.56	7.95E-06
Aug	1998	35.00	15.20	0.58	12.77	2.36	6.95	8.11	0.07	7.95E-08
Sep	1998	35.00	32.76	1.25	11.30	2.08	5.5	8.11	-0.23	7.95E-06
Oct	1998	35.00	41.15	1.57	14.11	4.16	3.74	8.11	6.41	7.95E-06
Nov	1998	35.00	5.24	0.2	8.21	1.42	2.03	8.11	-0.51	7.95E-06
Dec	1998	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1999	35.00	0.00	0	0.00	0.55	0.92	0.00	-0.37	0.00E+00
Feb	1999	35.00	0.00	0	0.00	0.12	1.23	0.00	-1.11	0.00E+00
Mar	1999	35.00	0.00	0	0.00	0.55	1.98	0.00	-1.43	0.00E+00
Apr	1999	35.00	26.21	1	8.99	3.76	3.3	8.11	1.33	7.95E-06
May	1999	35.00	2.36	0.09	2.14	1.17	4.4	8.11	-9.20	7.95E-06
Jun	1999	35.00	71.81	2.74	24.62	5.57	5.76	8.11	16.32	7.95E-06
Jul	1999	35.00	3.15	0.12	17.40	0.98	7.08	8.11	3.18	7.95E-06
Aug	1999	35.00	31.45	1.2	13.97	1.96	6.95	8.11	0.66	7.95E-06
Sep	1999	35.00	10.22	0.39	4.37	1.79	5.5	8.11	-7.45	7.95E-06
Oct	1999	35.00	0.00	0	0.00	0.04	3.74	8.11	-11.81	7.95E-06
Nov	1999	35.00	0.79	0.03	0.27	0.56	2.03	8.11	-9.31	7.95E-06
Dec	1999	35.00	0.00	0	0.00	0.12	1.1	0.00	-0.98	0.00E+00
Jan	2000	35.00	0.00	0	0.00	0.18	0.92	0.00	-0.76	0.00E+00
Feb	2000	35.00	0.28	0.01	0.09	1.09	1.23	0.00	-0.05	0.00E+00
Mar	2000	35.00	8.12	0.31	2.79	1.48	1.98	0.00	2.29	0.00E+00
Apr	2000	35.00	69.45	2.65	26.10	4.74	3.3	8.11	19.42	7.95E-06

1988-2002 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
May	2000	35.00	0.52	0.02	19.60	0.78	4.4	8.11	7.87	7.95E-06
Jun	2000	35.00	0.00	0	7.87	0.43	5.76	8.11	-5.57	7.95E-06
Jul	2000	35.00	13.10	0.5	4.49	2.24	7.08	8.11	-8.46	7.95E-06
Aug	2000	35.00	1.57	0.06	0.54	0.69	6.95	8.11	-13.83	7.95E-06
Sep	2000	35.00	3.93	0.15	1.35	1.03	5.5	8.11	-11.23	7.95E-06
Oct	2000	35.00	2.88	0.11	0.99	1.08	3.74	8.11	-9.78	7.95E-06
Nov	2000	35.00	0.00	0	0.00	0.43	2.03	8.11	-9.71	7.95E-06
Dec	2000	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.74	0.00E+00
Jan	2001	35.00	0.00	0	0.00	0.06	0.92	0.00	-0.86	0.00E+00
Feb	2001	35.00	0.00	0	0.00	0.58	1.23	0.00	-0.65	0.00E+00
Mar	2001	35.00	0.00	0	0.00	0.95	1.98	0.00	-1.03	0.00E+00
Apr	2001	35.00	19.66	0.75	6.74	2.46	3.3	8.11	-2.21	7.95E-06
May	2001	35.00	10.75	0.41	3.68	1.67	4.4	8.11	-7.16	7.95E-06
