NATURAL RESOURCES DEFENSE COUNCIL'S & POWDER RIVER BASIN RESOURCE COUNCIL'S PETITION FOR REVIEW

EXHIBIT 19

Wright
Environmental Services, Inc.

February 20, 2013

David Moody
Professional Services Manager
Cameco Resources
Smith Ranch - Highland Operations
762 Ross Road
Douglas, WY 82633

Dear Dave;

Please find enclosed four copies of the *2012 Status Update, Casing Leak Investigation, C, E, and F-Wellfields, Smith Ranch – Highland Operations.* Also included is a CD with pdf files of all the included materials

Sincerely,

Toby Wright
President

Cc file

227 Jefferson St.
Fort Collins, Colorado 80524
(970) 231-1160
WrightEnv@gmail.com

2012 Status Update
Casing Leak Investigation
C, E and F Wellfields
Smith Ranch-Highland Operations

Prepared For

Cameco Resources
Smith Ranch-Highland Operations
P.O. Box 1210
Glenrock, WY 82637

Prepared By

Wright Environmental Services Inc.
227 Jefferson Street
Fort Collins, CO 80524

And

Telesto Solutions, Inc.
2950 E. Harmony Road, Suite 200
Fort Collins, CO 80528

February 20, 2013

Wright
Environmental Services, Inc.

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ACRONYMS AND ABBREVIATIONS

AOC	Administrative Order on Consent
Cameco	Cameco Resources
CLI	casing leak investigation
HSU	hydrostratigraphic units
LQD	Land Quality Division
mg/L	milligrams per liter
MIT	mechanical integrity testing
PRI	Power Resources, Inc.
SRH	Smith Ranch Highland
WDEQ	Wyoming Department of Environmental Quality
WES	Wright Environmental Services

1.0 INTRODUCTION

On August 11, 2000, Power Resources, Inc. (PRI) received an Administrative Order on Consent (AOC) from the Wyoming Department of Environmental Quality (WDEQ), Land Quality Division (LQD) in response to a PRI Environmental Audit Report of Highland Uranium Project Wellfields dated November 21, 1999. The AOC required a compliance schedule and permit revision to be submitted within 60 days and submittal of quarterly progress reports until approval to cease was received. Additionally, the AOC required that PRI maintain the mechanical integrity of all operating injection wells. PRI responded to the AOC within the required 60 days on October 19, 2000, by submitting the requested Compliance Schedule and the Minor Permit Revision materials.

PRI, now doing business as Cameco Resources (Cameco), wishes to identify and mitigate potential impacts from the casing leaks and is implementing a sequential approach to accomplish this objective. The initial component of this casing leak investigation (CLI) involved an extensive records review and analysis to identify the hydrostratigraphic units (HSUs) potentially affected by casing failures in the C-, E-, and F-Wellfields (Plate 1) and the areas within these wellfields where these impacts may have occurred. The next component of the CLI involves field studies to determine the extent of the potential impacts in each identified HSU. The final component of this sequential approach will involve mitigation planning and implementation activities for the identified impacts. This report presents a summary of activities conducted between November 2011 and December 2012 to accomplish the following objectives:

- Determine general lithology and saturated thickness, if any, for potentially affected HSUs in each wellfield.
- Determine water quantity and quality in existing shallow monitoring wells.
- Determine upgradient water quality in each potentially affected HSU as a substitute for baseline or background water quality.
- Type water sources (upgradient, historic, current HSU water quality) to characterize differences in water quality and to aid in bounding the impacts to the HSUs. Use characteristics of water quality in each water source to determine impacts to HSUs.
- Utilize data gathered during targeted drilling activities to refine calculations and prepare a systematic plan for determining bounds of impacted HSUs.

2.0 SUMMARY OF PREVIOUS ACTIVITIES

In the proposed Compliance Schedule, PRI outlined investigative and mitigative activities for the C-, E-, and F-Wellfields. These activities included delineating the extent of affected areas, determining background water quality for affected HSUs, and commencing fluid recovery from affected sands. Fluid recovery did occur for the 140 and 130 Sands in areas of the E- and F-Wellfields, respectively. Numerous shallow monitoring wells were installed in the C-, E-, and F-Wellfields in the upper HSUs, predominantly the 140 Sand. PRI and Cameco have sampled these shallow monitoring wells since installation. The number of wells sampled was reduced as the wells became dry or the water quality in the well indicated that water impacted by mining activities was no longer present.

In an effort to ensure that a comprehensive cataloging of wells that failed mechanical integrity testing (MIT) existed for the C-, E-, and F-Wellfields, a review of MIT records at Smith Ranch Highland (SRH) was conducted (Wright Environmental Services [WES], 2011). For the majority of wells, the cause of the MIT failure could be correlated to either a failure of the casing or a failure of the MIT procedure. However, for a percentage of wells the cause of the MIT failure could not be determined. The percentage of wells for which the cause of the MIT failure could not be determined was less than 15 percent in the C- and E-Wellfields and approximately 30 percent in the F-Wellfield.

In addition, the 2011 investigation resulted in the correlation of the interval of compromised casing with a geologic unit, where possible. This correlation allows a more complete understanding of potential impacts to HSUs and in what areas of the wellfields these impacts may have occurred.

The synthesis of MIT and CLI information provided a clearer picture of the HSUs and the potential extent of impacts from injection wells with compromised casing. This allowed the formulation of a conceptual approach to systematically guide the casing leak investigation efforts.

As little information was available on the geology and hydrogeology of the shallow HSUs, simplifying assumptions were made to initially focus the investigation. In an effort to identify a spatial extent of affected area, an analytical approach was developed to calculate radial flow from a well into an unsaturated aquifer. The objective of these calculations was to develop a range of potential distances that fluids may have traveled from a well with compromised casing in a sandstone unit. Simplifying assumptions used for these calculations were as follows.

- Sandstone unit was initially unsaturated
- Sharp wetting front

- Wetting front pressure head is atmospheric pressure
- Well pressure is constant
- Infinite, flat aquifer
- Casing leak height was the width of the aquifer and the leak occurred for seven years

The median calculated flow distance based on the above simplifying assumptions and the assumed permeability and porosity was identified. Half the calculated median radial flow distance fluids may have traveled from a failed well was used as the target for investigating potentially affected HSUs in localized areas in each wellfield (WES, 2011).

3.0 2012 FIELD ACTIVITIES TECHNICAL APPROACH

The recommended approach to additional investigations was to drill a set of targeted boreholes in each wellfield located in an area within the bounds defined by the analytical calculations discussed above. One borehole was drilled to determine the lithology of all potentially affected HSUs in that area. If groundwater was encountered, a well was installed. Other boreholes were drilled into the shallow HSUs identified during the drilling of the first borehole. Wells were installed in each borehole where groundwater was identified. These targeted wells were used to assess the hydrogeology and groundwater quality of the HSUs and refine the analytical calculations. Additional groupings of wells were installed in the southern portion of the F-Wellfield to assess the utility of the analytical approach for targeting CLI well locations. The findings of this delineation investigation would allow a refinement of assumptions to be applied to the delineation of impacted HSUs in all three wellfields.

3.1 Well Installation

During the 2011- 2012 field program, a total of 23 monitoring wells were installed in the C-, E- and F-Wellfields and in two upgradient locations to collect water samples from the HSUs above the production zone (Figures 1-3). At each location, a group of wells, referred to herein as a cluster, were installed to monitor individual sand units. One well cluster was completed in the C-Wellfield with wells completed in the 100, 110, and 120 Sands (Table 1 and Figure 1). One cluster of wells was completed in the E-Wellfield with wells completed in the 110, 120, and 140 Sands (Table 2 and Figure 2). Four well clusters and two individual wells were completed in the F-Wellfield with wells completed in the 110, 120 and 150 Sands (Table 3 and Figure 3). Additionally, clusters were installed outside of the E- and F-Wellfields to obtain upgradient water quality information. Four wells were completed in the 100, 110, 130 and 140 Sands north of the E-Wellfield and two wells were completed in the 110 and 120 Sands north of the F-Wellfield (Figures 2 and 3).

Delineation holes were drilled at each well cluster location to obtain geophysical information, which was used to determine a target depth for monitoring well installations. Monitoring wells were installed to these targeted depths using a dual-rotary rig capable of casing advance. Eventually, a mud-air rotary combination drilling method was employed to more efficiently complete monitoring wells. A complete summary of drilling activities and methodology is presented in Appendix A.

3.2 Hydrologic Testing

Short-term aquifer tests were executed on all newly installed wells. Specific capacity and transient analyses were used to estimate transmissivity and hydraulic conductivity values for all wells sampled during a site-wide sampling program conducted in the

third and fourth quarters of 2012. A detailed summary of aquifer testing procedures is discussed in Appendix B.

3.3 Shallow Monitoring Well Sampling

Approximately 104 wells were installed at SRH prior to 2011. Some of the previously installed wells were no longer sampled after they were either determined to be dry or the water quality was considered to no longer be indicative of the presence of casing leak related impacts. Cameco has conducted quarterly sampling on ten of the existing shallow monitoring wells installed as part of the CLI for several years. Cameco reestablished monitoring of all existing shallow monitoring wells in the third quarter of 2012, including wells installed during 2011 and 2012 to ensure that the current water quality and quantity in areas previously investigated was quantified. A tabulation of wells installed as part of the CLI and the status of each are provided in Tables 1, 2, and 3.

Fifty-one wells were monitored in the C-Wellfield in 2012 (Table 1). A detailed summary of shallow monitor well sampling is discussed in Appendix C. These wells are completed in the 60, 80, 100, 110, 120, 130, 140, and 150 Sands. Six wells were determined to be dry. Two wells exhibited very slow recharge and only one bore volume could be removed before the sample was collected. One other well was determined to be unsampleable because the well recovers less than one foot in 24 hours.

Forty-six wells were monitored in the E-Wellfield in 2012 (Table 2). These wells are completed in the 80, 140, and 150 Sands. Seven wells were determined to be dry. One well exhibited very slow recharge and only one bore volume could be removed before the sample was collected. One other well contained less than 1.5 feet of water and could not be sampled.

Thirty wells were monitored in the F-Wellfield in 2012 (Table 3). These wells are completed in the 100, 110, 120, 130, 140, 150, and 160 Sands. Two wells were determined to be dry and were not sampled. One well was not sampled because it had less than one foot of water in the casing. Additionally, two wells could not be sampled because of well problems that prohibited the pump from working properly.

Several wells have extremely low discharge and require a day to several days to recharge before sampling can be conducted.

4.0 HYDROGEOLOGIC CHARACTERISTICS

An understanding of the geologic framework within the C-, E-, and F-Wellfields was needed to allow a more complete investigation of the potential impacts to the HSUs. Therefore, cross sections and isopach maps were generated for the C-, E-, and F-Wellfields. Three cross sections were developed for each wellfield (Plate 1). Existing injection and production well geophysical logs were interpreted and stratigraphic relationships developed within each wellfield. Every attempt was made to use the existing naming convention previously developed for sand units at the site.

4.1 Geology

A continuous coal seam was identified at depth within most of the geophysical logs and was used as a marker bed for stratigraphic interpretation. In addition, a population of monitoring wells had been installed during the previous CLI work and the sand unit interpretations of this earlier work were incorporated into the current analysis. As a final check, the well defined production zone geophysical signature and sand picks were used to verify the stratigraphic interpretations.

Cross sections are presented in Plates 2 through 10. As shown on the sections, the thicknesses of individual sand units are variable, often laterally discontinuous (pinch-out) and interbedded. The drilling program confirmed this interpretation. Sand units are partially- to fully-indurated, coarse- to fine-grained, with fractional amounts of gravel and fine-grained materials. Fine-grained units are comprised of silt- and clay-sized fractions and often contain bentonite.

Sand unit isopach maps are presented in Figures 4 through 18. Isopachs were created for the 140 to the 100 sand units within C-, E-, and F-Wellfields. The maps illustrate spatial variability within sand units as linear and meandering features that vary in thickness. These features are consistent with a fluvial depositional environment.

4.2 Hydrogeology

Short-term aquifer tests were performed to determine an optimal rate for sampling and estimate aquifer hydraulic properties using the data collected during sampling. Appendix B describes short-term aquifer testing procedures, discusses the analytical methods used to evaluate the data, and presents the results from these analyses. Potentiometric surface maps for the 130 and 140 Sands in the C-Wellfield, the 140 Sand in the E-Wellfield, and the 120 Sand in the F-Wellfield are shown on Figures 19 through 22, respectively.

In general, the uppermost sand units (160 and 150) are unsaturated, highly discontinuous or thinly saturated. During the 2011-2012 CLI drilling, the first partially saturated to saturated HSU was identified in the F-Wellfield as the 120 Sand, in the E-Wellfield as the 140 Sand, and in the C-Wellfield as the 120 Sand. The 140 and 130 sand units, in the vicinity of the newly installed well cluster are unsaturated (C-South area); elsewhere in the C-Wellfield, particularly C-North, the 140 and 130 Sands are partially saturated to saturated.

Constant rate, single well pumping tests were performed on all of the wells installed as part of the 2011-2012 field program. Drawdown data were collected and reduced; and aquifer properties (transmissivity and hydraulic conductivity) were estimated using the Cooper-Jacob method (pumping), Theis Recovery method (recovery), and from specific capacity calculations. The results of hydraulic testing are consistent with literature values for the geologic materials present in the subsurface and are presented in Table 4.

5.0 ASSESSMENT OF WATER QUALITY

The 2012 water quality data is provided in Tables 5 through 10. A more detailed discussion of the shallow sand unit water quality in the SRH C-, E- and F-Wellfields is provided in Appendix D. The water quality analysis identified that water in the C-North Wellfield is different in composition from water in the the C-South, E-, and F-Wellfields and has different water quality signature from the water quality of purge storage reservoir 2 (PSR-2) between 1995 and the present. The water quality in several of the wells completed in the 130 and 140 Sands of the C-North Wellfield appears to have been influenced by multiple sources.

Chloride concentrations greater than 20 milligrams per liter (mg/L) have routinely been viewed by Cameco as indicative of impacts from facility operations. The upgradient water quality indicates that this cutoff is reasonable for assessing significant water quality impacts. Water quality time trend plots are provided in Appendix E.

5.1 Upgradient Water Quality

Four wells were installed upgradient of the C- and E-Wellfields and two wells were completed upgradient of the F-Wellfield to gather information on the likely water quality of the shallow HSUs (Figures 2 and 3). The reported combined radium and adjusted gross alpha concentrations in CBG-1 exceeded WDEQ Water Quality Division, Rules and Regulations, Chapter 8, Table I Livestock (Class III) Standards in the samples collected in June and August 2012 (Table 6). Adjusted gross alpha and radium concentrations exceeded livestock standards (Class III) in the June and August samples of FBG-1 (Table 10). All other parameters meet the WDEQ/WQD Class I and Class III standards. Chloride concentrations in the upgradient wells are less than 10 mg/L in all samples collected in 2012. The reported sulfate concentrations for these background wells were less than 250 mg/L.

During previous work on the CLI, PRI reviewed available baseline water quality (PRI, 2000a) and determined that the water in the shallow sand units met Class III groundwater standards. However, a historic well, MX-2686A, installed in 1972 prior to in-situ recovery under the current permit to mine, and likely completed in the 130 Sand has high sulfate concentrations (Table 11). Sulfate concentrations in this well are higher than those reported for other areas of the C-Wellfield, higher than the average PSR-2/Irrigator values from 1995 to the present (Appendix D), and higher than lixiviant values (PRI, 2000b). This well was located near former North Morton Mine radium ponds (Figure 23). The 1980 aerial photo (Figure 23) shows the location of former North Morton Mine facilities, radium ponds and a large pond in the footprint of PSR-2, to the north. For ease of viewing, the current C-Wellfield is shown on the aerial.

The range of available upgradient and baseline water quality indicates that the class of use is variable spatially, both vertically and laterally and varies between exceeding Class III and meeting Class I Standards. Water quality of the shallow HSUs can vary from Class I in areas with no radionuclide deposition, to Class III in areas near radionuclide deposition, to less than Class III in areas of uranium mineralization and where historic conventional mining activities have occurred. Establishing a single baseline class of use for all shallow HSUs at SRH is problematic due to presence of abundant and sporadic natural mineralization.

5.1.1 C-Wellfield Water Quality

Chloride concentrations greater than 20 mg/L were reported in thirty wells in the C-Wellfield. These wells are completed in the 130 and 140 Sands and chloride concentrations ranged from 21 to 349 mg/L. A map of the chloride isoconcentrations in the 130 and 140 Sands are provided as Figure 24 and 25, respectively. Chloride concentrations generally decrease from north to south across the C-North Wellfield in both the 130 and 140 Sands. The distribution of these data are consistent with the anticipated groundwater flow and constituent transport given the 140 sand isopach presented in Figure 4. Time series water quality data plots presented in Appendix E indicate that several shallow C-North Wellfield wells completed in the 130 and 140 Sands show increasing chloride trends.

As discussed in Appendix D, the stiff diagrams of the wells in C-North look different from those in C-South. In particular, calcium, chloride, magnesium and sulfate constitute higher proportions of the waters at the C-North end of the wellfield for the wells completed in the 130 and 140 sands (Figure D-4). Comparing the stiff diagrams of the 130 and 140 sands to a proxy for the PSR-2 water quality and the water quality of CBG-4, which was completed in the 140 Sand, the stiff diagrams of the water quality in the C-North Wellfield show a similarity of the shape of the PSR-2 stiff diagram. However, several of the stiff diagrams for the 140 Sand have a higher proportion of sulfate than the PSR-2 proxy, indicating pre-ISR mining impacts to local and shallow groundwater from another source(s), such as the North Morton radium ponds and the larger North Morton Mine pond footprint on which PSR-2 now resides.

Data from the C-North Wellfield were plotted based on the sand association of the 140 and 130 sands along with the upgradient (CBG) well concentrations, the average water quality data collected from the irrigator (land application of treated waters), to represent the chemistry of PSR-2 and a water sample from a well drilled prior to in-situ mining (MX-2686A). The plots show the proxy for PSR-2 is higher in concentration for selenium and uranium than the C-North wells completed in the 140 and 130 Sands (Figure D-13). Almost all of the 140 and 130 sand samples are higher in sulfate than the average proxy PSR-2 and lixiviant (Table 1, PRI, 2000b) indicating the sulfate concentrations are unlikely the result of PSR-2 or impacts from casing leaks. Sulfate concentrations for the well MX-2686A are higher than those measured

in the C-North well samples indicating impacts to groundwater from historic mining operations before in-situ recovery operations began at SRH.

Comparing sand units across wellfields indicates that samples from wells in the 130 and 140 sands from the southern portion of C-Wellfield are more similar in chemistry to E-Wellfield 140 Sand water quality than to the 130 and 140 Sand water quality in northern part of C-Wellfield (Figure D-11).

5.1.2 E-Wellfield Water Quality

Elevated chloride concentrations were reported in twelve wells in the E-Wellfield. These wells are completed in the 120, 140 and 146 Sands and chloride concentrations ranged from 22 to 104 mg/L. A map of the chloride isoconcentrations in the 140 Sand is provided as Figure 26. Elevated chloride concentrations are localized in the E-wellfield.

The three sample locations in the E-Wellfield with the highest concentrations of sulfate and chloride are E6-2, E10-5 and E14-2. The three locations are not in close proximity and other sample locations with water quality with different chemical signatures are located between these wells. The stiff diagrams show the chemistry at these locations is different from adjacent wells (Figure D-5). The stiff diagram pattern indicates these changes in well chemistry appear to be localized differences and not related to a phenomenon that is wellfield-wide in scale. These water quality evaluations provide additional data indicating that impacts from casing leaks are limited and localized in the areas of E-Wellfield investigated to date.

5.1.3 F-Wellfield Water Quality

Elevated chloride concentrations were reported in six of the thirty wells sampled in the F-Wellfield. The chloride concentrations reported in these wells ranged from 20 to 168 mg/L. These six wells are completed in the 120, 140, and 160 Sands. A map of the chloride isoconcentrations in the 120 Sand is provided as Figure 27. Chloride concentrations in the 120 Sand (Figure 27) and in the 140 Sand indicate that impacts from casing leaks are limited and localized in areas of the F-Wellfield investigated to date.

Samples collected from the F-Wellfied show a definite trend of chemistry with spatial location. The stiff diagrams show wells in the western portion of F-Wellfield that are completed in the 120 Sand have a much higher proportion of sulfate than the other sand units (Figure D-6). In general, no other water chemistry distinctions can be determined for the F-Wellfield. These water quality evaluations provide additional data indicating that impacts from casing leaks are limited and localized in the F-Wellfield.

6.0 DISCUSSION

Monitoring wells were installed in portions of the C-, E-, and F-Wellfields where previous MIT failures had occurred but no water quality data were available. The resulting characterization data indicated that not all sand units are saturated and that impacts to sand units did not occur in every location of MIT failures. Geologic interpretation and generation of isopachs and cross sections provides a framework for guiding further investigations in the C-, E-, and F-Wellfields. Review of the water quality data available for shallow C-North wells indicates the influence of sources other than casing leaks on the water quality in this area.

6.1 C-Wellfield

The 130 and 140 sands are 20 to 40 feet thick and are well defined laterally throughout the C-Wellfield (Plate 2). The 110 and the 100 sand in this well field are less defined with the 110 Sand pinching out to the north into thin, less than ten feet thick, sand lenses within shale (Plate 4). The 100 Sand is thickest on the southern and the southwestern margins of the field but this sand decreases in thickness and uniformity toward the middle of the C-Wellfield and then reestablishes in C-north.

Water quality samples from wells completed in the 130 and 140 Sands in the northern portion of C-Wellfield have higher proportions of chloride and sulfate compared to the sands in the southern portion of the C-Wellfield. Wells completed in the 130 and 140 Sands of C-North appear to have water quality indicative of more than one source. Wells near PSR-2 have higher sulfate concentrations than reported in the water quality data available for the irrigator/PSR-2 (Figure D-16) and higher than other wells in C-South and E-Wellfields that are attributed to casing leak impacts. Additionally, wells farther from PSR-2 but near the previous locations of historic mining ponds show similar high sulfate concentrations. Wells with elevated sulfate concentrations seem to indicate impacts to the shallow HSUs from historic mining activity.

The chloride and sulfate concentrations decrease from northeast to southwest in the C-North Wellfield. However, isolated areas of elevated chloride and sulfate occur near the location of historic mining ponds. Differences in water quality in the 130 and 140 Sands appear between the wells of the C-North Wellfield. Vertical extent of the impacts visible in the 130 and 140 Sands has not yet been defined below the 130 Sand.

6.2 E-Wellfield

The 100 Sand is largely continuous in the western portion of the E-Wellfield and pinches out moving to the east. This sand completely pinches out in the northeastern portion of the E-Wellfield (Plate 6). Channelization is apparent in the 120 and the 130

Sands (Figures 10 and 11). The 120 Sand in the E-wellfield shows laterally discontinuous and thin sand lenses. The 130 Sand thickens and becomes more continuous in the northern portion of the E-Wellfield. This sand forms a channel in this region down-cutting into the 120 Sand (Plate 6). Surface elevations vary across this wellfield with highest elevations in the middle of the wellfield, thus it is in this area that the 150 and 160 Sands are the most apparent.

Water chemistry in the E-Wellfield indicates that the impacts from casing leaks are localized and do not appear to be widespread. PRI pumped the 140 Sand in the E-Wellfield between 1999 and 2005. These corrective actions have decreased the chloride concentrations in the western portion of this E-Wellfield, however elevated chloride remains in a few locations. No wells in the southern portion of the E-Wellfield contain elevated chloride concentrations.

6.3 F-Wellfield

Within the F-Wellfield, sand units are identifiable and present with the 160 Sand at or near the surface and the 100 Sand approximately 350 feet below ground surface. The lateral variations of the sands within the F-Wellfield show an increase in thickness from east to west. As well as thickening to the west, the 140, 130, and the 120 Sands merge into a large approximately 125 foot thick sand unit (Plate 8). The sands below and above this large interconnected package are generally discontinuous across the wellfield.

Water chemistry in the F-Wellfield indicates that the impacts from casing leaks are localized and do not appear to be widespread. PRI pumped the 140 Sand in the F-Wellfield between 2001 and 2003. Elevated chloride has been identified in the 120 Sand in the F-Wellfield. The 130 and 140 Sands in this area are not saturated and the 120 Sand was the first available water in the western portion of this wellfield.

7.0 RECOMMENDATIONS

The generation of wellfield geologic cross-sections and isopach maps have improved understanding of the geology of the C-, E-, and F-Wellfields. These isopachs, cross-sections and available water quality data can be used to guide the continuing CLI for the remaining areas of the C-, E-, and F-Wellfields. In the E- and F-Wellfields, elevated chloride concentrations are frequently identified where the sands are thicker. Below are recommendations for consideration in 2013 for the CLI.

Additional well clusters are recommended in the C-South, E-, and F-Wellfields in areas where identified chloride concentrations have been identified and in areas where known failures have occurred but no shallow monitoring wells area currently located.

The current drilling/well completion method of mud-rotary drilling to a depth above the zone targeted for well completion, cementing of a surface casing and then air rotary drilling to final drill hold depth provides an efficient means for well completion. This method should be continued for remaining areas of the C-, E-, and F-Wellfields.

Currently, the vertical and horizontal boundary of impacts in the C-North Wellfield is not known. Additional drilling should occur on the margins of the C-North Wellfield and to depths below the 130 Sand to bound impacts in this area.

Additional aquifer testing in C-North after the installation of wells in HSUs below the 130 Sand are recommended to provide useful information on the nature of fluid movement in this area.

Water quality data indicate multiple sources for the impacts identified in the C-North Wellfield. Additional drilling, water quality sampling, and historic data review will likely aid in further understanding and distinguishing these sources and their impacts.

The lack of variability in the per well quarterly sampling results indicates that quarterly sampling of shallow monitoring wells is not required. It is recommended that shallow monitoring well sampling occur twice per year with the full suite of analytes (Guideline 8) collected in the second half of the year and the short suite of analytes collected in the first half of the year. Additionally, 37 wells are dry, have low recharge or cannot be sampled. Dropping these wells (Table 12) from the sampling program is recommended. If ongoing CLI activities indicate that additional data are needed in the areas near these wells, recommendations as to resume monitoring, redrilling or reinstallation could be made at that time.

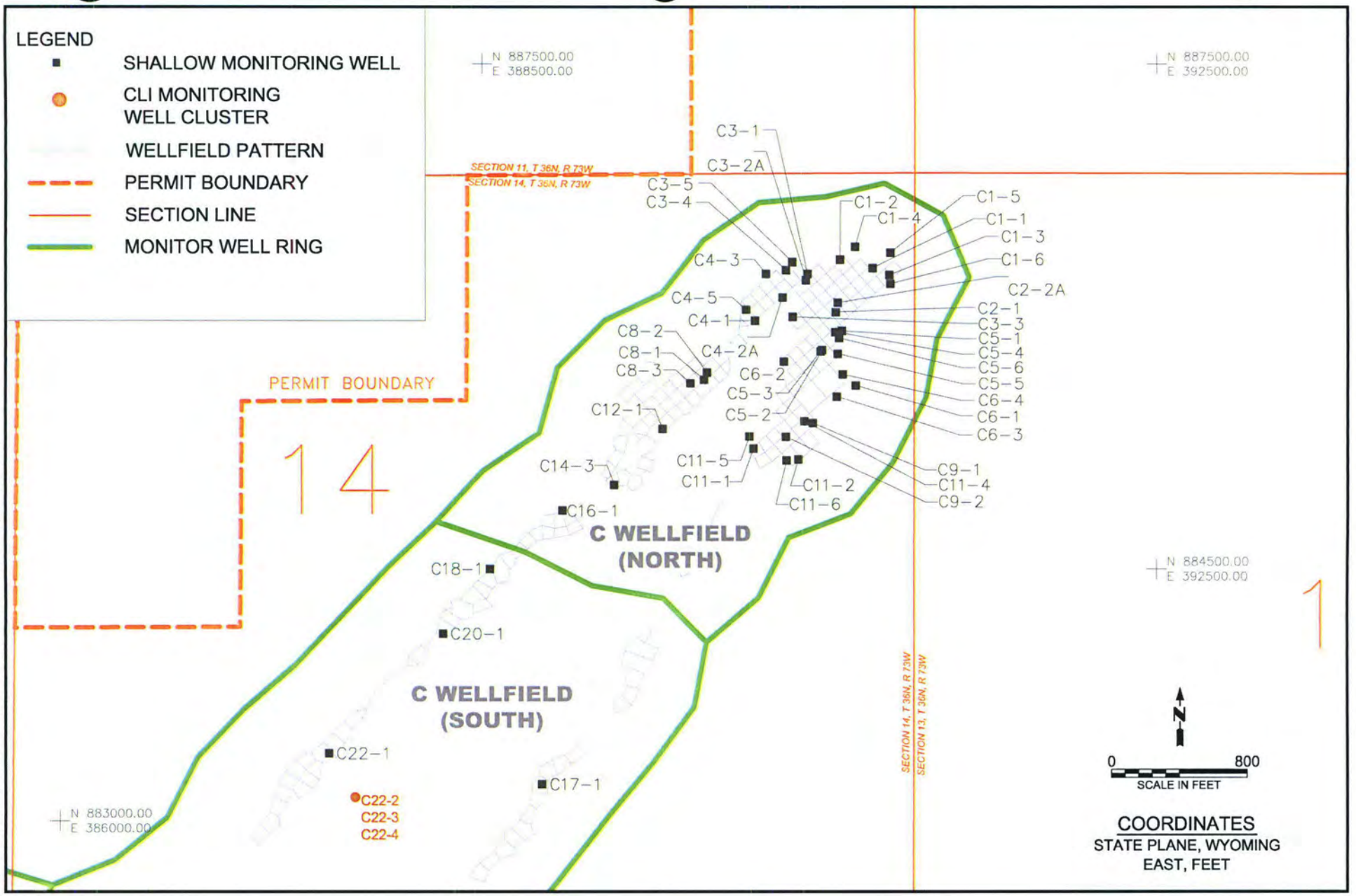
8.0 REFERENCES

Power Resources, Inc. 2000a. Letter from Bill Kearney to John Wagner, Permit 603-A2, Administrative Order on Consent (Docket no. 3211-00) Compliance Schedule, October 19, 2000.

Power Resources, Inc. 2000b. Letter from Bill Kearney to John Wagner, Permit to Mine No. 603, Highland Uranium Project Quarterly Report, July to September 2000, November 2, 2000.

Wright Environmental Services, Inc. 2011. Status Update: Casing Leak Investigation C-, E- and F-Wellfields. Highland Uranium Project.

FIGURES



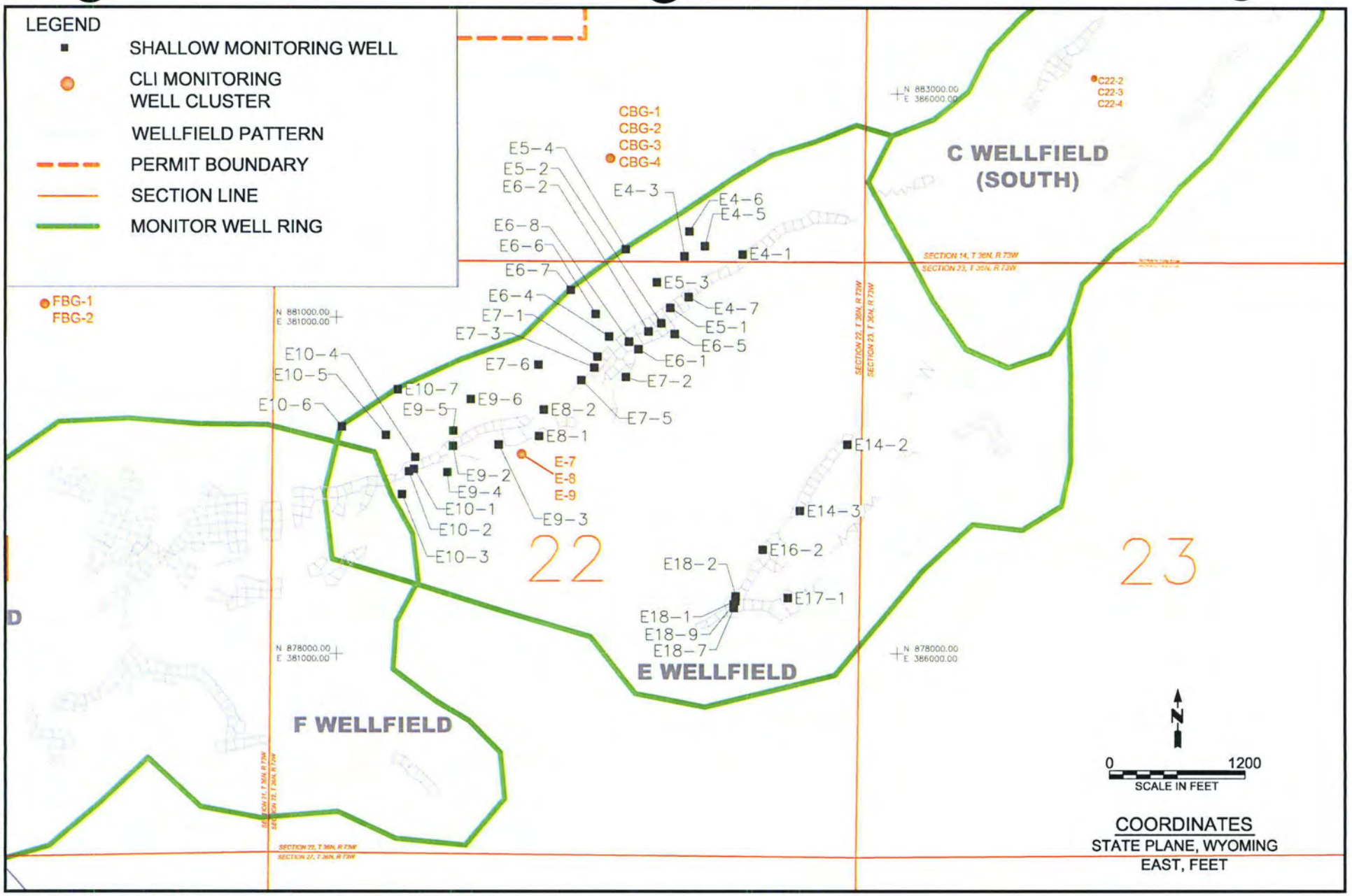
1/31/2013 R:\Highland_Smith_Ranch\MTI_Investigation\Calculations\AutoCad\2010-CLI-YEARLY-REPORT\WELLS_MONITORING.dwg

PROJECT:	TASK:
386200	07

PREPARED BY: Wright Environmental Services, Inc

FIGURE 1
SHALLOW GROUNDWATER WELL LOCATIONS
C-WELLFIELD

PREPARED FOR: Cameco
Cameco Resources



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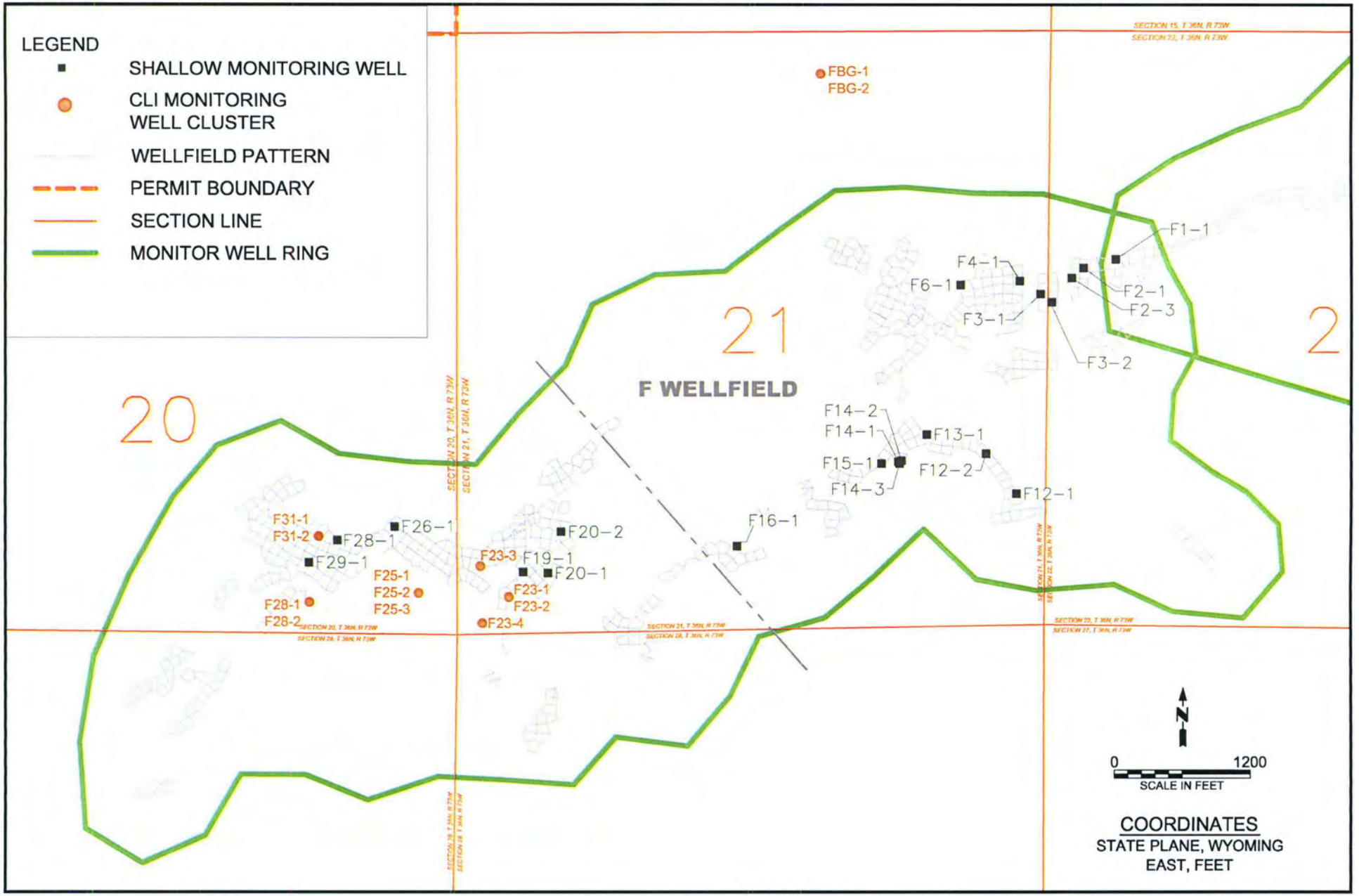
PROJECT:	TASK:
386200	07

PREPARED BY: Wright Environmental Services, Inc.

FIGURE 2
SHALLOW GROUNDWATER WELL LOCATIONS
E-WELLFIELD

Cameco
Cameco Resources



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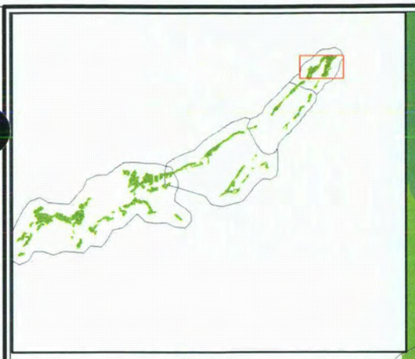
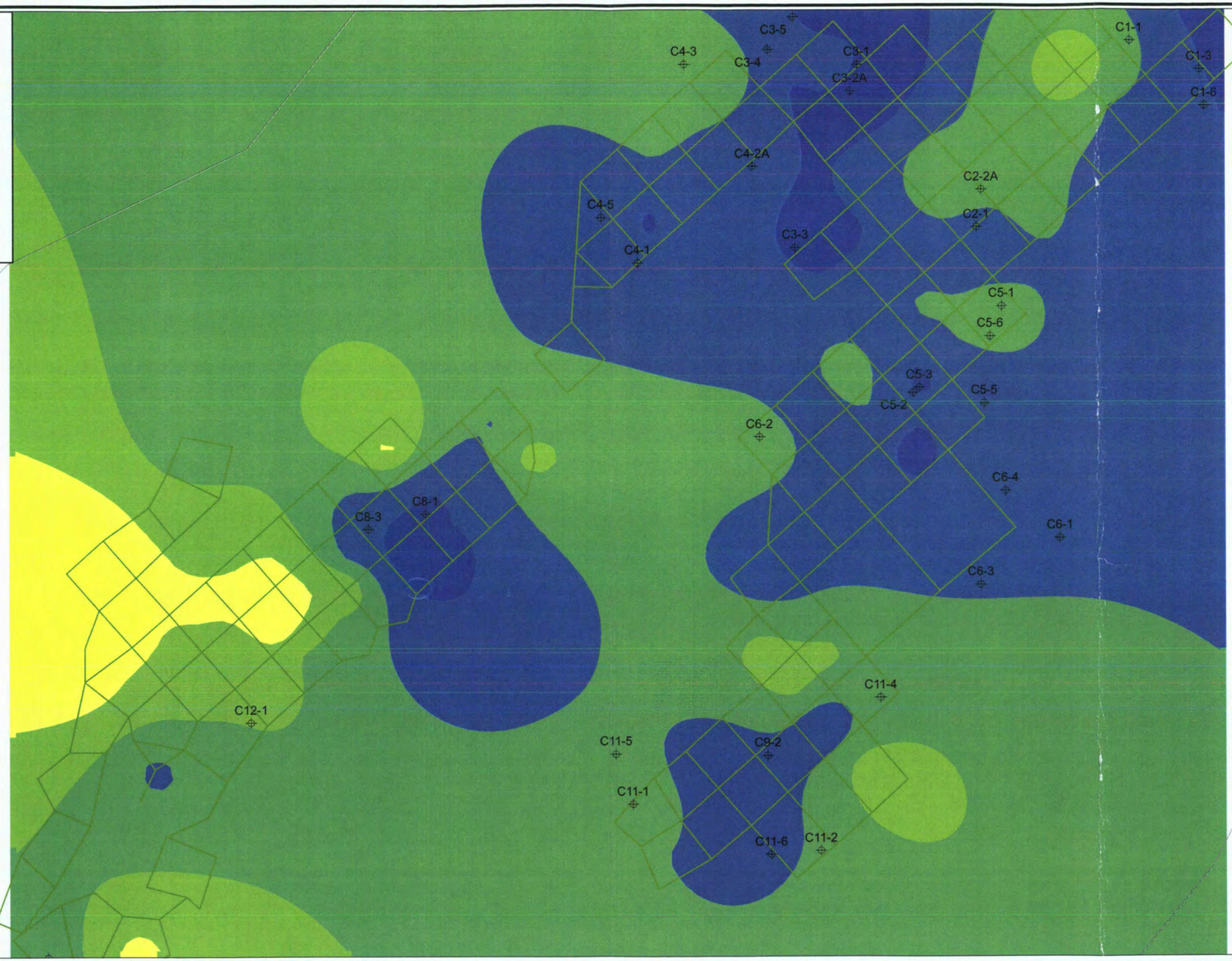
PROJECT:	TASK:
386200	07

PREPARED BY: Wright Environmental Services, Inc.