Jun	2001	35.00	31.19	1.19	10.69	3.22	5.76	8.11	0.04	7.95E-06
Jul	2001	35.00	82.82	3.16	28.44	4.96	7.08	8.11	18.20	7.95E-06
Aug	2001	35.00	6.81	0.26	20.54	1.26	6.95	8.11	6.74	7.95E-06
Sep	2001	35.00	0.00	0	6.74	0.33	5.5	8.11	-6.55	7.95E-06
Oct	2001	35.00	6.29	0.24	2.16	1.18	3.74	8.11	-8.52	7.95E-06
Nov	2001	35.00	5.77	0.22	1.98	1.3	2.03	8.11	-6.87	7.95E-06
Dec	2001	35.00	0.00	0	0.00	0.13	1.1	0.00	-0.97	0.00E+00
Jan	2002	35.00	0.00	0	0.00	0.04	0.92	0.00	-0.88	0.00E+00
Feb	2002	35.00	0.00	0	0.00	0.21	1.28	0.00	-1.07	0.00E+00
Mar	2002	35.00	0.00	0	0.00	1.44	1.98	0.00	-0.54	0.00E+00
Apr	2002	35.00	4.98	0.19	1.71	1.69	3.3	8.11	-8.02	7.95E-06
May	2002	35.00	6.03	0.23	2.07	1.68	4.4	8.11	-8.77	7.95E-06
Jun	2002	35.00	6.03	0.23	2.07	1.23	5.76	8.11	-10.58	7.95E-06
Jul	2002	35.00	1.57	0.06	0.54	0.74	7.06	8.11	-13.91	7.95E-06
Aug	2002	35.00	30.93	1.18	10.60	2.38	6.95	8.11	-2.08	7.95E-06
Sep	2002	35.00	16.77	0.64	5.75	2.47	5.5	8.11	-5.39	7.95E-06
Oct	2002	35.00	2.62	0.1	0.90	0.62	3.74	8.11	-10.13	7.95E-06
Nov	2002	35.00	0.26	0.01	0.09	0.33	2.03	8.11	-9.72	7.95E-06
Dec	2002	35.00	0.00	0	0.00	0.06	1.1	0.00	-1.02	0.00E+00
				4.86		16.82	44.00		26.41	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see G:\102\00279.02\Data Info\DB Land Application-Irrigation\Dewey-Burdock\Soil Hydr Props\Dewey_Burdock_Soil.xls

2002-1988 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Jan	2002	35.00	0.00	0	0.00	0.04	0.92	0.00	-0.88	0.00E+00
Feb	2002	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	2002	35.00	0.00	0	0.00	1.44	1.98	0.00	-0.54	0.00E+00
Apr	2002	35.00	4.98	0.19	1.71	1.69	3.3	8.11	-8.02	7.95E-06
May	2002	35.00	6.03	0.23	2.07	1.68	4.4	8.38	-9.04	7.95E-06
Jun	2002	35.00	6.03	0.23	2.07	1.23	5.76	8.11	-10.58	7.95E-06
Jul	2002	35.00	1.57	0.06	0.54	0.74	7.08	8.38	-14.16	7.95E-06
Aug	2002	35.00	30.93	1.18	10.60	2.38	6.95	8.38	-2.35	7.95E-06
Sep	2002	35.00	16.77	0.64	5.75	2.47	5.5	8.11	-5.39	7.95E-06
Oct	2002	35.00	2.62	0.1	0.90	0.82	3.74	8.38	-10.40	7.95E-06
Nov	2002	35.00	0.26	0.01	0.09	0.33	2.03	8.11	-9.72	7.95E-06
Dec	2002	35.00	0.00	0	0.00	0.08	1.1	0.00	-1.02	0.00E+00
Jan	2003	35.00	0.00	0	0.00	0.47	0.92	0.00	-0.45	0.00E+00