FIGURE 3
SHALLOW GROUNDWATER WELL LOCATIONS
F-WELLFIELD

PREPARED FOR: Cameco Resources





Legend

- Existing Monitoring Wells
- Wellfield Boundary
- Production Pattern

140 Isopach (ft)

- 0 - 5.4
- 5.5 - 11
- 12 - 17
- 18 - 22
- 23 - 28

0 65 130 260 Feet

N

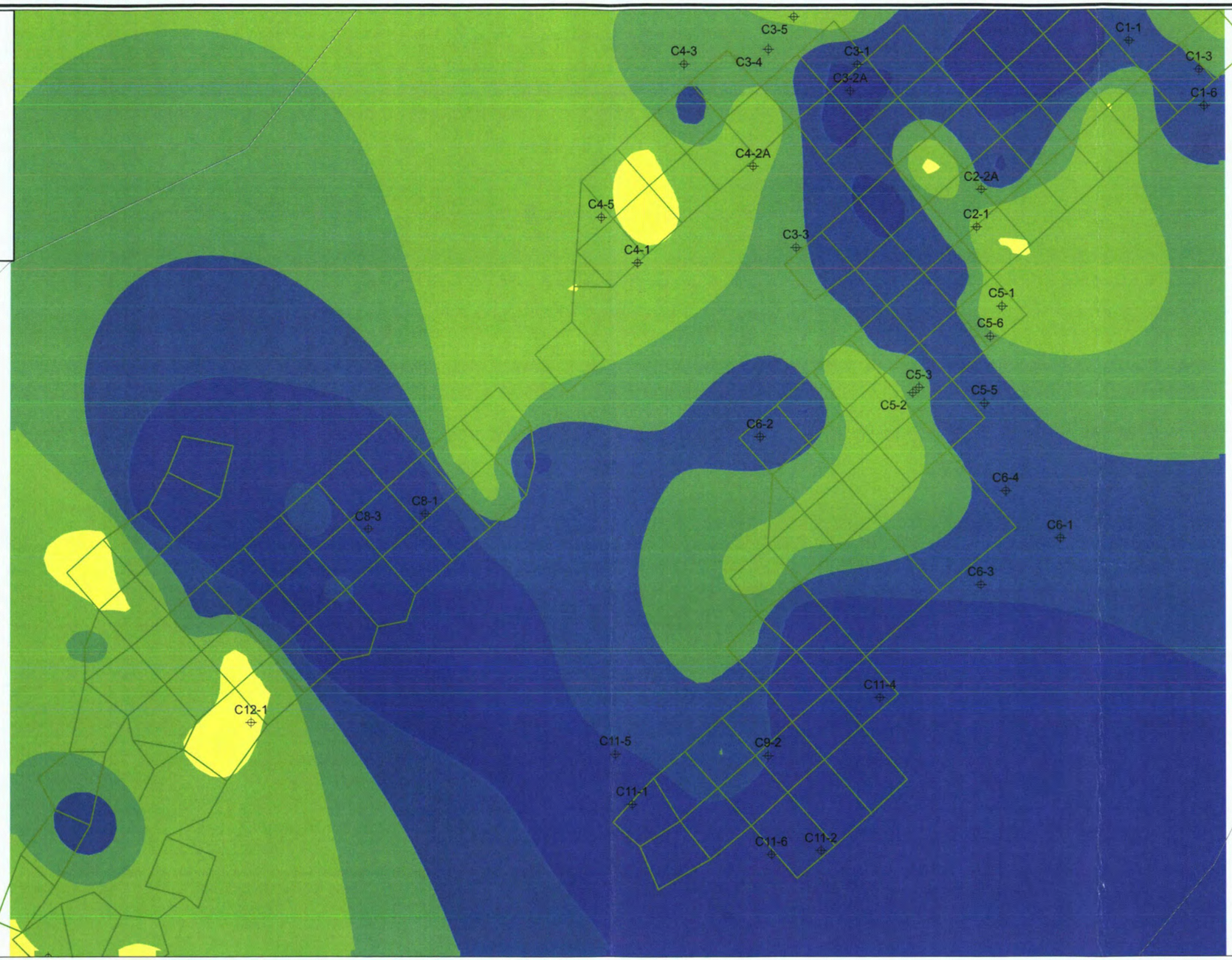
FIGURE 4
C-WELLFIELD 140 ISOPACH

PROJECT	TASK
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\C_North_Isopach.mxd



Legend

- Existing Monitoring Wells
- Wellfield Boundary
- Production Pattern

130 Isopach (ft)

- 5.3 - 8.6
- 8.7 - 16
- 17 - 21
- 22 - 27
- 28 - 34

0 65 130 260 Feet

N

FIGURE 5
C-WELLFIELD 130 ISOPACH

PROJECT:	TASK:
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

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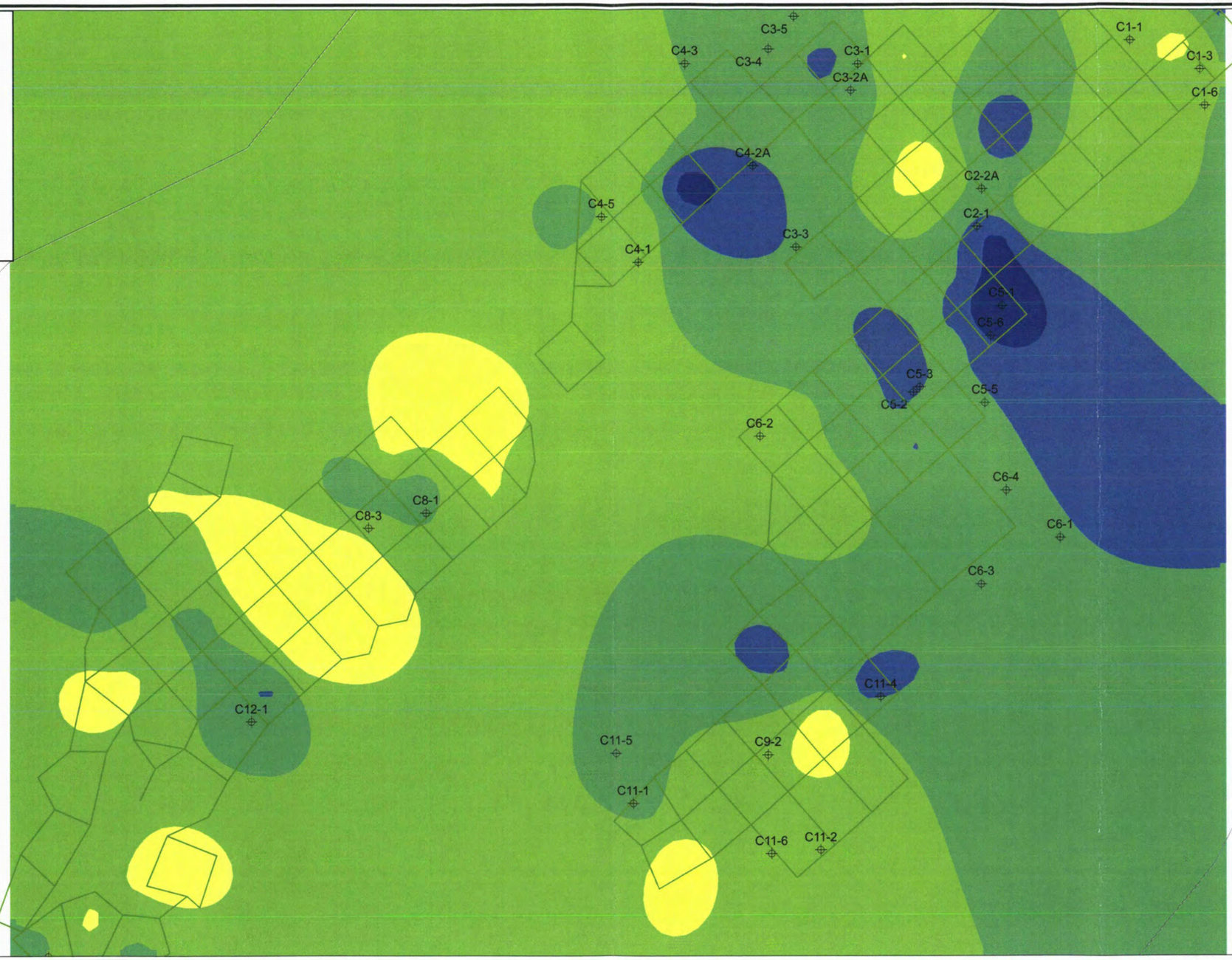


Legend

- Existing Monitoring Wells
- Wellfield Boundary
- Production Pattern

120 Isopach (ft)

- 3.9 - 13
- 14 - 22
- 23 - 30
- 31 - 39
- 40 - 48

0 65 130 260 Feet

N

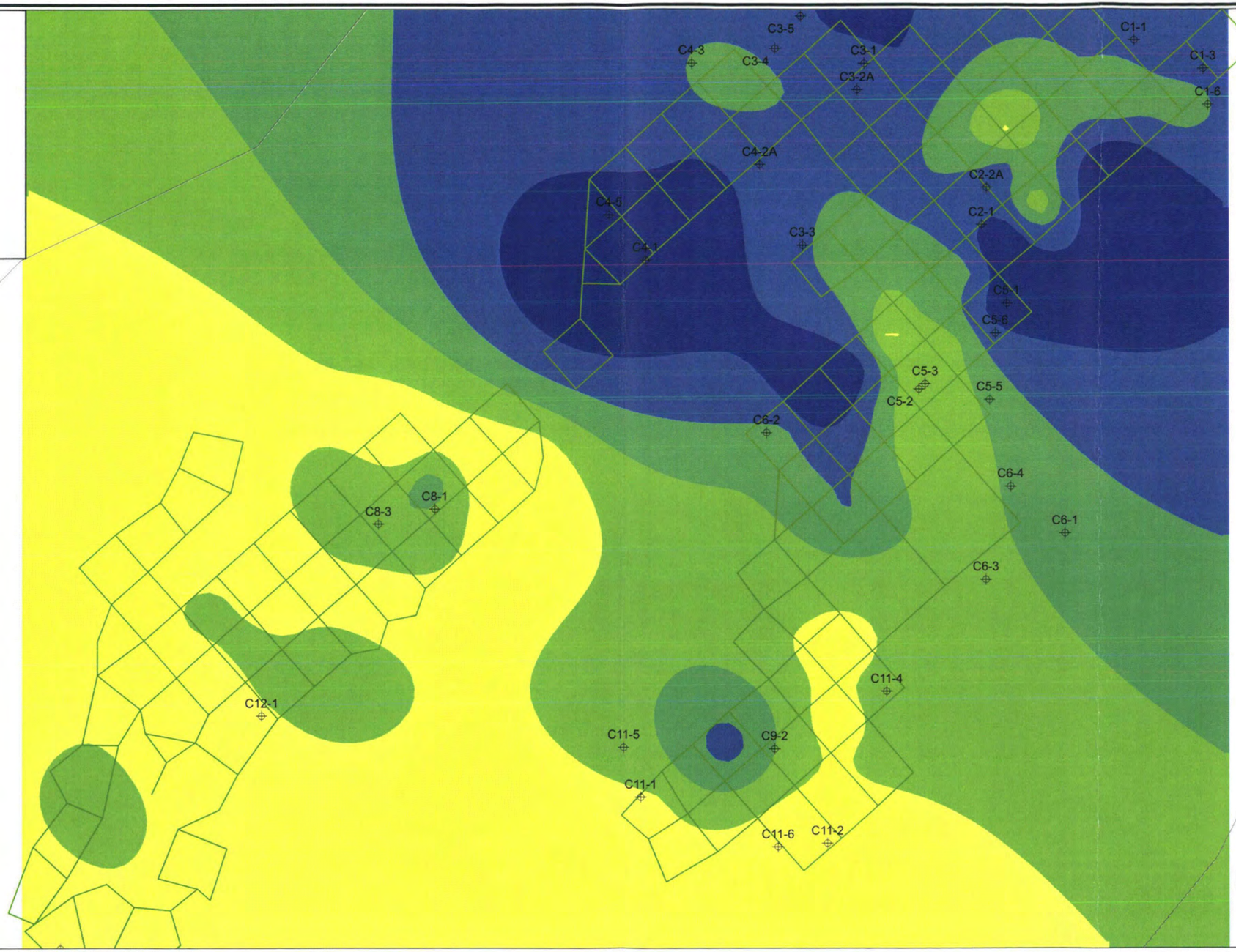
FIGURE 6
C-WELLFIELD 120 ISOPACH

PROJECT:	TASK:
386200	11

PREPARED BY: Wright Environmental Services, Inc

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\C_North_Isopach.mxd



Legend

- Existing Monitoring Wells
- Wellfield Boundary
- Production Pattern

110 Isopach (ft)

- 0 - 6.6
- 6.7 - 14
- 15 - 21
- 22 - 33
- 34 - 45

0 65 130 260 Feet

N

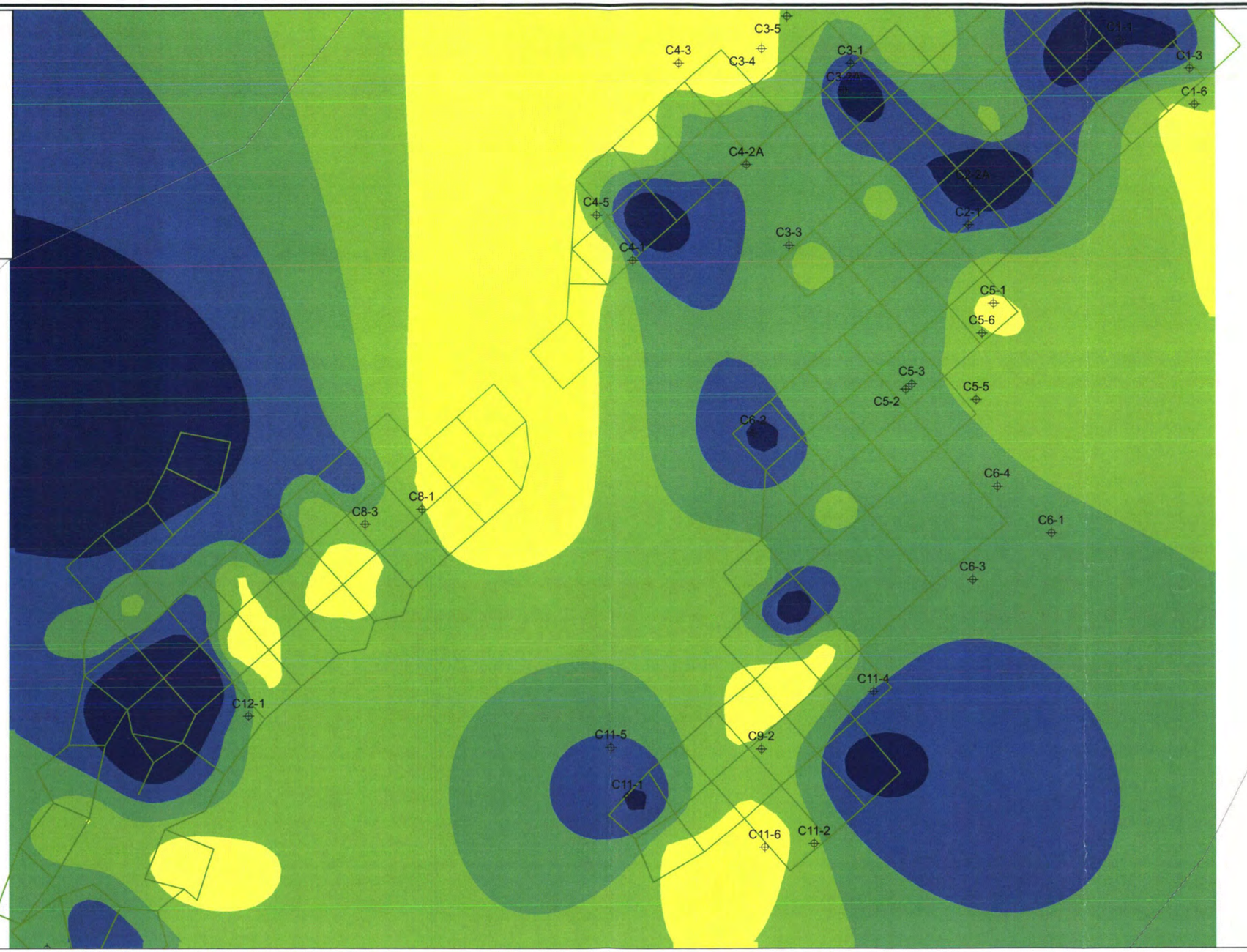
FIGURE 7
C-WELLFIELD 110 ISOPACH

PROJECT:	TASK:
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\C_North_Isopach.mxd



Legend

- Existing Monitoring Wells
- Wellfield Boundary
- Production Pattern

100 Isopach (ft)

- 1.6 - 9.5
- 9.6 - 14
- 15 - 19
- 20 - 25
- 26 - 31

0 65 130 260 Feet

N

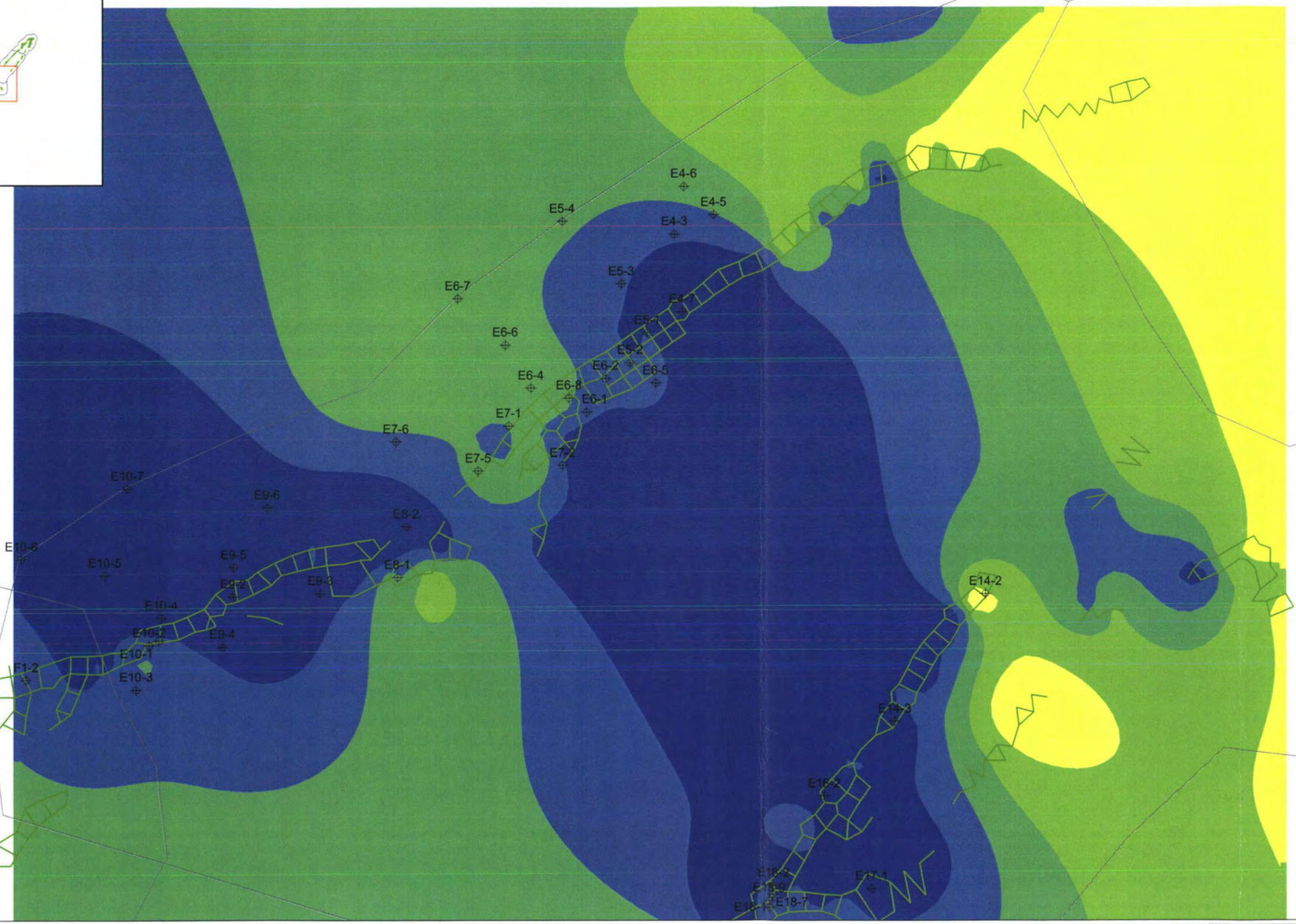
FIGURE 8
C-WELLFIELD 100 ISOPACH

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\C_North_Isopach.mxd



Legend

- Monitoring Wells
- Wellfield Boundary
- Production Pattern

140 Isopach (ft)

- 3.4 - 19
- 20 - 30
- 31 - 40
- 41 - 49
- 50 - 60

0 160320 640 Feet

N

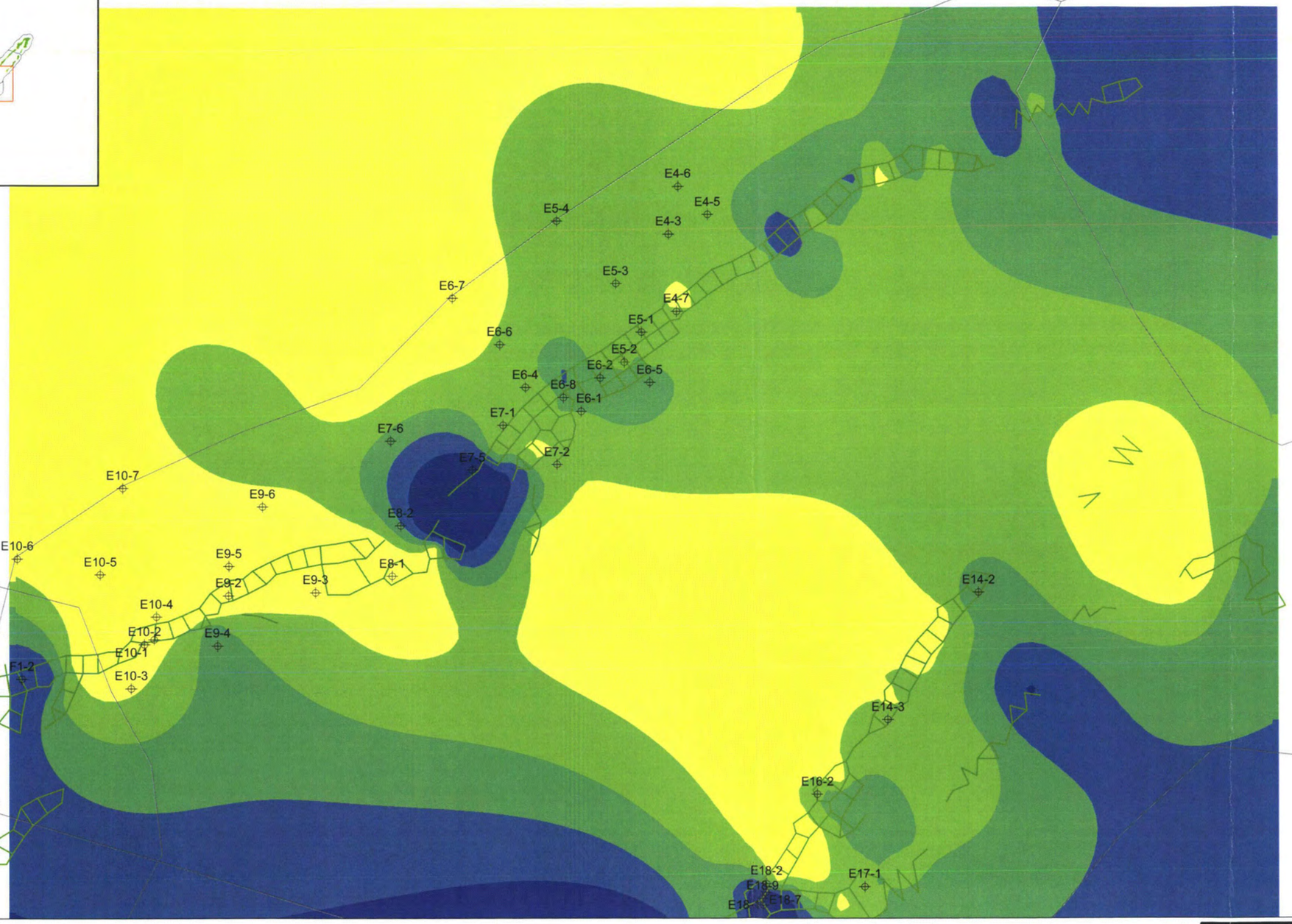
FIGURE 9
E-WELLFIELD 140 ISOPACH

PROJECT:	TASK:
386200	11

PREPARED BY: Wright Environmental Services, Inc

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\E_Isopach.mxd



Legend

Monitoring Wells	130 Isopach (ft)
Wellfield Boundary	0 - 9.6
Production Pattern	9.7 - 15
	16 - 22
	23 - 30
	31 - 40

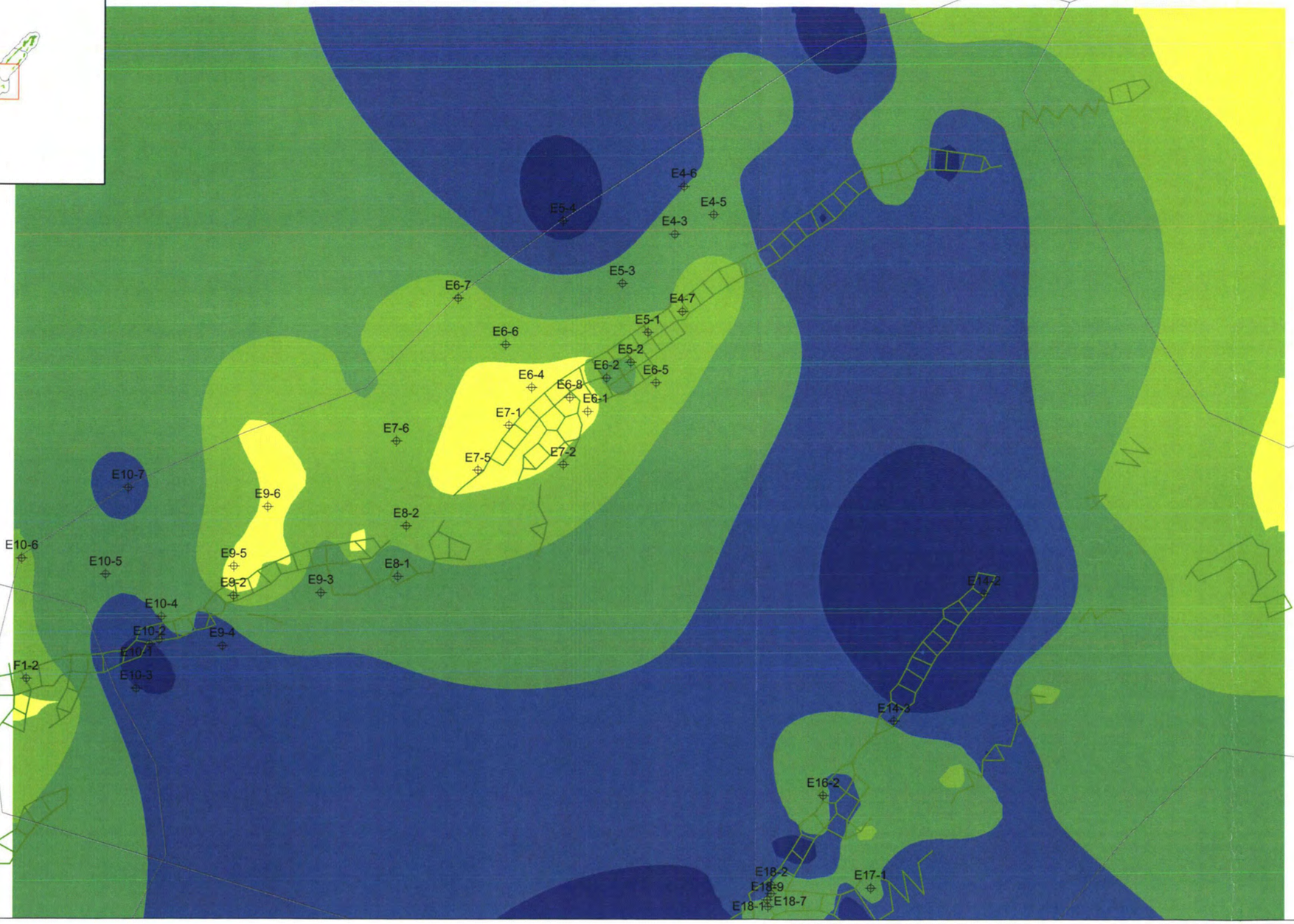
0 160320 640 Feet

N

FIGURE 10
E-WELLFIELD 130 ISOPACH

PROJECT: 386200	TASK: 11
PREPARED BY: Wright Environmental Services, Inc.	PREPARED FOR: Cameco / Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\E_Isopach.mxd



Legend

- Monitoring Wells
- Wellfield Boundary
- Production Pattern

120 Isopach (ft)

- 2.8 - 5
- 5.1 - 10
- 11 - 20
- 21 - 30
- 31 - 40

0 160320 640 Feet

N

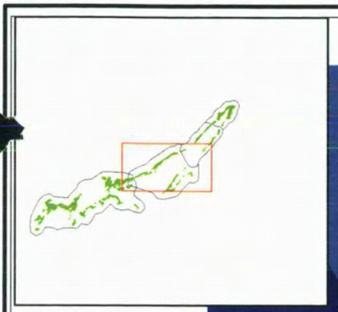
FIGURE 11
E-WELLFIELD 120 ISOPACH

PROJECT	TASK
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\E_Isopach.mxd



E4-6
E4-5
E5-4
E4-3
E5-3
E6-7
E4-7
E6-6
E6-2
E6-5
E6-4
E6-8
E6-1
E7-1
E7-6
E7-5
E7-2
E9-6
E8-2
E10-5
E9-5
E8-1
E9-2
E9-3
E14-2
E10-4
E10-2
E9-4
E10-1
E10-3
F2-2
F2-1
F1-2
F2-3
F3-1
F3-2
E14-3
E16-2
E18-2
E18-9
E18-1
E18-7
E17-1

Legend

- Monitoring Wells
- Wellfield Boundary
- Production Pattern

110 Isopach (ft)

- 5.7 - 10
- 11 - 20
- 21 - 40
- 41 - 60
- 61 - 80

0 160320 640 Feet

N

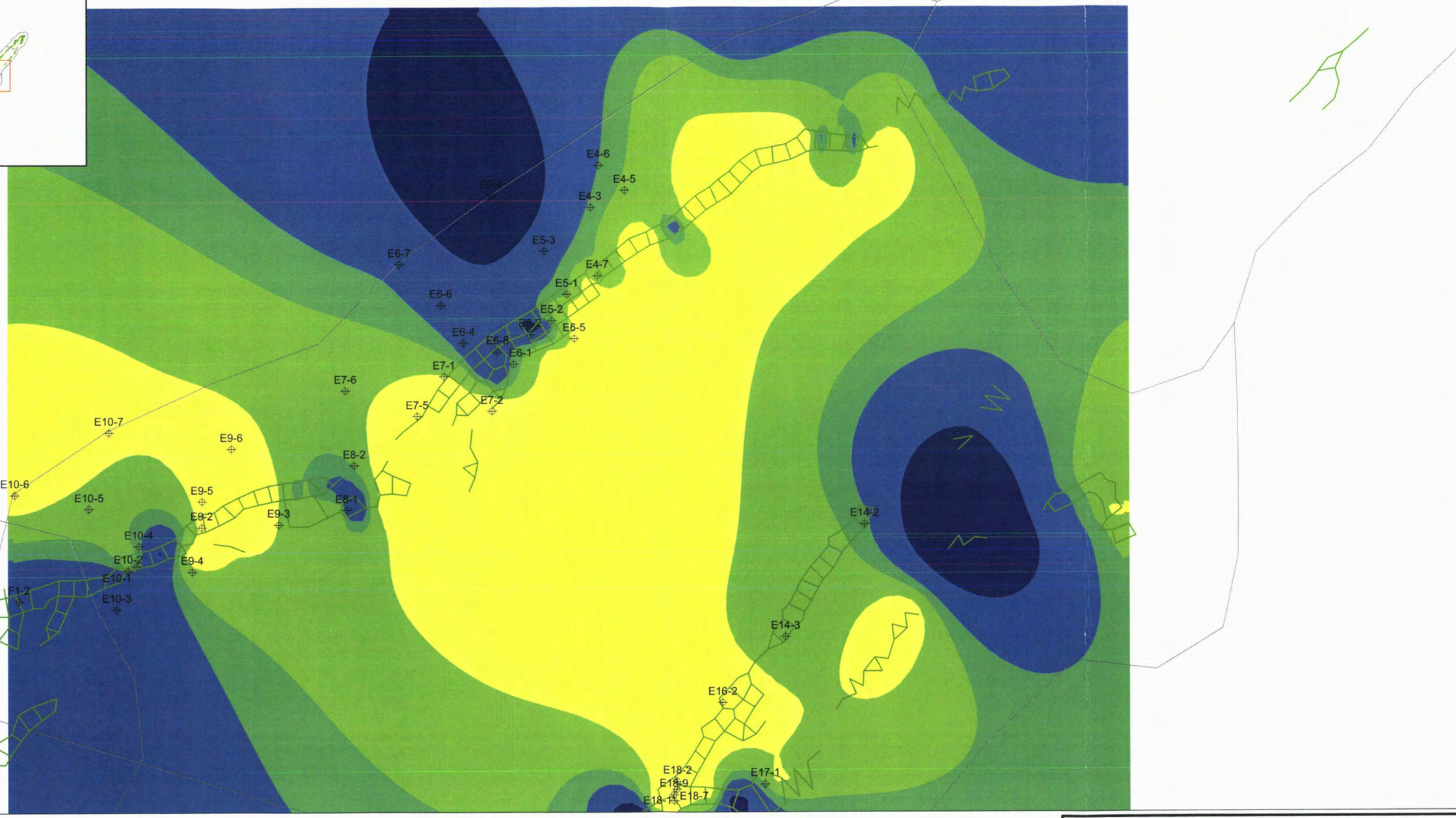
FIGURE 12
E-WELLFIELD 110 ISOPACH

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland_Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\E_Isopach.mxd



Legend

- Monitoring Wells
- Wellfield Boundary
- Production Pattern

100 Isopach (ft)

- 3.8 - 10
- 11 - 16
- 17 - 20
- 21 - 30
- 31 - 40

0 160320 640 Feet

N

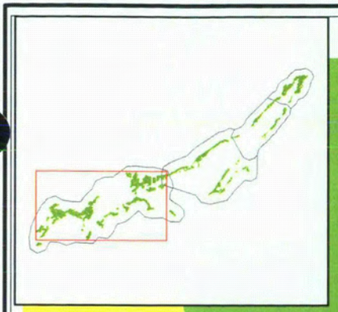
FIGURE 13
E-WELLFIELD 100 ISOPACH

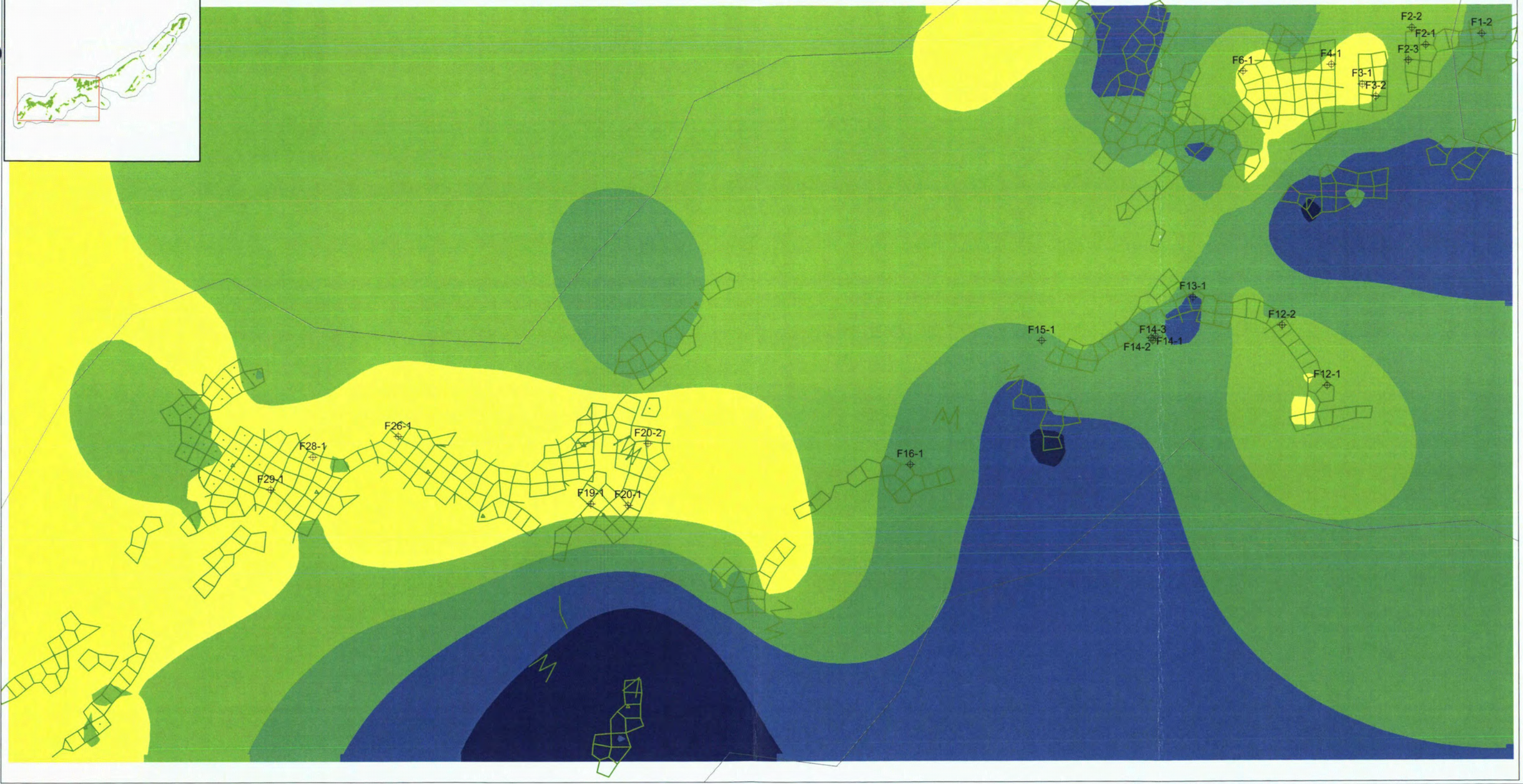
PROJECT: 386200 TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland_Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\E_Isopach.mxd





Monitoring Wells
Wellfield Boundary
Production Pattern

F 140 Isopach (ft)
8.4 - 23
24 - 30
31 - 37
38 - 48
49 - 76

0 160320 640 Feet

N

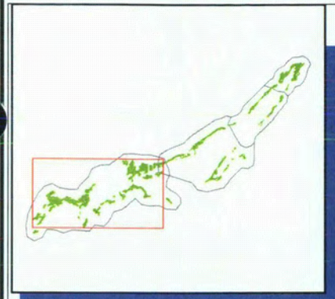
FIGURE 14
F-WELLFIELD 140 ISOPACH

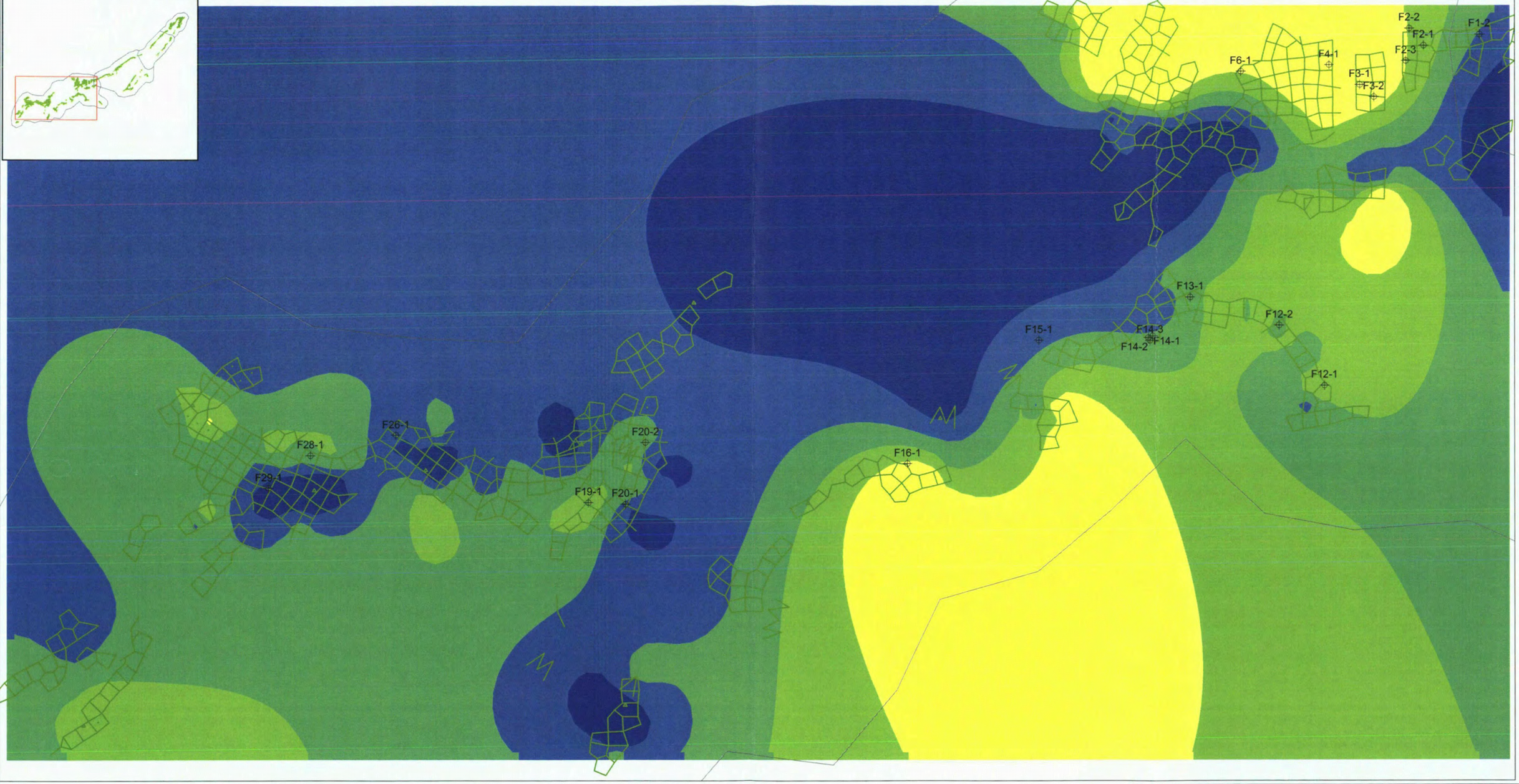
PROJECT	TASK
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco Resources

Path: R:\Highland_Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\F_modified_Isopach.mxd