Feb	2003	35.00	0.00	0	0.00	0.43	1.23	0.00	-0.80	0.00E+00
Mar	2003	35.00	6.81	0.26	2.34	1.92	1.98	0.00	2.28	0.00E+00
Apr	2003	35.00	15.46	0.59	7.58	1.96	3.3	8.11	-1.87	7.95E-06
May	2003	35.00	12.32	0.47	4.22	1.95	4.4	8.38	-6.61	7.95E-06
Jun	2003	35.00	11.01	0.42	3.77	2.8	5.76	8.11	-7.30	7.95E-06
Jul	2003	35.00	0.00	0	0.00	0.05	7.08	8.38	-15.41	7.95E-06
Aug	2003	35.00	21.23	0.81	7.28	1.89	6.95	8.38	-6.18	7.95E-06
Sep	2003	35.00	10.75	0.41	3.68	1.58	5.5	8.11	-8.35	7.95E-06
Oct	2003	35.00	0.52	0.02	0.18	0.6	3.74	8.38	-11.34	7.95E-06
Nov	2003	35.00	0.26	0.01	0.09	0.44	2.03	8.11	-9.61	7.95E-06
Dec	2003	35.00	2.10	0.08	0.72	0.6	1.1	0.00	0.22	0.00E+00
Jan	2004	35.00	0.00	0	0.22	0.3	0.92	0.00	-0.40	0.00E+00
Feb	2004	35.00	0.00	0	0.00	1.3	1.28	0.00	0.02	0.00E+00
Mar	2004	35.00	0.00	0	0.02	0.06	1.98	0.00	-1.90	0.00E+00
Apr	2004	35.00	0.00	0	0.00	0.32	3.3	8.11	-11.09	7.95E-06
May	2004	35.00	1.31	0.05	0.45	0.97	4.4	8.38	-11.36	7.95E-06
Jun	2004	35.00	1.05	0.04	0.36	1.26	5.76	8.11	-12.25	7.95E-06
Jul	2004	35.00	9.44	0.36	3.23	2.21	7.08	8.38	-10.02	7.95E-06
Aug	2004	35.00	1.57	0.06	0.54	0.96	6.95	8.38	-13.81	7.95E-06
Sep	2004	35.00	18.35	0.7	6.29	2.61	5.5	8.11	-4.71	7.95E-06
Oct	2004	35.00	18.08	0.69	6.20	1.89	3.74	8.38	-4.03	7.95E-06
Nov	2004	35.00	0.00	0	0.00	0.2	2.03	8.11	-9.94	7.95E-06
Dec	2004	35.00	0.00	0	0.00	0.08	1.1	0.00	-1.02	0.00E+00
Jan	2005	35.00	0.00	0	0.00	0.47	0.92	0.00	-0.45	0.00E+00
Feb	2005	35.00	0.00	0	0.00	0.1	1.23	0.00	-1.13	0.00E+00
Mar	2005	35.00	13.10	0.5	4.49	1.68	1.98	0.00	4.19	0.00E+00
Apr	2005	35.00	27.52	1.05	13.63	2.73	3.3	8.11	4.95	7.95E-06
May	2005	35.00	16.25	0.62	10.52	2.66	4.4	8.11	0.68	7.95E-06
Jun	2005	35.00	109.29	4.17	38.13	6.24	5.76	8.11	30.60	7.95E-06
Jul	2005	35.00	23.59	0.9	38.59	2.07	7.08	8.11	25.47	7.95E-06
Aug	2005	35.00	13.89	0.53	30.23	1.91	6.95	8.11	17.08	7.95E-06
Sep	2005	35.00	0.00	0	17.08	0.37	5.5	8.11	3.83	7.95E-06
Oct	2005	35.00	13.63	0.52	8.51	1.49	3.74	8.11	-1.86	7.95E-06
Nov	2005	35.00	0.00	0	0.00	0.04	2.03	8.11	-10.10	7.95E-06
Dec	2005	35.00	0.00	0	0.00	0.4	1.1	0.00	-0.70	0.00E+00
Jan	2006	35.00	0.00	0	0.00	0.26	0.92	0.00	-0.66	0.00E+00