Monitoring Wells
Wellfield Boundary
Production Pattern

F 130 Isopach (ft)
4.9 - 22
23 - 30
31 - 37
38 - 45
46 - 64

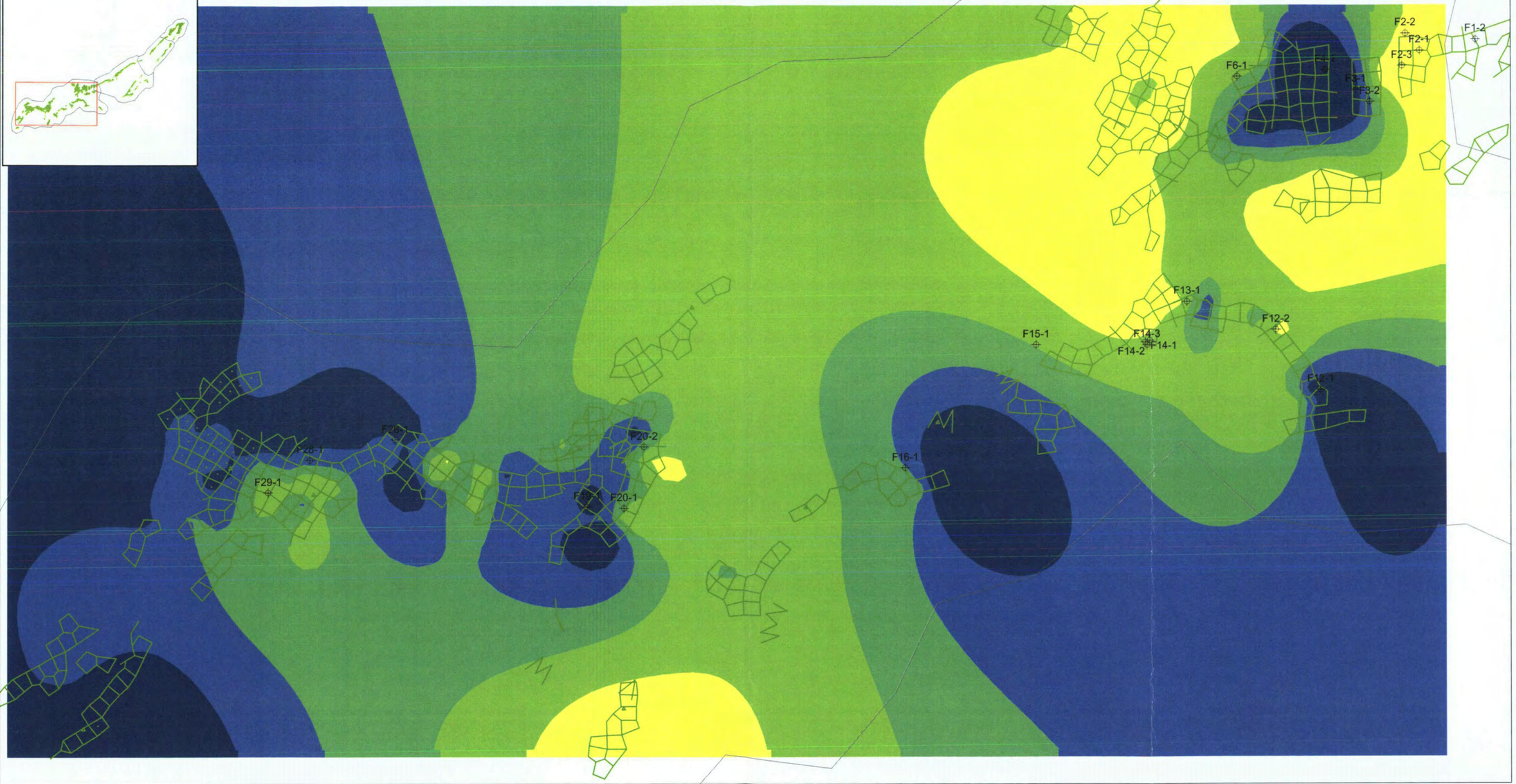
0 160320 640 Feet

N

FIGURE 15
F-WELLFIELD 130 ISOPACH

PROJECT: 386200
TASK: 11
PREPARED BY: Wright Environmental Services, Inc.
PREPARED FOR: Cameco
Cameco Resources

Path: R:\Highland_Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\F_modified_Isopach.mxd



Legend

Monitoring Wells	F 120 Isopach (ft)
Wellfield Boundary	5.1 - 18
Production Pattern	19 - 25
	26 - 32
	33 - 38
	39 - 53

0 160320 640 Feet

N

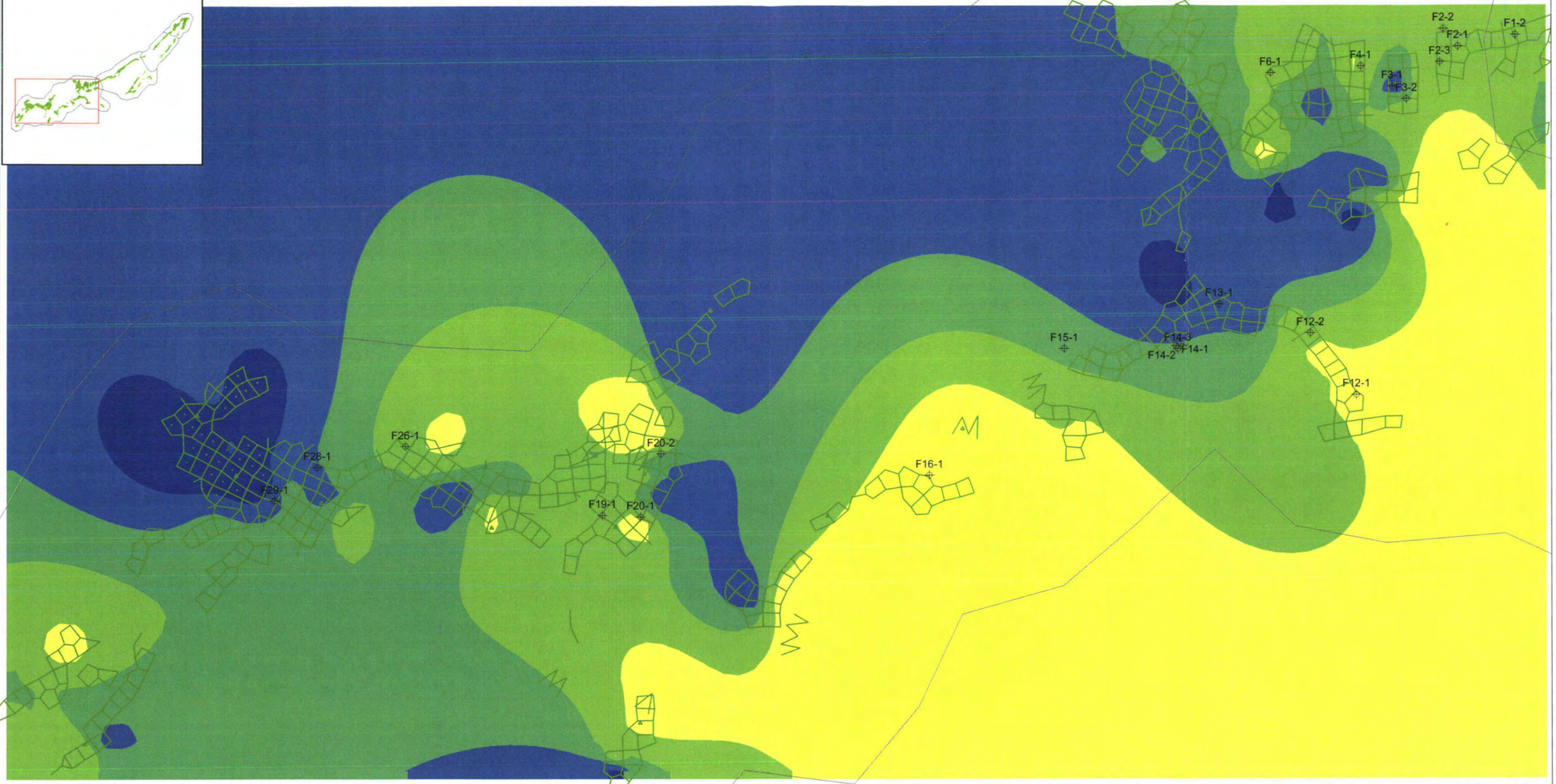
FIGURE 16
F-WELLFIELD 120 ISOPACH

PROJECT:	TASK:
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: R:\Highland Ranch\MTI_Investigation\Products\Reports\2012_CLI_Report\Figures\F_modified_Isopach.mxd



Legend

Monitoring Wells	F 110 Isopach (ft)
Wellfield Boundary	5.8 - 21
Production Pattern	22 - 34
	35 - 47
	48 - 63
	64 - 93

0 160320 640 Feet

N

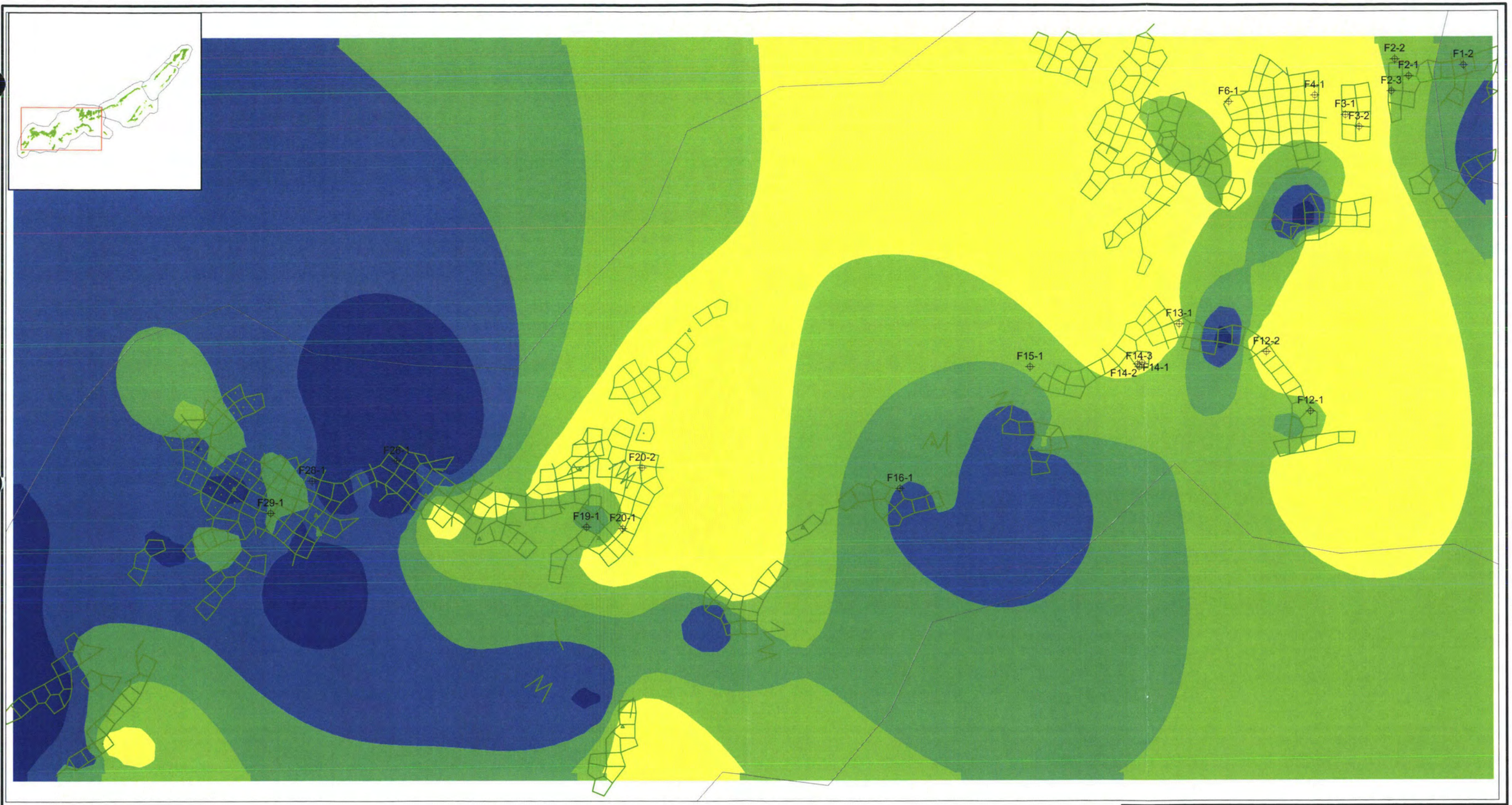
FIGURE 17
F-WELLFIELD 110 ISOPACH

PROJECT: 386200	TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

Path: <dyn type="ent" property="path"/>



Legend

Monitoring Wells	F 100 Isopach (ft)
Wellfield Boundary	3.6 - 13
Production Pattern	14 - 18
	19 - 24
	25 - 31
	32 - 57

0 160320 640 Feet

N

FIGURE 18
F-WELLFIELD 100 ISOPACH

PROJECT:	TASK:
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

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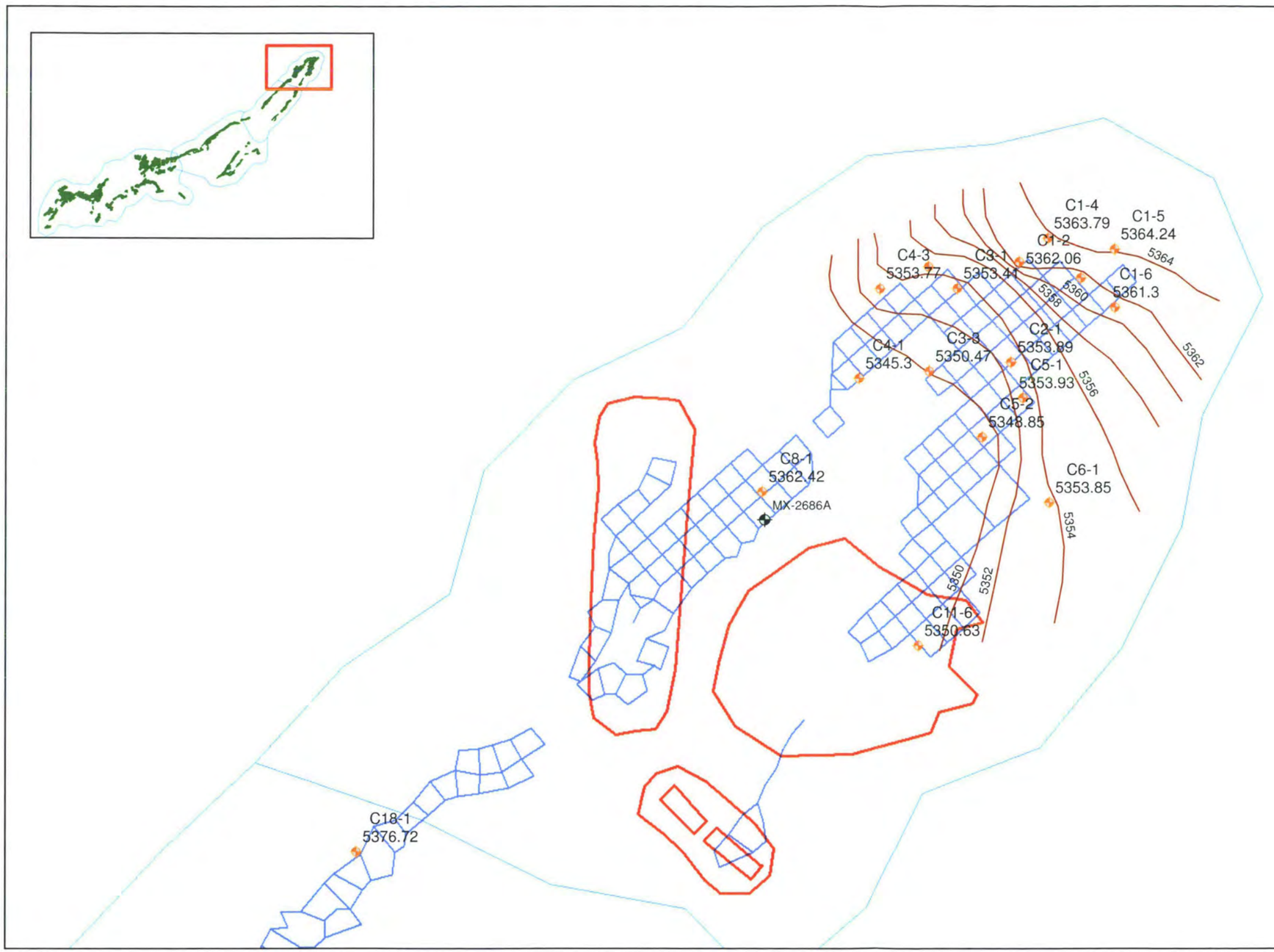


Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- MX-2686A
- Monitor Well Pattern
- Monitor Well Ring
- North Morton Ponds
- 140 Sand Potentiometric Surface

0 365 730 Feet

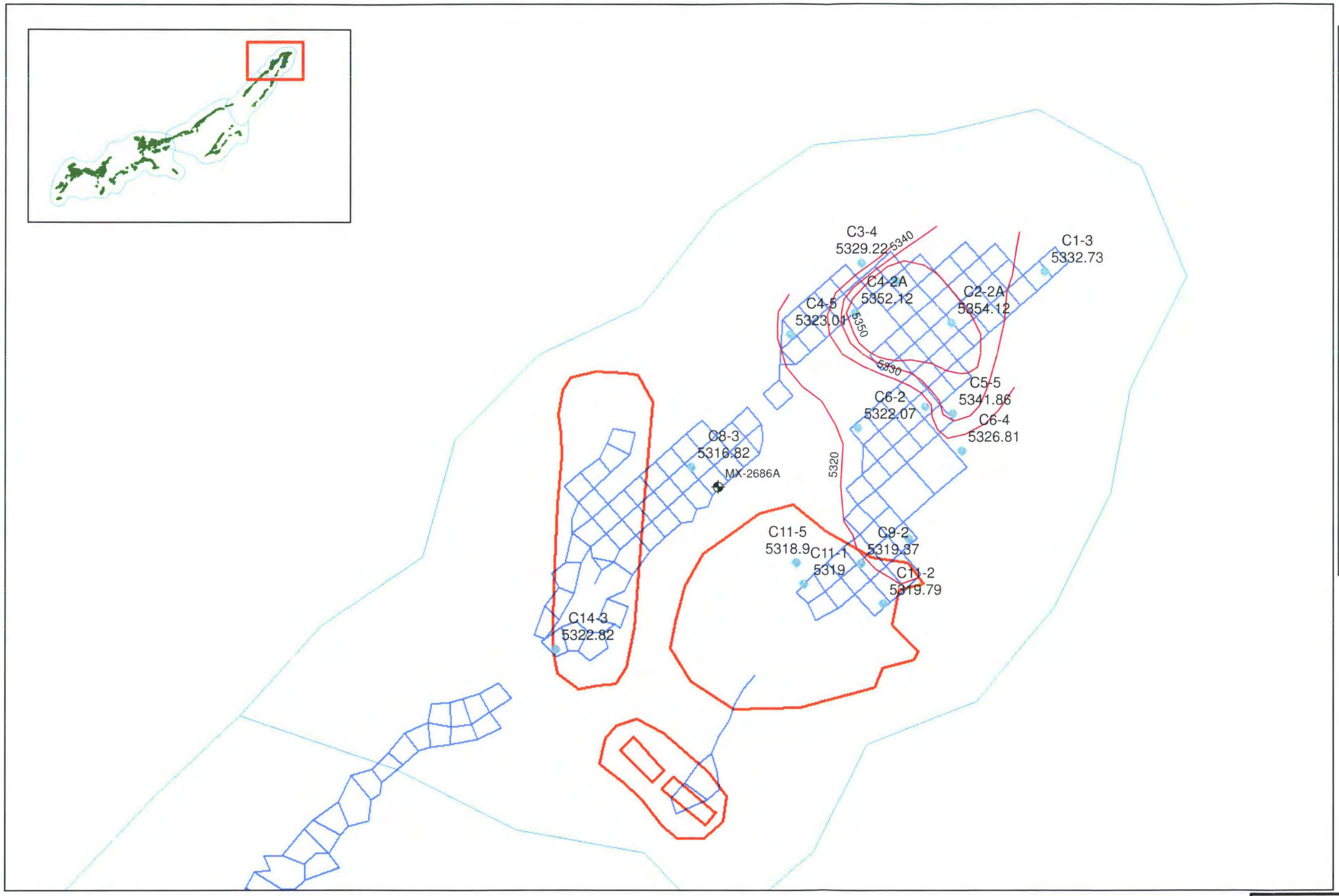
N

Figure 19
C-North Wellfield 140 Sand Potentiometric Surface

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources



Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- MX-2686A
- Monitor Well Pattern
- Monitor Well Ring
- North Morton Ponds
- 130 Sand Potentiometric Surface

0 365 730 Feet

N

Figure 20
C-North Wellfield 130 Sand Potentiometric Surface

PROJECT 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco Resources

CBG-4
5353.76
E4-6
5354.29
E5-4
5355.07
E4-3
5354.35
E4-5
5354.12
E5-3
5354.31
E6-7
5357.6
E5-1
5355.01
E6-6
5355.99
5355
E6-2
5355.75
E6-5
5357.5
E6-4
5356.85
E6-1
5356.04
E7-1
5357.75
E7-6
5358.95
E7-5
5358.41
E7-2
5356.4
5360
E10-7
5363.58
E9-6
5364.11
E8-2
5365.63
5365
E10-6
5364.85
E10-5
5365.24
E9-5
5364.35
E9-9
5366.08
5370
E9-3
5366.33
E9-2
5365.62
E8-1
5371.96
E10-4
5365.67
E10-2
5367.74
E9-4
5366.27
F2-2
5365.87
F1-2
5366.7
F2-1
5366.9
E10-3
5367.82
F2-3
5369.09
F3-2
5367.09
E14-3
5375.65
E16-2
5358.58
E17-1
5361.5

Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- Monitor Well Pattern
- Monitor Well Ring
- 140 Sand Potentiometric Surface