Feb	2006	35.00	0.00	0	0.00	0.61	1.23	0.00	-0.72	0.00E+00
Mar	2006	35.00	0.00	0	0.00	0.93	1.98	0.00	-1.05	0.00E+00
Apr	2006	35.00	6.03	0.23	2.07	1.36	3.3	8.11	-8.00	7.95E-06
May	2006	35.00	18.08	0.69	6.20	2.11	4.4	8.11	-4.20	7.95E-06
Jun	2006	35.00	6.29	0.24	2.16	1.35	5.76	8.11	-10.37	7.95E-06
Jul	2006	35.00	45.08	1.72	15.46	3.15	7.08	8.11	3.41	7.95E-06
Aug	2006	35.00	5.24	0.2	5.21	1.34	6.95	8.11	-8.51	7.95E-06
Sep	2006	35.00	4.72	0.18	1.62	0.91	5.5	8.11	-11.09	7.95E-06
Oct	2006	35.00	1.57	0.06	0.54	0.69	3.74	8.11	-10.62	7.95E-06
Nov	2006	35.00	0.00	0	0.00	0.26	2.03	8.11	-9.88	7.95E-06
Dec	2006	35.00	0.00	0	0.00	0.36	1.1	0.00	-0.74	0.00E+00
Jan	2007	35.00	0.00	0	0.00	0.14	0.92	0.00	-0.78	0.00E+00
Feb	2007	35.00	0.00	0	0.00	0.44	1.23	0.00	-0.79	0.00E+00
Mar	2007	35.00	26.21	1	8.99	1.74	1.98	0.00	8.75	0.00E+00
Apr	2007	35.00	2.88	0.11	9.73	1.09	3.3	8.11	-0.59	7.95E-06
May	2007	35.00	15.99	0.61	5.48	1.72	4.4	8.11	-5.31	7.95E-06
Jun	2007	35.00	1.31	0.05	0.45	0.67	5.76	8.11	-12.75	7.95E-06
Jul	2007	35.00	46.13	1.76	15.81	3.5	7.08	8.11	4.12	7.95E-06
Aug	2007	35.00	9.44	0.36	7.36	2.05	6.95	8.11	-5.68	7.95E-06
Sep	2007	35.00	1.31	0.05	0.45	0.83	5.5	8.11	-12.33	7.95E-06
Oct	2007	35.00	13.10	0.5	4.49	1.72	3.74	8.11	-5.64	7.95E-06
Nov	2007	35.00	0.00	0	0.00	0.08	2.03	8.11	-10.08	7.95E-06
Dec	2007	35.00	0.00	0	0.00	0.37	1.1	0.00	-0.73	0.00E+00
Jan	1980	35.00	0.00	0	0.00	0.59	0.92	0.00	-0.33	0.00E+00
Feb	1980	35.00	0.00	0	0.00	0.77	1.28	0.00	-0.51	0.00E+00

2002-1988 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
Mar	1980	35.00	18.35	0.7	6.29	2.82	1.98	0.00	7.13	0.00E+00
Apr	1980	35.00	22.28	0.85	14.77	1.72	3.3	8.11	5.08	7.95E-06
May	1980	35.00	36.69	1.4	17.66	3.33	4.4	8.11	8.47	7.95E-06
Jun	1980	35.00	23.85	0.91	16.65	1.99	5.76	8.11	4.77	7.95E-06
Jul	1980	35.00	3.15	0.12	5.84	0.97	7.08	8.11	-8.38	7.95E-06
Aug	1980	35.00	14.94	0.57	5.12	1.85	6.95	8.11	-8.09	7.95E-06
Sep	1980	35.00	0.26	0.01	0.09	0.39	5.5	8.11	-13.13	7.95E-06
Oct	1980	35.00	5.77	0.22	1.98	1.01	3.74	8.11	-8.87	7.95E-06
Nov	1980	35.00	3.67	0.14	1.26	0.62	2.03	8.11	-8.26	7.95E-06
Dec	1980	35.00	0.00	0	0.00	0.68	1.1	0.00	-0.42	0.00E+00
Jan	1981	35.00	0.00	0	0.00	0.08	0.92	0.00	-0.84	0.00E+00
Feb	1981	35.00	0.00	0	0.00	0.27	1.23	0.00	-0.96	0.00E+00
Mar	1981	35.00	5.77	0.22	1.98	0.66	1.98	0.00	0.66	0.00E+00
Apr	1981	35.00	1.31	0.05	1.11	0.74	3.3	8.11	-9.57	7.95E-06
May	1981	35.00	27.28	1.04	9.35	3.22	4.4	8.11	0.05	7.95E-06
Jun	1981	35.00	14.94	0.57	5.17	1.73	5.76	8.11	-6.97	7.95E-06
Jul	1981	35.00	22.80	0.87	7.82	2.54	7.08	8.11	-4.84	7.95E-06
Aug	1981	35.00	3.41	0.13	1.17	1	6.95	8.11	-12.89	7.95E-06
Sep	1981	35.00	0.00	0	0.00	0.16	5.5	8.11	-13.45	7.95E-06
Oct	1981	35.00	34.60	1.32	11.86	2.92	3.74	8.11	2.93	7.95E-06
Nov	1981	35.00	0.00	0	2.93	0.04	2.03	8.11	-7.17	7.95E-06
Dec	1981	35.00	0.00	0	0.00	0.1	1.1	0.00	-1.00	0.00E+00
Jan	1982	35.00	0.00	0	0.00	0.18	0.92	0.00	-0.74	0.00E+00
Feb	1982	35.00	0.00	0	0.00	0.05	1.23	0.00	-1.18	0.00E+00
Mar	1982	35.00	0.00	0	0.00	1.34	1.98	0.00	-0.64	0.00E+00
Apr	1982	35.00	2.36	0.09	0.81	1	3.3	8.11	-9.60	7.95E-06
May	1982	35.00	50.06	1.91	17.16	4.18	4.4	8.11	8.83	7.95E-06
Jun	1982	35.00	56.61	2.16	28.24	4.45	5.76	8.11	18.82	7.95E-06
Jul	1982	35.00	11.79	0.45	22.86	2.2	7.08	8.11	9.87	7.95E-06
Aug	1982	35.00	25.42	0.97	18.58	3.29	6.95	8.11	6.81	7.95E-06
Sep	1982	35.00	12.06	0.46	10.94	2.42	5.5	8.11	-0.25	7.95E-06
Oct	1982	35.00	7.08	0.27	2.43	1.27	3.74	8.11	-8.16	7.95E-06
Nov	1982	35.00	12.58	0.48	4.31	1.3	2.03	8.11	-4.53	7.95E-06
Dec	1982	35.00	0.00	0	0.00	0.2	1.1	0.00	-0.90	0.00E+00
Jan	1983	35.00	0.00	0	0.00	0.22	0.92	0.00	-0.70	0.00E+00
Feb	1983	35.00	0.00	0	0.00	0.21	1.23	0.00	-1.02	0.00E+00
Mar	1983	35.00	4.46	0.17	1.53	0.89	1.98	0.00	0.44	0.00E+00
Apr	1983	35.00	1.05	0.04	0.80	0.75	3.3	8.11	-9.87	7.95E-06
May	1983	35.00	11.27	0.43	3.86	1.95	4.4	8.11	-6.70	7.95E-06
Jun	1983	35.00	48.49	1.85	16.62	4.25	5.76	8.11	7.00	7.95E-06
Jul	1983	35.00	6.29	0.24	9.16	1.05	7.08	8.11	-4.99	7.95E-06
Aug	1983	35.00	33.81	1.29	11.59	3.31	6.95	8.11	-0.16	7.95E-06
Sep	1983	35.00	0.26	0.01	0.09	0.28	5.5	8.11	-13.24	7.95E-06
Oct	1983	35.00	4.46	0.17	1.53	1.6	3.74	8.11	-8.73	7.95E-06
Nov	1983	35.00	12.58	0.48	4.31	1.6	2.03	8.11	-4.23	7.95E-06