0 500 1,000 Feet

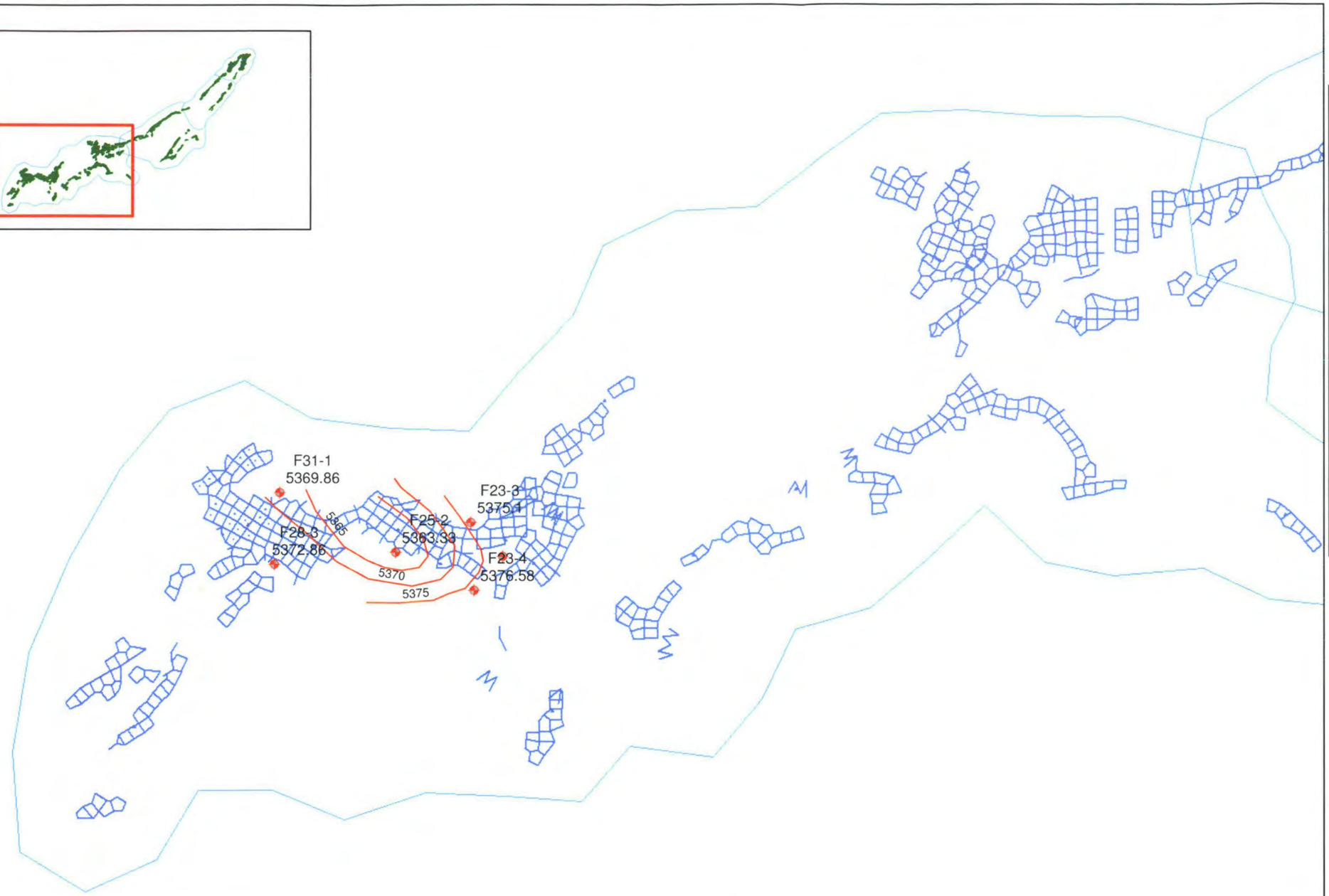
N

Figure 21
E-Wellfield 140 Sand
Potentiometric Surface

PROJECT	TASK
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco Resources



Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- Monitor Well Pattern
- Monitor Well Ring
- 120 Sand Potentiometric Surface

0 800 1,600 Feet

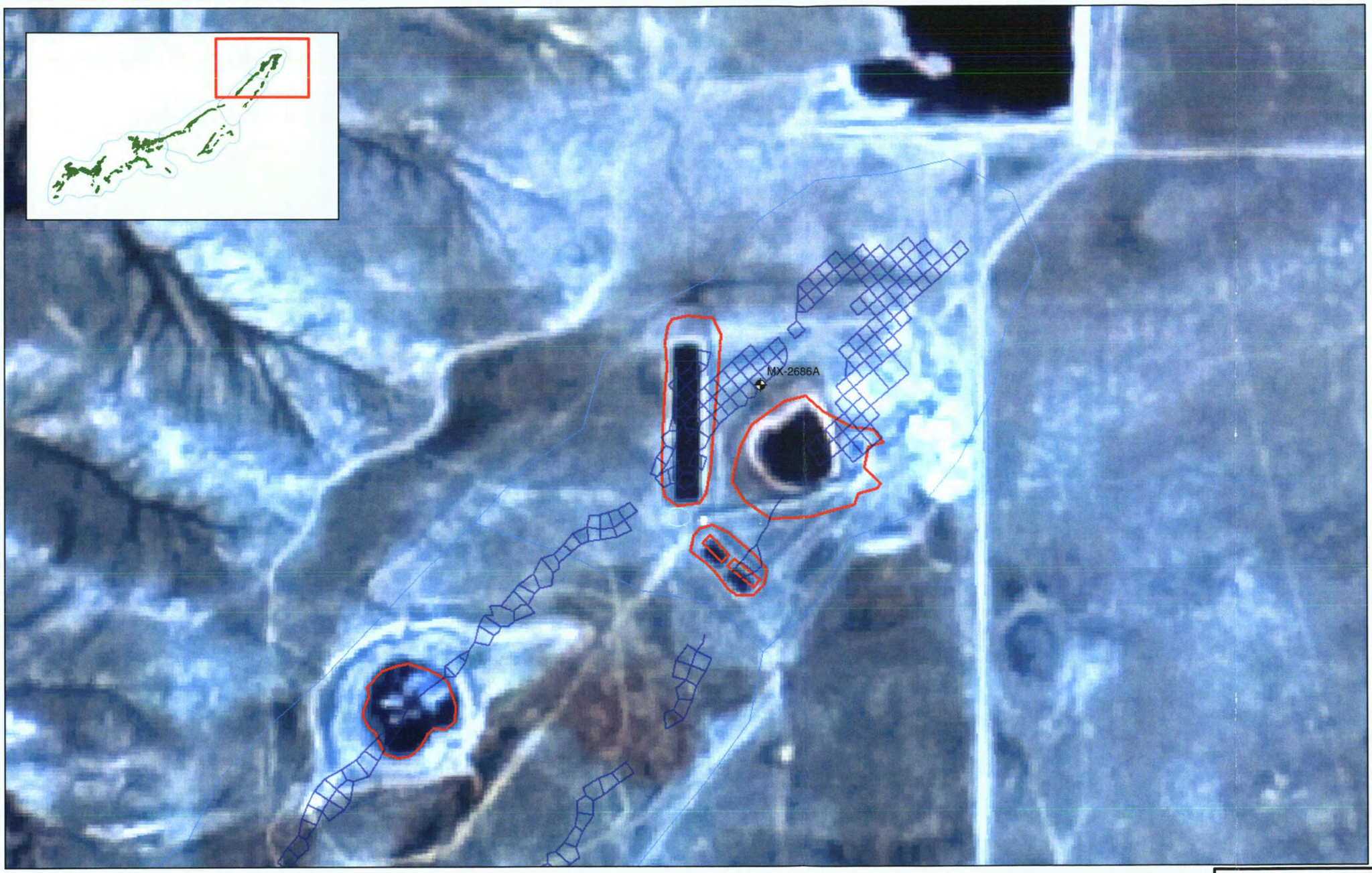
N

Figure 22
F-Wellfield 120 Sand
Potentiometric Surface

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources



Legend

- MX-2686A
- Monitor Well Pattern
- Monitor Well Ring
- North Morton Ponds

0 550 1,100 Feet

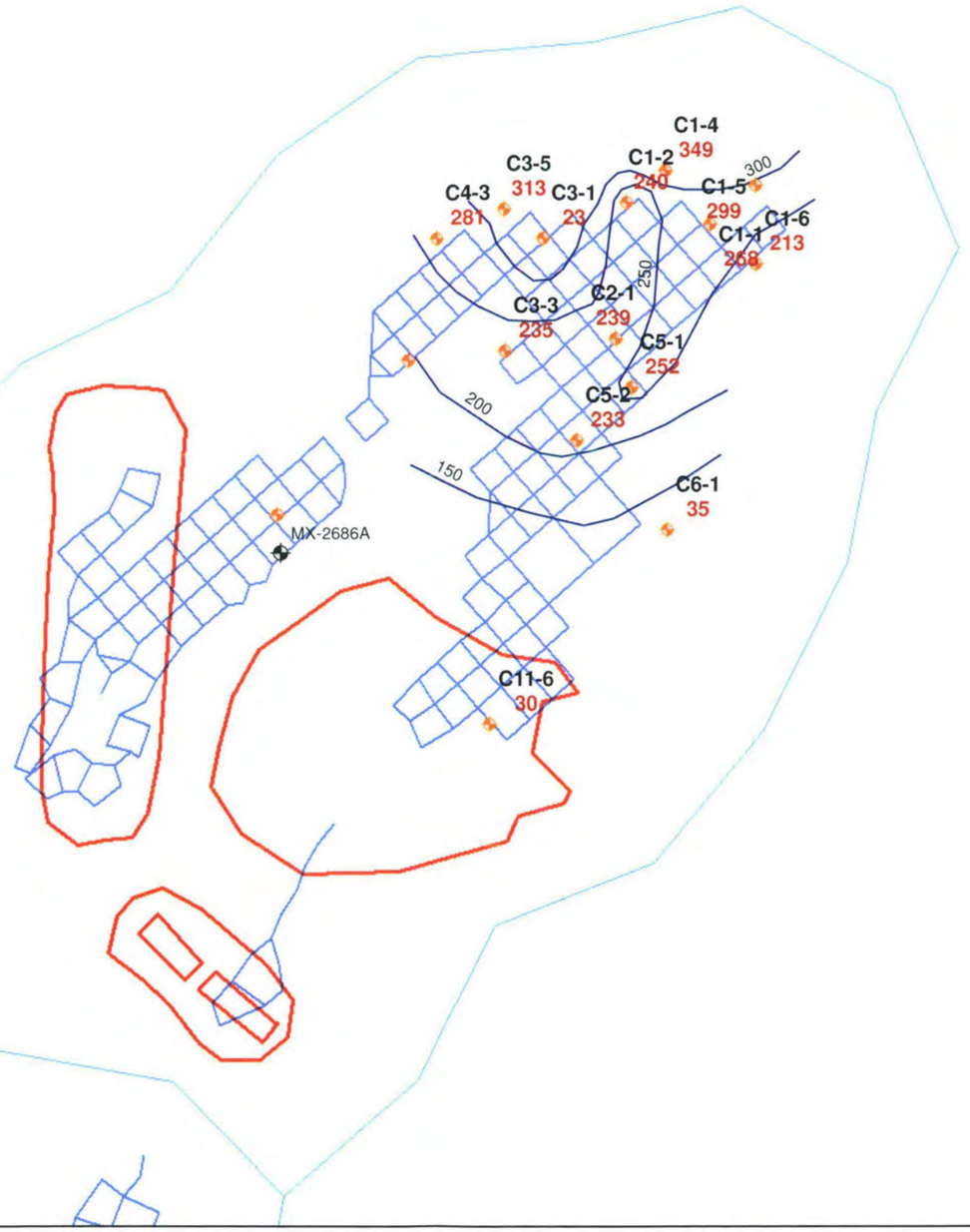
N

Figure 23
North Morton Facilities
circa 1980

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources



Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- MX-2686A
- Monitor Well Pattern
- Monitor Well Ring
- North Morton Ponds
- 140 Sand Chloride Isoconcentrations

0 365 730 Feet

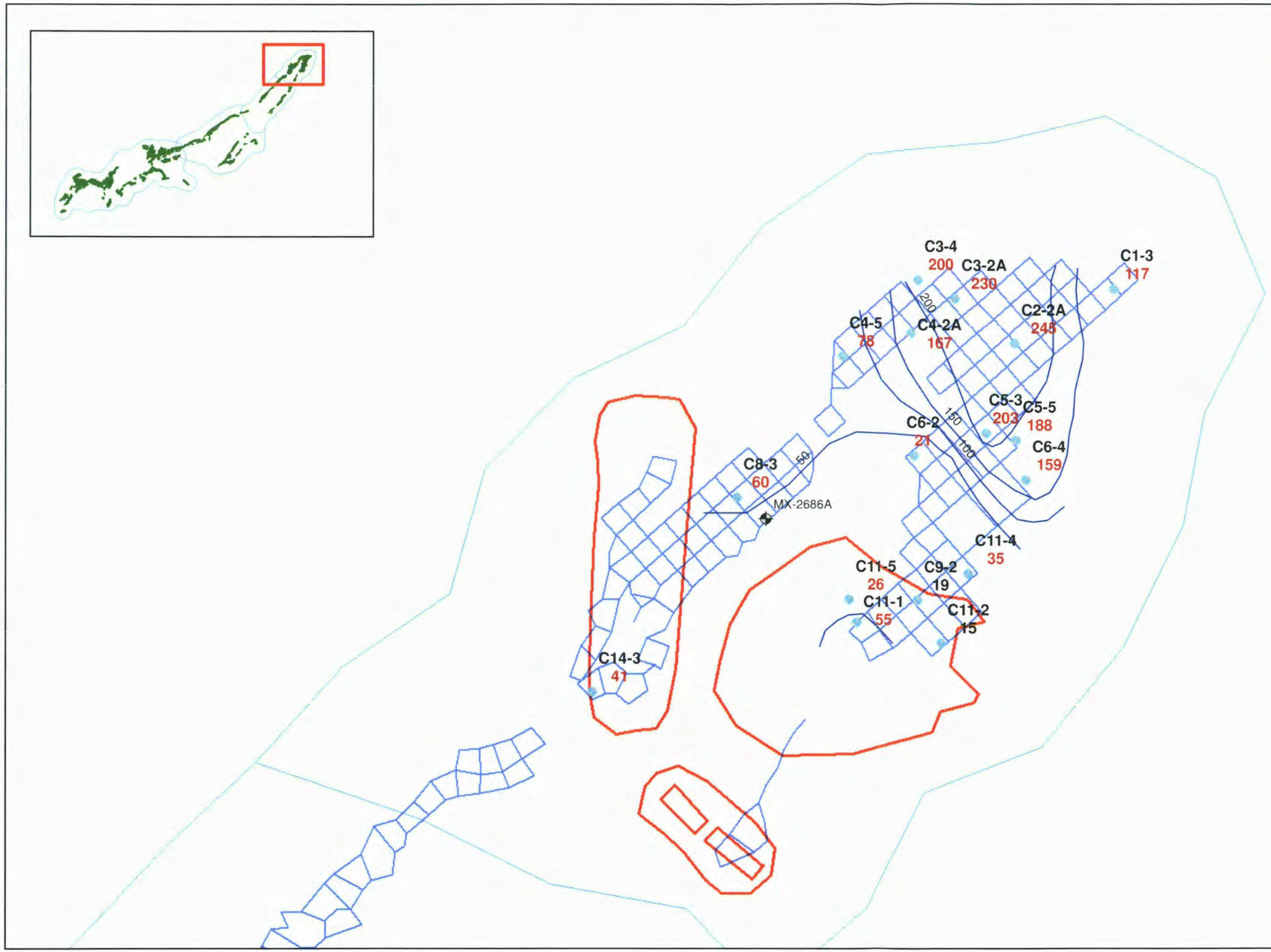
N

Figure 24
C-North Wellfield 140 Sand
Chloride Concentrations

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc

PREPARED FOR: Cameco Resources



Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- MX-2686A
- 130 Sand Chloride Isoconcentrations
- Monitor Well Pattern
- Monitor Well Ring
- North Morton Ponds

0 365 730 Feet

N

Figure 25
C-North Wellfield 130 Sand
Chloride Concentrations

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco Resources

CBG-4
8
E4-6
8
E5-4
8
E4-5
25
E4-3
9
20
E5-3
22
E6-7
3
20
E4-7
9
E5-1
53
E6-6
13
E6-2
94
E6-5
4
E6-4
65
40
60
E6-1
32
E7-6
55
E7-1
13
E7-2
16
E10-7
4
E9-6
5
E8-2
3
E10-6
5
60
E10-5
104
40
E9-5
15
E9-2
4
E9-3
3
E9-9
6
E8-1
5
E10-2
3
E9-4
3
F2-2
20
F1-2
7
E10-3
3
F2-3
4
F3-2
9
E16-2
7
E17-1
5

Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- Monitor Well Pattern
- Monitor Well Ring
- 140 Sand Chloride Isoconcentrations

0 500 1,000 Feet

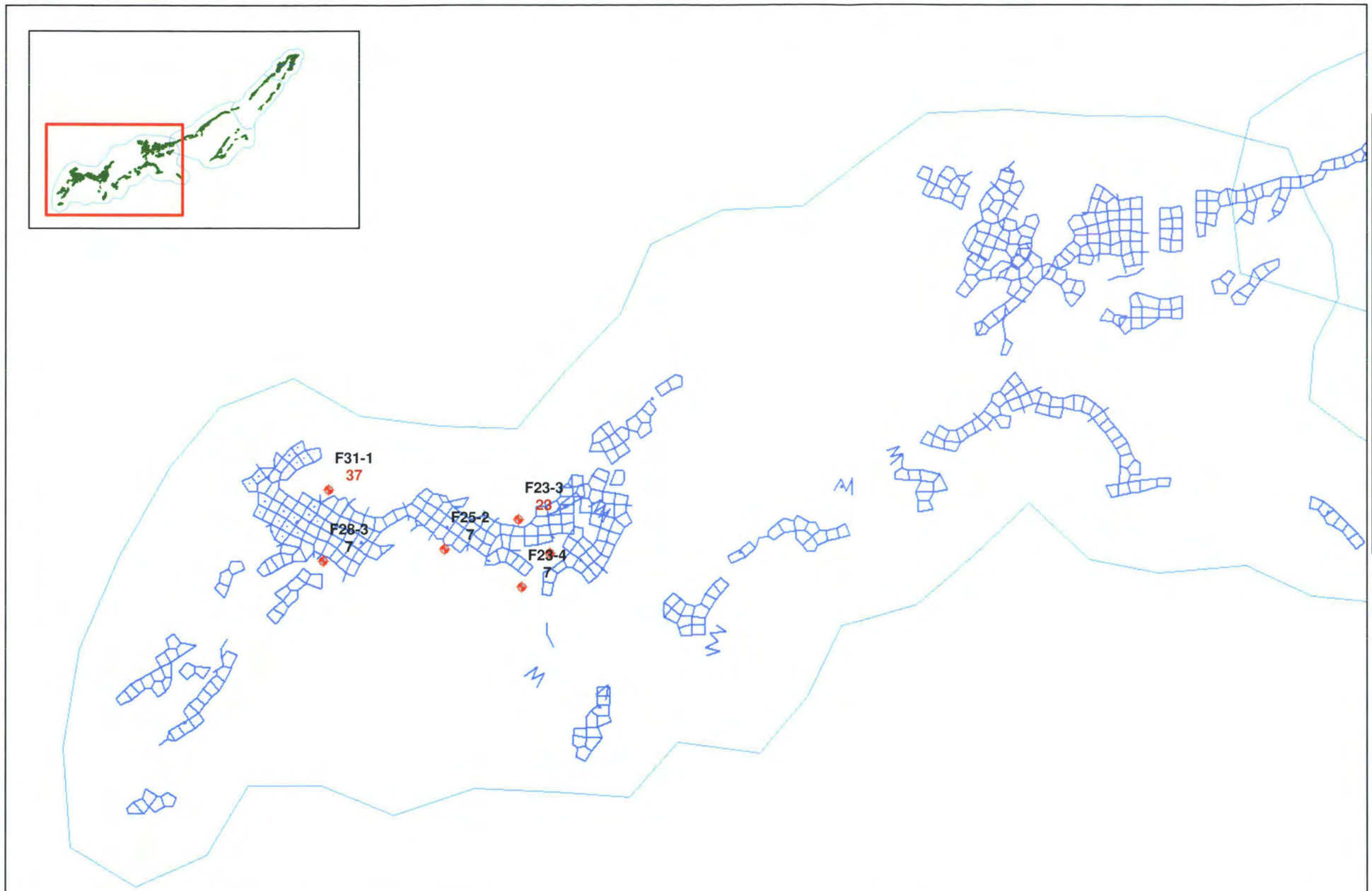
N

Figure 26
E-Wellfield 140 Sand
Chloride Concentrations

PROJECT	TASK
386200	11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources



Legend

Shallow Monitoring Wells

- 160 Sand
- 150 Sand
- 146 Sand
- 140 Sand
- 130 Sand
- 120 Sand
- 110 Sand
- 100 Sand
- 80 Sand
- 60 Sand
- Monitor Well Pattern
- Monitor Well Ring

0 800 1,600 Feet

N

Figure 27
F-Wellfield 120 Sand
Chloride Concentrations

PROJECT: 386200 | TASK: 11

PREPARED BY: Wright Environmental Services, Inc.