Dec	1983	35.00	0.00	0	0.00	0.05	1.1	0.00	-1.05	0.00E+00
Jan	1984	35.00	0.00	0	0.00	1.37	0.92	0.00	0.45	0.00E+00
Feb	1984	35.00	0.00	0	0.45	0.26	1.28	0.00	-0.55	0.00E+00
Mar	1984	35.00	0.26	0.01	0.09	0.8	1.98	0.00	-1.09	0.00E+00
Apr	1984	35.00	28.04	1.07	9.61	3.59	3.3	8.11	1.79	7.95E-06
May	1984	35.00	35.91	1.37	14.10	2.93	4.4	8.11	4.52	7.95E-06
Jun	1984	35.00	5.77	0.22	8.50	1.91	5.76	8.11	-5.47	7.95E-06
Jul	1984	35.00	9.70	0.37	3.32	2.36	7.08	8.11	-9.49	7.95E-06
Aug	1984	35.00	8.65	0.33	2.97	1.68	6.95	8.11	-10.42	7.95E-06
Sep	1984	35.00	0.00	0	0.00	0.4	5.5	8.11	-13.21	7.95E-06
Oct	1984	35.00	0.52	0.02	0.18	0.63	3.74	8.11	-11.04	7.95E-06
Nov	1984	35.00	4.46	0.17	1.53	0.57	2.03	8.11	-8.05	7.95E-06
Dec	1984	35.00	0.00	0	0.00	0.35	1.1	0.00	-0.75	0.00E+00
Jan	1985	35.00	0.00	0	0.00	0.17	0.92	0.00	-0.75	0.00E+00
Feb	1985	35.00	0.00	0	0.00	0.57	1.23	0.00	-0.66	0.00E+00
Mar	1985	35.00	0.00	0	0.00	0.77	1.98	0.00	-1.21	0.00E+00
Apr	1985	35.00	47.44	1.81	16.28	3.15	3.3	8.11	8.00	7.95E-06
May	1985	35.00	2.62	0.1	8.90	1.05	4.4	8.11	-2.56	7.95E-06
Jun	1985	35.00	1.57	0.06	0.54	1.03	5.76	8.11	-12.30	7.95E-06
Jul	1985	35.00	2.36	0.09	0.81	1.2	7.08	8.11	-13.18	7.95E-06
Aug	1985	35.00	0.00	0	0.00	0.5	6.95	8.11	-14.56	7.95E-06
Sep	1985	35.00	12.32	0.47	4.22	1.99	5.5	8.11	-7.40	7.95E-06
Oct	1985	35.00	1.05	0.04	0.36	0.68	3.74	8.11	-10.81	7.95E-06
Nov	1985	35.00	0.00	0	0.00	0.22	2.03	8.11	-9.92	7.95E-06
Dec	1985	35.00	0.00	0	0.00	0.41	1.1	0.00	-0.69	0.00E+00
Jan	1986	35.00	0.00	0	0.00	1.63	0.92	0.00	0.71	0.00E+00
Feb	1986	35.00	0.00	0	0.71	1.06	1.23	0.00	0.54	0.00E+00
Mar	1986	35.00	0.00	0	0.54	0.52	1.98	0.00	-0.92	0.00E+00
Apr	1986	35.00	32.24	1.23	11.05	3.27	3.3	8.11	2.91	7.95E-06

2002-1988 Estimated Monthly Water Balance for Evap Pond--Burdock Site (XB Run)

		Assumed Pond Area (ac)	Mon. Runoff Vol (ac-ft)	Mon. Runoff (in)	Beg. Mon. Pond Depth (in/mo)	Mon. Precip. (in/mo)	Mo. PET (in/mo)	Mo. Seepage (in/mo)	End Mon. Pond Depth (in/mo)	Burdock Perm. (cm/sec)
May	1986	35.00	8.39	0.32	5.79	1.07	4.4	8.11	-5.66	7.95E-06
Jun	1986	35.00	68.40	2.61	23.45	4.67	5.76	8.11	14.45	7.95E-06
Jul	1986	35.00	5.24	0.2	16.25	1.63	7.08	8.11	2.68	7.95E-06