PREPARED FOR: Cameco — Cameco Resources

TABLES

Table 1 C-Wellfield Shallow Monitoring Wells

Well	Drilled TD (ft)	Measured TD From TOC (ft)	DTW from TOC (ft)	Pump Type	Comments
C1-1	80.0	79.8	48.8	Redi Flow2	
C1-2	85.0	84.6	51.72	Redi Flow2	
C1-3	110.0	111.5	79.45	Redi Flow2	
C1-4	75.0	79.25	46.72	Redi Flow2	
C1-5	79.5	79.47	47.47	Redi Flow2	
C1-6	85.0	85.75	52.44	Redi Flow2	
C2-1	70.0	72.88	60.36	Redi Flow2	
C2-2A	112.0	108.5	57.98	Redi Flow2	
C3-1	70.0	71.93	58.5	Redi Flow2	
C3-2A	120.0	112.57	57.21	Redi Flow2	
C3-3	70.0	71.9	63.15	Redi Flow2	
C3-4	125.0	128.2	82.09	Redi Flow2	
C3-5	60.0	62.72	57.41	Bailed	
C4-1	70.0	71.7	70.02	--	Unsampleable (recharge 0.06ft in 24hrs)
C4-2A	120.0	113.5	59.54	Redi Flow2	
C4-3	65.0	66.8	57.39	Redi Flow2	
C4-5	120.0	121.94	90.85	Redi Flow2	Sample after 1 porevolume
C5-1	70.0	71.8	64.1	Redi Flow2	
C5-2	75.0	76.9	73.15	Bailed	
C5-3	130.0	131.75	91.96	Redi Flow2	
C5-4	25.0	20.25	Dry	--	Dry
C5-5	130.0	128.5	77.4	Redi Flow2	
C5-6	265.0	257.68	106.44	Redi Flow2	
C6-1	75.0	76.81	72.22	Bailed	
C6-2	125.0	126.75	99.62	Redi Flow2	
C6-3	350.0	335.5	133.81	Redi Flow2	
C6-4	130.0	133.15	94.41	Redi Flow2	
C8-1	60.0	61.4	60.99	--	Dry
C8-2	25.0	15.7	dry	--	Dry
C8-3	160.0	160.4	107.11	Redi Flow2	
C9-1	25.0	19.98	Dry	--	Dry
C9-2	145.0	146.2	104.61	Redi Flow2	
C11-1	140.0	135.6	95.91	Redi Flow2	
C11-2	145.0	146.5	107.27	Redi Flow2	
C11-4	140.0	141.05	104.48	Redi Flow2	

Table 1 C-Wellfield Shallow Monitoring Wells

Well	Drilled TD (ft)	Measured TD From TOC (ft)	DTW from TOC (ft)	Pump Type	Comments
C11-5	145.0	146.02	65.15	Redi Flow2	
C11-6	80.0	84.02	72.88	Redi Flow2	Sample after 1 porevolume
C12-1	525.0	525	347.61	Dedicate Pump	
C14-3	150.0	154.69	123.98	Redi Flow2	
C16-1	20.0	22.6	Dry	--	Dry
C17-1	108.0	109.75	97.63	Redi Flow2	
C18-1	60.0	63.81	62.97	--	Dry
C20-1	45.0	47.5	44.51	Bailed	
C22-1	265.0	268.75	97.05	Redi Flow2	
C22-2	224.0	222.5	99.4	Dedicate Pump	
C22-3	191.0	186.3	99.81	Dedicate Pump	
C22-4	259.0	254.3	102.4	Dedicate Pump	
CBG-01	303.0	299.8	111.75	Dedicate Pump	
CBG-02	250.0	245.3	109.91	Dedicate Pump	
CBG-03	164.0	160	107.55	Dedicate Pump	
CBG-04	105.0	103.1	86.34	Dedicate Pump	

Notes: SWL measured duiring the 4th Quarter of 2012

Table 2 E-Wellfield Shallow Monitoring Wells

Well	Drilled TD (ft)	Measured TD From TOC (ft)	DTW from TOC (ft)	Pump Type	Comments
E4-1	90.0	26.51	Dry	--	Dry
E4-3	125.0	127	108.04	Redi Flow2	
E4-5	115.0	116.57	101.26	Redi Flow2	
E4-6	115.0	116.5	95.71	Redi Flow2	
E4-7	145.0	151.25	121.42	Redi Flow2	
E5-1	135.0	135.75	123.16	Redi Flow2	
E5-2	140.0	140	126.4	Redi Flow2	
E5-3	140.0	139.85	119.9	Redi Flow2	
E5-4	120.0	120.1	101.8	Redi Flow2	
E6-1	140.0	142.02	126.96	Redi Flow2	
E6-2	140.0	142.07	128.41	Redi Flow2	
E6-4	130.0	130.3	122.53	Redi Flow2	
E6-5	135.0	134.75	123.8	Redi Flow2	
E6-6	130.0	128.4	117.9	Redi Flow2	
E6-7	115.0	116.62	104.5	Redi Flow2	
E6-8	285.0	284.6	144.81	Redi Flow2	
E7-1	135.0	133.31	121.68	Redi Flow2	
E7-2	145.0	146.58	126.89	Redi Flow2	
E7-3	35.0	21.54	Dry	--	Dry
E7-5	120.0	121.8	120.55	--	Unsampleable (<1.5ft of water in well)
E7-6	120.0	122.95	115.2	Redi Flow2	Sample after 1 porevolume
E8-1	100.0	103.17	91.38	Redi Flow2	
E8-2	110.0	111.98	108.91	Bailed	

Table 2 E-Wellfield Shallow Monitoring Wells

Well	Drilled TD (ft)	Measured TD From TOC (ft)	DTW from TOC (ft)	Pump Type	Comments
E9-2	75.0	77.46	67.83	Redi Flow2	
E9-3	80.0	81.54	73.12	Redi Flow2	
E9-4	75.0	76.89	66.61	Redi Flow2	
E9-5	85.0	87.23	82.7	Bailed	
E9-6	85.0	87.75	82.25	Bailed	
E9-7	395.0	398.9	204.84	Dedicate Pump	
E9-8	253.0	248.5	107.96	Dedicate Pump	
E9-9	84.1	84.1	81.66	Bailed	
E10-1	95.0	96.92	63.73	Redi Flow2	
E10-2	70.0	71.47	65.02	Redi Flow2	
E10-3	90.0	91.91	82.38	Redi Flow2	
E10-4	65.0	66.86	57.51	Redi Flow2	
E10-5	105.0	107.81	76.97	Redi Flow2	
E10-6	105.0	106.22	88.92	Redi Flow2	
E10-7	65.0	66.89	57.22	Redi Flow2	
E14-2	75.0	76.84	72.15	Bailed	
E14-3	120.0	122.97	122.87	--	Dry
E16-2	130.0	132.15	116.84	Redi Flow2	
E17-1	130.0	138.18	118.57	Redi Flow2	
E18-1	50.0	52	Dry	--	Dry
E18-2	50.0	51.8	Dry	--	Dry
E18-7	50.0	50.55	Dry	--	Dry
E18-9	100.0	103.4	Dry	--	Dry

Notes: Initial SWL measured duiring the 4th Quarter of 2012

Table 3 F-Wellfield Shallow Monitoring Wells

Well	Drilled TD (ft)	Measured TD From TOC (ft)	DTW from TOC (ft)	Pump Type	Comments
F1-2	90.0	90.18	72.26	Redi Flow2	
F2-1	80.0	81.12	68.42	Redi Flow2	
F2-2	95.0	96.75	73.8	Redi Flow2	
F2-3	85.0	86.75	72.26	Redi Flow2	
F3-1	140.0	141.75	75.91	Redi Flow2	
F3-2	95.0	96.6	81.51	Redi Flow2	
F4-1	45.0	46.52	45.91	--	Dry
F12-2	142.0	143.48	141.51	Bailed	
F13-1	180.0	180.44	164.55	Redi Flow2	
F14-1	165.0	165.8	148.25	Redi Flow2	
F14-2	208.0	208.25	152.37	--	Unsampleable
F14-3	285.0	279.38	124.05	--	Unsampleable
F15-1	130.0	131	125.85	Bailed	
F16-1	60.0	61.19	58.41	Bailed	
F23-1	320.0	301.3	171.84	Dedicate Pump	
F23-2	245.0	248.8	167.85	Dedicate Pump	
F23-3	260.0	249.4	166.05	Dedicate Pump	
F23-4	275.0	236.6	170.33	Dedicate Pump	
F25-1	145.0	142.4	142.3	--	Dry
F25-2	245.0	239.2	183.4	Dedicate Pump	
F25-3	359.0	343.5	187.1	Dedicate Pump	
F26-1	75.0	78.6	75.06	--	Unsampleable (0.54ft of water in well)
F28-1	260.0	258.75	181.14	Redi Flow2	
F28-2	317.0	319.8	198.67	Dedicate Pump	
F28-3	254.0	256.9	184.59	Dedicate Pump	
F29-1	265.0	256.9	183.35	Redi Flow2	
F31-1	251.0	248.8	188.35	Dedicate Pump	
F31-2	330.0	328.2	200.67	Dedicate Pump	
FBG-1	209.0	195.5	146.6	Dedicate Pump	
FBG-2	320.0	316.9	153.7	Dedicate Pump	

Note: SWL measured duiring the 4th Quarter of 2012

Table 4 Specific Capacity Values

Well	Sand Unit	Pumping Analysis		Recovery Analysis		Specific Capacity		Pumping Rate
		Transmissivity	Hydraulic Conductivity	Transmissivity	Hydraulic Conductivity	(gpm/ft)	(ft^2/day)	(gpm)
		(ft^2/day)	(cm/sec)	(ft^2/day)	(cm/sec)			
C22-2	110	3.5	2.44E-04	1.4	9.70E-05	0.02	3.3	1.3
C22-3	120	74.0	5.22E-03	21.0	1.48E-03	0.22	42.3	1
C22-4	100	-	-	0.37	6.51E-06	-	-	0.8
CBG-1	100	61.4	2.17E-03	52.4	1.85E-03	0.19	36.6	9.7
CBG-2	110	119.0	2.10E-03	115.2	2.03E-03	1.32	254	15.5
CBG-3	120	14.2	1.00E-03	4.1	2.87E-04	0.03	5.2	0.78
CBG-4	140	641.0	2.26E-02	780.0	2.75E-02	2.80	539	2.2
E9-7	80	21.1	7.42E-04	17.6	6.21E-04	0.11	21.2	6
E9-8	110	81.2	2.87E-03	111.3	3.93E-03	0.60	115	14.2
F23-1	110	-	-	0.1	5.17E-06	-	-	0.8
F23-2	120	58.9	1.04E-03	119.4	2.11E-03	0.18	34.6	4.4
F23-4	120	77.6	1.37E-03	-	-	0.15	29	2.2
F25-2	120	82.4	2.91E-03	103.5	3.65E-03	0.22	42.3	4.4
F31-1	120	-	-	54.8	1.93E-03	-	-	4.3
F31-2	110	60.2	2.12E-03	62.1	2.20E-03	0.07	13.5	6.2
FBG-1	120	-	-	5.8	1.02E-04	-	-	1.9
FBG-2	100	91.7	1.62E-03	53.6	9.46E-04	0.65	125	14.9

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	C1-1 6/21/12 C12060984-002 140	C1-1 8/27/2012 C12081112-003 140	C1-1 10/4/2012 C12100251-001	C1-2 6/21/12 C12060984-003 140	C1-2-2* 6/21/12 C12060984-004 140	C1-2 8/27/2012 C12081112-005 140	C1-2 10/5/2012 C12100311-003 140	C1-2 10/5/2012 C12100311-004 140	C1-3 6/26/12 C12061096-002 130	C1-3 8/30/2012 C12081293-002 130	C1-3 10/3/2012 C12100209-002 130
Alkalinity, Total as CaCO3	mg/L	--	218	219	221	230	230	236			107	108	117
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5			<5	<5	<5
Bicarbonate as HCO3	mg/L	--	266	267	270	281	281	288	287	315	131	132	142
Calcium	mg/L	--	423	408	428	467	472	450			192	187	190
Chloride	mg/L	2000	229	267	268	218	217	239	240	154	110	95	117
Fluoride	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			0.2	0.2	0.2
Magnesium	mg/L	--	100	106	104	102	102	96			34	33	34
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	3.9	3.9	3.5	0.1	0.2	<0.1			<0.1	0.3	<0.1
Potassium	mg/L	--	12	12	12	12	12	13			8	9	7
Silica	mg/L	--	10	10.1	10.3	15.2	15	15.3			7.6	7.7	7.3
Sodium	mg/L	--	188	188	181	240	248	230			220	210	203
Sulfate	mg/L	3000	1230	1340	1320	1540	1530	1580			837	784	858
Conductivity @ 25 C	mmhos/cm	--	3.1	3.12	2.98	3.13	3.42	3.4	3.38		2.07	1.89	1.98
pH	s.u.	6.5-8.5	7.34	7.43	7.24	7.27	7.27	7.3			7.94	8.15	7.96
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	2680	2630	2650	3620	2970	2960	2930	2020	1540	1430	1570
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005			<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			<0.01	<0.01	<0.01
Iron-D	mg/L	--	0.05	<0.03	<0.03	1.3	1.32	1.13			<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.04	0.03	0.03	0.18	0.18	0.17			0.08	0.04	0.05
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.417	0.432	0.46	<0.001	<0.001	<0.001	0.002	0.232	<0.001	0.002	0.001
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.353	0.354	0.383	0.051	0.0555	0.058	0.0604	0.338	0.0037	0.0006	0.0007
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01			<0.01	<0.01	<0.01
Antimony-T	mg/L	--	<0.001			<0.001	<0.001						
Beryllium-T	mg/L	--	<0.001			<0.001	<0.001						
Iron-T	mg/L	--	0.07	0.03	<0.03	1.31	1.32	1.39			0.04	0.05	0.04
Manganese-T	mg/L	--	0.04	0.04	0.03	0.18	0.18	0.18			0.08	0.04	0.05
Thallium-T	mg/L	--	<0.001			<0.001	<0.001						
Gross Alpha - minus U - Calculated	pCi/L	15	26.02	40.34	-18.29	60.77	83.43	31.73			-0.40	<-5	-0.4
Gross Alpha - Unadjusted	pCi/L	--	265	280	241	95.3	121	71			2.1	<-5	-0.4
Gross Alpha precision (±)	pCi/L	--	20.4	25.4	16	10.9	11.7	18.2			3.8	6	0.8
Gross Alpha MDC	pCi/L	--	18.2	25.9	12.6	12.1	12	25.5			6.2	10.5	1.4
Gross Beta	pCi/L	--	77.3	39.2	46.7	24.4	32.1	24.3			2.8	<-6	0.7
Gross Beta precision (±)	pCi/L	--	21.2	27	14.3	10.5	10.1	26			4.5	13.4	1.5
Gross Beta MDC	pCi/L	--	32.6	43.3	21.9	16.6	15.7	42.6			7.5	22.7	2.6
Radium 226	pCi/L	--	5.4	1.1	1.1	14	15	20			1.3	0.64	0.74
Radium 226 precision (±)	pCi/L	--	0.47	0.24	0.26	0.73	0.76	0.95			0.22	0.16	0.2
Radium 226 MDC	pCi/L	--	0.17	0.17	0.2	0.17	0.17	0.18			0.13	0.14	0.17
Radium 228	pCi/L	--	2.2	2.2	2.2	3.3	4	2.7			0.5	<0.9	1
Radium 228 precision (±)	pCi/L	--	0.8	0.7	1.1	0.8	0.8	0.9			0.6	0.7	1.4
Radium 228 MDC	pCi/L	--	1.2	1	1.7	1.1	1.1	1.3			0.9	1.1	2.3
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	7.6	3.3	3.3	17.3	19	22.7			1.8	0.64	1.74

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	C1-4 6/29/12 C12070005-003 140	C1-4 10/2/2012 C12100115-003 140	C1-5 6/28/12 C12070005-002 140	C1-5 10/2/2012 C12100115-004 140	C1-6 6/29/12 C12070005-003 140	C1-6 10/1/2012 C12100057-001 140	C2-1 7/2/2012 C12070082-001 140	C2-1* 7/2/12 C12070082-002 140	C2-1 10/2/2012 C12100115-002 140	C2-2A 6/20/12 C12060854-003 130	C2-2A 10/8/2012 C12100347-003 130
Alkalinity, Total as CaCO3	mg/L	--	240	247	240	256	249	277	266	262	272	227	
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Bicarbonate as HCO3	mg/L	--	293	301	293	312	303	338	325	319	332	277	279
Calcium	mg/L	--	475	482	424	452	318	328	336	315	371	425	
Chloride	mg/L	2000	336	349	300	299	204	213	216	216	239	227	245
Fluoride	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	
Magnesium	mg/L	--	137	127	98	103	65	64	68	62	66	85.7	
Nitrogen, Ammonia as N	mg/L	--	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	<0.1	2	1.8	1.3	0.8	1.6	1.5	1.4	3.1	
Potassium	mg/L	--	13	12	11	12	10	10	11	10	11	12.4	
Silica	mg/L	--	11.9	12.7	9	10.3	11.9	12.1	14.4	13.2	15.4	14.9	
Sodium	mg/L	--	254	226	186	187	187	180	193	182	171	223	
Sulfate	mg/L	3000	1580	1560	1320	1280	1020	1000	897	902	914	1210	
Conductivity @ 25 C	mmhos/cm	--	3.68	3.62	3.23	3.15	2.68	2.69	2.53	2.53	2.59	3.01	2.62
pH	s.u.	6.5-8.5	7.16	7.2	7.27	7.35	7.32	7.31	7.33	7.28	7.4	7.25	
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	3190	3160	2670	2690	2180	2150	2080	2090	2030	2510	2460
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	0.96	0.93	<0.03	<0.03	<0.03	<0.03	
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	
Manganese-D	mg/L	--	0.68	0.7	0.14	0.15	0.15	0.19	<0.01	<0.01	<0.01	<0.01	
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Selenium-D	mg/L	0.05	0.02	0.018	0.361	0.362	0.109	0.077	0.138	0.141	0.142	0.383	0.383
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Uranium-D	mg/L	--	0.167	0.166	0.374	0.38	0.167	0.144	0.166	0.172	0.189	0.303	0.288
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	
Antimony-T	mg/L	--											
Beryllium-T	mg/L	--											
Iron-T	mg/L	--	<0.03	<0.03	<0.03	<0.03	1.2	1.22	<0.03	<0.03	0.04	3.64	
Manganese-T	mg/L	--	0.69	0.79	0.15	0.16	0.15	0.2	<0.01	<0.01	<0.01	0.04	
Thallium-T	mg/L	--											
Gross Alpha - minus U - Calculated	pCi/L	15	-17.06	-28.48	-4.20	-1.26	38.94	23.51	17.62	-23.84	-14.95	41.87	
Gross Alpha - Unadjusted	pCi/L	--	96	83.9	249	256	152	121	130	92.6	113	247	
Gross Alpha precision (±)	pCi/L	--	25.1	12.3	24.1	16.9	10	12.9	9.6	15.2	12.5	13.6	
Gross Alpha MDC	pCi/L	--	35.3	14.4	23.3	13	8	13.3	8.5	18.7	13.6	10.1	
Gross Beta	pCi/L	--	-10	18.9	46.5	49.9	32.2	32.7	31.4	<-10	30.2	35.9	
Gross Beta precision (±)	pCi/L	--	38.3	14.6	34.4	15.3	8	14.3	8.4	24.1	14.2	8.9	
Gross Beta MDC	pCi/L	--	64.2	23.7	55	23.3	12.1	22.5	12.8	40.4	22.6	13.3	
Radium 226	pCi/L	--	2.2	2.1	0.68	1	1.2	1.5	0.59	0.6	1.2	0.85	
Radium 226 precision (±)	pCi/L	--	0.37	0.29	0.23	0.21	0.28	0.25	0.21	0.24	0.23	0.2	
Radium 226 MDC	pCi/L	--	0.22	0.14	0.22	0.14	0.21	0.15	0.21	0.24	0.15	0.16	
Radium 228	pCi/L	--	1.8	1.7	2.3	2.2	2.3	3	1.8	1.9	2.3	2.2	
Radium 228 precision (±)	pCi/L	--	0.8	0.8	0.8	0.8	0.8	0.9	0.8	1	0.9	0.7	
Radium 228 MDC	pCi/L	--	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.6	1.3	1	
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	4	3.8	2.98	3.2	3.5	4.5	2.39	2.5	3.5	3.05	

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID		WYDEQ	C3-1	C3-1	C3-1	C3-2A	C3-2A	C3-2A	C3-3	C3-3	C3-4	C3-4	C3-5
Sample Date/Time		Class III	6/20/12	8/27/2012	10/9/2012	6/20/12	8/28/2012	10/10/2012	7/3/2012	10/3/2012	7/2/2012	10/3/2012	8/7/12
Job Number		Livestock	C12060854-002	C12081112-004	C12100498-003	C12060854-001	C12081183-002	C12100498-001	C12070082-003	C12100209-004	C12070082-004	C12100209-006	C12080263-001
HSU		Standard	140	140	140	130	130	130	140	140	130	130	140
Alkalinity, Total as CaCO3	mg/L	--	390	403		277	287		245	256	230	252	429
Carbonate as CO3	mg/L	--	<5	<5		<5	<5		<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	476	492	493	337	350	360	299	312	280	308	523
Calcium	mg/L	--	409	384		413	386		346	324	269	290	415
Chloride	mg/L	2000	299	324	23	208	221	230	223	235	172	200	315
Fluoride	mg/L	--	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Magnesium	mg/L	--	85.8	77		81.5	77		73	69	50	53	90
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	0.2	0.1		1	0.3		6	7.2	<0.1	<0.1	0.8
Potassium	mg/L	--	11.9	12		11.8	11		11	10	9	9	13
Silica	mg/L	--	13.1	12.4		14.9	12.3		13	12.2	12.7	13	12.3
Sodium	mg/L	--	258	219		256	219		258	227	221	216	197
Sulfate	mg/L	3000	994	1040		1170	1270		1020	1080	890	952	902
Conductivity @ 25 C	mmhos/cm	--	3.08	3.09	2.65	2.98	3.05	2.65	2.76	2.67	2.38	2.4	2.98
pH	s.u.	6.5-8.5	7.32	7.44		7.35	7.44		7.21	7.25	7.63	7.52	7.31
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	2410	2380	2410	2490	2510	2560	2280	2250	1930	1960	2260
Aluminum-D	mg/L	5	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.01	<0.001		<0.01	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.01	<0.005		<0.01	<0.005		<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03		<0.03	<0.03		<0.03	<0.03	0.47	0.49	0.09
Lead-D	mg/L	0.1	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	0.12	0.12	0.03
Mercury-D	mg/L	0.00005	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	0.001
Molybdenum-D	mg/L	--	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.07	0.068	0.079	0.138	0.068	0.065	0.538	0.603	<0.001	<0.001	0.258
Thallium-D	mg/L	--	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.545	0.598	0.637	0.543	0.313	0.313	0.246	0.265	0.0137	0.0151	0.808
Vanadium-D	mg/L	0.1	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	0.01	<0.01		0.01	<0.01		<0.01	<0.01	<0.01	<0.01	0.02
Antimony-T	mg/L	--											
Beryllium-T	mg/L	--											
Iron-T	mg/L	--	<0.03	0.04		0.05	0.08		<0.03	0.45	0.5	0.53	8.49
Manganese-T	mg/L	--	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	0.13	0.12	0.1
Thallium-T	mg/L	--											
Gross Alpha - minus U - Calculated	pCi/L	15	70.04	-12.85		176.39	-4.90		27.46	7.60	1.13	-2.22	9.98
Gross Alpha - Unadjusted	pCi/L	--	439	392		544	207		194	187	10.4	8	557
Gross Alpha precision (±)	pCi/L	--	17.8	25		18.9	20.4		11.6	14.2	4.4	7	21
Gross Alpha MDC	pCi/L	--	9.7	20		9.9	21.3		9	12	6.5	11	11.7
Gross Beta	pCi/L	--	54.1	91.7		62	40.2		28.4	29.8	<3	1.8	95.9
Gross Beta precision (±)	pCi/L	--	10.3	24.1		9.5	22.9		8.7	13.8	6.8	11.8	13.9
Gross Beta MDC	pCi/L	--	14.5	36.4		13	36.6		13.3	21.7	11.3	19.8	18.9
Radium 226	pCi/L	--	0.49	0.86		29	1.6		0.59	0.6	0.38	0.61	2.7
Radium 226 precision (±)	pCi/L	--	0.17	0.22		1.1	0.29		0.22	0.19	0.19	0.19	0.37
Radium 226 MDC	pCi/L	--	0.16	0.17		0.17	0.18		0.23	0.18	0.22	0.18	0.21
Radium 228	pCi/L	--	2.3	2.7		1.8	2.1		<1	2.2	1.6	2.9	1
Radium 228 precision (±)	pCi/L	--	0.7	0.8		0.7	0.9		0.9	1.5	0.9	1.5	0.8
Radium 228 MDC	pCi/L	--	1	1		1	1.3		1.5	2.4	1.4	2.4	1.3
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	2.79	3.56		30.8	3.7		0.59	2.8	1.98	3.51	3.7