Aug	1986	35.00	6.81	0.26	5.02	1.19	6.95	8.11	-8.85	7.95E-06
Sep	1986	35.00	16.08	0.69	8.20	3.52	5.5	8.11	-3.89	7.95E-06
Oct	1986	35.00	50.84	1.94	17.43	3.88	3.74	8.11	9.46	7.95E-06
Nov	1986	35.00	2.10	0.08	10.18	0.86	2.03	8.11	0.90	7.95E-06
Dec	1986	35.00	0.00	0	0.90	0.09	1.1	0.00	-0.11	0.00E+00
Jan	1987	35.00	0.00	0	0.00	0.13	0.92	0.00	-0.79	0.00E+00
Feb	1987	35.00	0.00	0	0.00	0.87	1.23	0.00	-0.36	0.00E+00
Mar	1987	35.00	3.15	0.12	1.08	2.22	1.98	0.00	1.32	0.00E+00
Apr	1987	35.00	4.98	0.19	3.03	0.69	3.3	8.11	-7.70	7.95E-06
May	1987	35.00	25.16	0.96	8.63	2.97	4.4	8.11	-0.92	7.95E-06
Jun	1987	35.00	0.79	0.03	0.27	0.59	5.76	8.11	-13.01	7.95E-06
Jul	1987	35.00	15.73	0.6	5.39	1.71	7.08	8.11	-8.09	7.95E-06
Aug	1987	35.00	2.36	0.09	0.81	1.04	6.95	8.11	-13.21	7.95E-06
Sep	1987	35.00	1.83	0.07	0.63	0.76	5.5	8.11	-12.22	7.95E-06
Oct	1987	35.00	0.26	0.01	0.09	0.42	3.74	8.11	-11.34	7.95E-06
Nov	1987	35.00	5.50	0.21	1.89	0.71	2.03	8.11	-7.65	7.95E-06
Dec	1987	35.00	0.26	0.01	0.09	0.25	1.1	0.00	-0.76	0.00E+00
Jan	1988	35.00	0.00	0	0.00	0.63	0.92	0.00	-0.29	0.00E+00
Feb	1988	35.00	0.00	0	0.00	0.21	1.28	0.00	-1.07	0.00E+00
Mar	1988	35.00	0.00	0	0.00	1.17	1.98	0.00	-0.81	0.00E+00
Apr	1988	35.00	1.57	0.06	0.54	0.63	3.3	8.11	-10.24	7.95E-06
May	1988	35.00	20.18	0.77	6.92	2.64	4.4	8.11	-2.95	7.95E-06
Jun	1988	35.00	40.36	1.54	13.84	2.76	5.76	8.11	2.75	7.95E-06
Jul	1988	35.00	23.33	0.89	10.74	2.18	7.08	8.11	-2.27	7.95E-06
Aug	1988	35.00	25.42	0.97	8.72	1.87	6.95	8.11	-4.48	7.95E-06
Sep	1988	35.00	1.05	0.04	0.36	0.84	5.5	8.11	-12.41	7.95E-06
Oct	1988	35.00	0.00	0	0.00	0.09	3.74	8.11	-11.76	7.95E-06
Nov	1988	35.00	0.26	0.01	0.09	0.52	2.03	8.11	-9.53	7.95E-06
Dec	1988	35.00	0.00	0	0.00	0.23	1.1	0.00	-0.87	0.00E+00
				4.29		15.62	44.00		30.50	

Assumes seepage is 0.00 for January, February, March and December due to frozen soils
Trial is for bare soil, 314.5 acres irrigated area

Permeability value is geometric mean of three available permeability values from Burdock test pits, see G:\102\00279.02\Data Info\DB Land Application-Irrigation\Dewey-Burdock\Soil Hydr Props\Dewey_Burdock_Soil.xls