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID		WYDEQ	C3-5	C4-2A	C4-2A	C4-2A	C4-3	C4-3	C4-5	C4-5	C5-1	C5-1
Sample Date/Time		Class III	10/3/2012	6/19/12	8/29/2012	10/11/2012	7/24/2012	10/1/2012	7/9/2012	10/5/2012	8/3/12	10/9/2012
Job Number		Livestock	C12100209-003	C12060817-001	C12081233-001	C12100554-001	C12070840-001	C12100057-002	C12070295-001	C12100311-007	C12080142-001	C12100393-004
HSU		Standard	140	130	130	130	140	140	130	130	140	140
Alkalinity, Total as CaCO3	mg/L	--		232	235	236	294	305	146	163	280	291
Carbonate as CO3	mg/L	--		<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	538	282	287	288	359	372	178	199	342	355
Calcium	mg/L	--		275	309	310	374	356	136	135	324	304
Chloride	mg/L	2000	313	160	168	167	267	281	73	78	260	252
Fluoride	mg/L	--		<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1
Magnesium	mg/L	--		57	59	57	71	70	23	24	64	58
Nitrogen, Ammonia as N	mg/L	--		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100		4.7	4.6	4.7	3.7	3.7	<0.1	<0.1	0.2	0.2
Potassium	mg/L	--		9	9	9	11	10	6	6	12	10
Silica	mg/L	--		12.2	12.7	11.6	13.8	12.9	9.8	11.6	11.2	12.5
Sodium	mg/L	--		211	213	210	234	221	181	177	174	147
Sulfate	mg/L	3000		1010	1030	1030	1000	1020	574	597	777	732
Conductivity @ 25 C	mmhos/cm	--	1.512	2.61	2.57	2.49	2.8	2.95	1.62	1.59	2.42	2.4
pH	s.u.	6.5-8.5		7.33	7.35	7.26	7.25	7.23	7.8	7.78	7.35	7.43
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	2310	2070	2040	2100	2310	2260	1160	1170	1820	1840
Aluminum-D	mg/L	5		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05		<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead-D	mg/L	0.1		0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--		<0.01	<0.01	<0.01	<0.01	<0.01	0.06	0.12	<0.01	<0.01
Mercury-D	mg/L	0.00005		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.272	0.432	0.433	0.406	0.415	0.381	<0.001	<0.001	0.038	0.035
Thallium-D	mg/L	--		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.93	0.09	0.0956	0.0971	0.428	0.384	<0.0003	<0.0003	0.204	0.21
Vanadium-D	mg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25		0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--		<0.03	0.04	<0.03	0.18	0.15	0.11	0.22	0.08	<0.03
Manganese-T	mg/L	--		<0.01	<0.01	<0.01	<0.01	<0.01	0.08	0.15	<0.01	<0.01
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15		-16.93	-10.92	16.36	15.24	-11.97	2.5	-5	8.89	-23.17
Gross Alpha - Unadjusted	pCi/L	--		44	53.8	82.1	305	248	2.5	-5	147	119
Gross Alpha precision (±)	pCi/L	--		14	13.5	13.4	13.8	16.4	2.9	3.6	9.1	13
Gross Alpha MDC	pCi/L	--		20.1	18.3	17.9	8.9	13.8	4.7	6.6	7	15.6
Gross Beta	pCi/L	--		-4	<2	-8	43.9	70.5	3.8	8.6	21.8	16.2
Gross Beta precision (±)	pCi/L	--		22.1	22.2	15.3	8.8	14.5	3.3	7.1	7.4	13.6
Gross Beta MDC	pCi/L	--		37	37	25.6	12.7	21.6	5.5	11.7	11.4	22
Radium 226	pCi/L	--		1.1	1	0.64	0.58	0.88	0.67	0.41	0.58	0.55
Radium 226 precision (±)	pCi/L	--		0.22	0.2	0.18	0.19	0.2	0.22	0.18	0.14	0.28
Radium 226 MDC	pCi/L	--		0.16	0.13	0.15	0.17	0.14	0.21	0.2	0.12	0.33
Radium 228	pCi/L	--		1.3	3.4	1.6	3.6	3.6	0.5	0.3	2	0.2
Radium 228 precision (±)	pCi/L	--		0.7	1.5	0.9	0.9	0.9	0.9	1.2	0.7	1.6
Radium 228 MDC	pCi/L	--		1.1	2.3	1.4	1.2	1.2	1.4	2	1.1	2.7
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5		2.4	4.4	2.24	4.18	4.48	1.17	0.71	2.58	0.75

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	C5-2 8/9/2012 C12080442-002 140	C5-2 10/5/2012 C12100311-005 140	C5-3 7/10/2012 C12070295-003 130	C5-3 10/3/2012 C12100209-001 130	C5-5 7/10/2012 C12070295-004 130	C5-5 10/9/2012 C12100393-005 130	C5-6 7/9/2012 C12070295-002 100	C5-6 10/8/2012 C12100347-001 100	C6-1 8/9/2012 C12080442-001 140	C6-1 10/4/2012 C12100251-005 140
Alkalinity, Total as CaCO3	mg/L	--	266	236	281	301	255	259	183	184	299	304
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	324	288	342	368	311	315	224	224	365	371
Calcium	mg/L	--	311	443	311	322	295	328	145	143	270	257
Chloride	mg/L	2000	156	233	186	203	184	188	60	54	36	35
Fluoride	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.2	<0.1	<0.1
Magnesium	mg/L	--	59	96	65	65	63	69	26	26	61	64
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.9	<0.1	<0.1	0.2	1.4	2.2	<0.1	<0.1	1.7	1.7
Potassium	mg/L	--	10	11	10	10	9	10	6	6	9	9
Silica	mg/L	--	11.2	14.8	12.9	12.4	10.5	10.2	12.5	13.3	8.8	11.4
Sodium	mg/L	--	225	218	228	221	207	204	178	183	204	195
Sulfate	mg/L	3000	1030	1570	1000	1060	1030	1050	542	546	1010	981
Conductivity @ 25 C	mmhos/cm	--	2.58	3.32	2.73	2.56	2.71	2.64	1.6	1.48	2.26	2.16
pH	s.u.	6.5-8.5	7.38	7.27	7.46	7.37	7.34	7.32	7.76	7.71	7.47	7.39
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	2050	2940	2150	2150	2110	2140	1150	1110	1820	1830
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	1.18	0.77	0.74	<0.03	<0.03	0.3	0.26	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.28	0.17	0.21	0.21	0.02	<0.01	0.18	0.18	<0.01	<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.225	<0.001	<0.001	<0.001	0.107	0.177	<0.001	<0.001	0.105	0.117
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.264	0.0637	0.137	0.138	0.135	0.159	<0.0003	<0.0003	0.0412	0.0422
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	2.42	1.37	0.79	0.85	0.83	1.92	0.3	0.31	6.82	3.53
Manganese-T	mg/L	--	0.51	0.18	0.21	0.24	0.03	0.03	0.18	0.18	0.06	0.02
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	0.27	23.58	18.25	2.67	14.61	3.36	3.5	4.9	0.01	3.93
Gross Alpha - Unadjusted	pCi/L	--	179	66.7	111	96.1	106	111	3.5	4.9	27.9	32.5
Gross Alpha precision (±)	pCi/L	--	16.8	11.3	8.6	10.9	8.8	11.9	4.8	3	12.5	6.8
Gross Alpha MDC	pCi/L	--	16.7	13.8	7.6	11.8	8.5	13.4	7.8	4.6	19.1	8.9
Gross Beta	pCi/L	--	-7	26	21.2	12.3	13.5	30.2	<-4	5.7	8.9	16.2
Gross Beta precision (±)	pCi/L	--	28.8	14.7	7	12.4	7.2	12.9	7.1	3.4	17	8.6
Gross Beta MDC	pCi/L	--	47.3	23.8	10.8	20	11.4	20.4	12	5.5	28.2	13.9
Radium 226	pCi/L	--	1.2	18	1.5	1.1	0.87	1.6	0.61	0.6	0.71	0.55
Radium 226 precision (±)	pCi/L	--	0.28	0.9	0.29	0.24	0.24	0.35	0.21	0.18	0.24	0.2
Radium 226 MDC	pCi/L	--	0.22	0.19	0.21	0.18	0.21	0.25	0.21	0.17	0.25	0.21
Radium 228	pCi/L	--	0.8	4.2	1.6	3.5	2.5	2.3	1.7	0.5	1.3	0.3
Radium 228 precision (±)	pCi/L	--	0.8	1.1	0.9	1.3	1	1.1	0.8	1	0.9	1.1
Radium 228 MDC	pCi/L	--	1.2	1.6	1.4	1.9	1.4	1.6	1.2	1.7	1.4	1.8
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	2	22.2	3.1	4.6	3.37	3.9	2.31	1.1	2.01	0.85

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID		WYDEQ	C6-2	C6-2	C6-3	C6-3	C6-4	C6-4	C8-3	C8-3 *	C8-3	C9-2
Sample Date/Time		Class III	7/13/2012	10/17/2012	7/17/2012	10/12/2012	7/11/2012	10/4/2012	7/12/2012	7/12/2012	10/10/2012	7/13/2012
Job Number		Livestock	C12070482-001	C12100755-004	C12070564-001	C12100579-004	C12070385-001	C12100251-003	C12070433-001	C12070433-002	C12100498-002	C12070482-002
HSU		Standard	130	130	80	80	130	130	130	130	130	130
Alkalinity, Total as CaCO3	mg/L	--	131	140	144	161	253	260	346	348	359	238
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	159	171	175	197	308	318	422	425	438	291
Calcium	mg/L	--	51	53	52	53	281	270	164	161	165	83
Chloride	mg/L	2000	21	21	22	15	144	159	56	56	60	24
Fluoride	mg/L	--	0.2	0.2	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Magnesium	mg/L	--	9	9	9	9	54	53	30	30	29	16
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	0.24	0.17	<0.05	<0.05	0.06	0.06	0.06	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1
Potassium	mg/L	--	4	4	5	5	10	9	8	7	7	4
Silica	mg/L	--	7.6	9.3	11.7	11.4	15.2	14.6	17.3	16.5	16.5	12.3
Sodium	mg/L	--	113	119	141	147	246	220	160	149	140	96
Sulfate	mg/L	3000	264	255	318	282	907	940	398	398	418	225
Conductivity @ 25 C	mmhos/cm	--	0.891	0.857	0.981	0.945	2.46	2.36	1.54	1.54	1.48	0.962
pH	s.u.	6.5-8.5	8.12	7.95	8.17	8.16	7.62	7.5	7.59	7.61	7.49	7.7
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	601	566	648	641	1870	1920	1060	1070	1080	654
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	0.48	0.51	0.12	0.12	0.11	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01	0.03	0.04	0.18	0.18	0.46	0.45	0.44	<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.002	0.002	<0.001	<0.001	<0.001	<0.001	0.003	0.003	0.003	0.062
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0013	0.0011	<0.0003	<0.0003	0.0156	0.0175	0.104	0.102	0.114	0.0687
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	0.01	<0.01	<0.01	<0.01	0.02	<0.01	0.01	<0.01	<0.01	0.02
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	0.03	<0.03	<0.03	0.04	0.51	0.53	0.13	0.14	0.14	<0.03
Manganese-T	mg/L	--	0.03	0.02	0.03	0.03	0.17	0.18	0.46	0.45	0.48	<0.01
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	2.12	0.96	1	-2	12.44	9.65	60.59	17.85	33.82	22.59
Gross Alpha - Unadjusted	pCi/L	--	3	1.7	1	-2	23	21.5	131	86.9	111	69.1
Gross Alpha precision (±)	pCi/L	--	1.5	1.5	1.5	1.2	5.3	6.8	6.8	8.6	6.3	3.7
Gross Alpha MDC	pCi/L	--	2.4	2.4	2.5	2.2	7	9.5	4.8	8.8	5.4	2.5
Gross Beta	pCi/L	--	3.7	2	3.2	0.6	<0.5	-4	8.7	0.2	22.1	21
Gross Beta precision (±)	pCi/L	--	1.8	1.7	2.1	2.6	6	10.5	4.1	9.4	4	2.5
Gross Beta MDC	pCi/L	--	2.9	2.7	3.3	4.4	10	17.7	6.2	15.4	5.8	3.4
Radium 226	pCi/L	--	0.2	0.32	0.27	0.56	1.3	1.6	0.7	0.6	0.45	0.25
Radium 226 precision (±)	pCi/L	--	0.12	0.17	0.14	0.19	0.22	0.31	0.18	0.16	0.16	0.13
Radium 226 MDC	pCi/L	--	0.16	0.21	0.18	0.17	0.16	0.21	0.15	0.15	0.15	0.16
Radium 228	pCi/L	--	<0.4	0.2	0.5	1.6	1.3	0.8	0.9	0.7	0.8	<0.3
Radium 228 precision (±)	pCi/L	--	1	0.9	0.7	1.1	0.7	1.1	0.7	0.7	0.9	1
Radium 228 MDC	pCi/L	--	1.6	1.5	1.1	1.7	1	1.8	1.2	1.1	1.4	1.6
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	0.2	0.52	0.77	2.16	2.6	2.4	1.6	1.3	1.25	0.25

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID		WYDEQ	C9-2	C11-1	C11-1	C11-2	C11-2	C11-4	C11-4	C11-5	C11-5	C11-6
Sample Date/Time		Class III	10/11/2012	7/18/2012	10/2/2012	7/19/2012	10/4/2012	7/19/2012	10/3/2012	7/20/12	10/4/2012	7/24/2012
Job Number		Livestock	C12100554-004	C12070620-002	C12100115-001	C12070681-001	C12100251-002	C12070681-002	C12100209-005	C12070743-001	C12100251-004	C12070840-003
HSU		Standard	130	130	130	130	130	130	130	130	130	140
Alkalinity, Total as CaCO3	mg/L	--	241	339	353	165	191	224	238	268	281	206
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	294	413	431	202	233	274	282	328	343	252
Calcium	mg/L	--	78	164	148	63	63	76	78	132	138	127
Chloride	mg/L	2000	19	51	55	14	15	34	35	26	26	30
Fluoride	mg/L	--	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.1
Magnesium	mg/L	--	16	34	32	11	12	14	14	34	36	26
Nitrogen, Ammonia as N	mg/L	--	<0.05	2.67	2.19	<0.05	<0.05	0.08	<0.05	0.16	0.14	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	0.4	0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Potassium	mg/L	--	5	12	11	5	5	6	5	8	8	6
Silica	mg/L	--	11.5	22.5	22.9	10.8	12.2	13.6	13.1	17	17.6	11.9
Sodium	mg/L	--	100	66	70	121	133	122	125	82	79	175
Sulfate	mg/L	3000	221	237	271	316	260	261	251	331	338	528
Conductivity @ 25 C	mmhos/cm	--	0.902	1.21	1.25	0.958	0.904	0.989	0.987	1.12	1.12	1.5
pH	s.u.	6.5-8.5	7.55	6.95	7.05	7.94	7.82	7.91	7.82	7.33	7.27	7.67
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	611	813	853	668	604	676	670	811	812	1090
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	0.005	0.005	<0.001	0.001	<0.001	<0.001	0.002	0.001	<0.001
Barium-D	mg/L	--	<0.1	0.2	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	8.81	6	<0.03	0.05	0.03	<0.03	1.28	1.28	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	1.27	1.06	0.06	0.07	0.17	0.18	0.3	0.3	0.11
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.034	0.422	0.305	<0.001	<0.001	0.018	0.024	0.003	0.005	<0.001
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0639	0.466	0.357	0.0081	0.0096	0.0633	0.0619	0.0152	0.0089	0.0003
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	<0.03	15.7	8.58	<0.03	0.07	0.04	0.04	1.54	1.41	0.18
Manganese-T	mg/L	--	<0.01	1.25	1.08	0.06	0.07	0.17	0.17	0.31	0.3	0.13
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	23.24	66.52	-33.69	5.42	4.80	46.95	22.59	1.11	1.07	<-2
Gross Alpha - Unadjusted	pCi/L	--	66.5	382	208	10.9	11.3	89.8	64.5	11.4	7.1	<-2
Gross Alpha precision (±)	pCi/L	--	3.4	10.3	7.5	2.1	1.8	4.4	3.7	2.9	2.1	2.2
Gross Alpha MDC	pCi/L	--	2.5	4.2	3.8	2.8	2.2	3.4	3.2	4.1	3	3.9
Gross Beta	pCi/L	--	12.5	46.5	59.7	<3.1	4.2	5.7	17.3	4.8	8	<1.6
Gross Beta precision (±)	pCi/L	--	2.1	5.3	4	2.1	1.8	2.3	2.3	3.6	2.6	3.2
Gross Beta MDC	pCi/L	--	2.9	6.6	4.8	3.4	2.9	3.5	3.2	5.8	4.1	5.2
Radium 226	pCi/L	--	0.3	2.3	1.7	0.39	0.16	0.39	0.35	0.78	0.96	0.35
Radium 226 precision (±)	pCi/L	--	0.12	0.28	0.27	0.12	0.15	0.11	0.18	0.2	0.28	0.14
Radium 226 MDC	pCi/L	--	0.13	0.13	0.15	0.1	0.22	0.1	0.22	0.16	0.25	0.14
Radium 228	pCi/L	--	1.2	1.4	2	<0.6	0.5	<0.4	-0.6	2.1	1.1	<0.9
Radium 228 precision (±)	pCi/L	--	0.8	0.7	0.9	0.7	1.1	0.7	1.7	0.9	1.3	0.6
Radium 228 MDC	pCi/L	--	1.3	1	1.3	1.1	1.9	1.1	2.9	1.4	2.2	1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.5	3.7	3.7	0.39	0.66	0.39	0.35	2.88	2.06	0.35

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	C11-6 10/17/2012 C12100755-003 140	C12-1 8/8/2012 C12080353-001 60	C12-1 10/17/2012 C12100755-005 60	C14-3 7/23/2012 C12070781-001 130	C14-3 10/17/2012 C12100755-001 130	C17-1 7/23/2012 C12070781-002 130	C17-1 10/5/2012 C12100311-006 130	C20-1 8/8/2012 C12080353-002 150	C20-1 10/9/2012 C12100393-003 150	C22-1 8/2/2012 C12080089-001 100
Alkalinity, Total as CaCO3	mg/L	--	214	125	130	143	127	177	186	183	191	126
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	262	153	158	175	155	216	227	223	233	154
Calcium	mg/L	--	130	31	34	113	105	79	86	98	95	33
Chloride	mg/L	2000	30	7	7	42	41	6	6	15	14	6
Fluoride	mg/L	--	0.1	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Magnesium	mg/L	--	26	6	6	20	18	14	15	22	21	6
Nitrogen, Ammonia as N	mg/L	--	<0.05	0.35	0.18	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.26
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	0.7	<0.1	<0.1	<0.1	0.3	1.1	1	1.3	<0.1
Potassium	mg/L	--	6	4	5	5	5	4	5	7	7	4
Silica	mg/L	--	12.4	12.9	14.4	8.6	7.4	11.4	13.7	29.9	15.6	10.9
Sodium	mg/L	--	178	61	62	184	172	136	136	25	21	115
Sulfate	mg/L	3000	525	113	111	558	504	385	378	148	141	194
Conductivity @ 25 C	mmhos/cm	--	1.45	0.495	0.494	1.42	1.34	1.07	1.05	0.672	0.674	0.662
pH	s.u.	6.5-8.5	7.71	7.9	7.95	7.94	7.91	7.91	7.96	7.61	7.95	8.12
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	1070	302	313	1020	963	737	745	437	454	449
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	0.04	0.03	0.1	<0.03	0.13	0.11	2.83	<0.03	0.04
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.026	<0.001	<0.001
Manganese-D	mg/L	--	0.08	0.02	0.02	0.17	0.14	0.08	0.08	0.24	0.08	0.03
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.055	0.058	<0.001
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0005	0.0006	<0.0003	0.0004	0.0004	<0.0003	<0.0003	0.0231	0.0135	<0.0003
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	0.16	0.12	0.04	0.56	0.49	0.14	0.15	158	12.4	0.19
Manganese-T	mg/L	--	0.09	0.02	0.02	0.19	0.15	0.08	0.08	3.78	0.2	0.03
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	-2.34	-0.01	0.9	<-0.5	-3.27	<0.8	-0.5	16.56	25.86	-0.1
Gross Alpha - Unadjusted	pCi/L	--	-2	0.4	0.9	<-0.5	-3	<0.8	-0.5	32.2	35	-0.07
Gross Alpha precision (±)	pCi/L	--	2.2	1	1	2	2	1.6	1.5	2.8	2.7	1.2
Gross Alpha MDC	pCi/L	--	3.9	1.6	1.6	3.4	3.6	2.7	2.5	2.7	2.4	2
Gross Beta	pCi/L	--	1.8	2.3	2	<1.6	1.2	3.6	3.3	119	29.5	2.2
Gross Beta precision (±)	pCi/L	--	2.9	1.6	1.6	3.1	2.6	2.2	2.2	3.7	3.9	1.7
Gross Beta MDC	pCi/L	--	4.8	2.6	2.6	5.2	4.3	3.6	3.6	3.4	5.6	2.7
Radium 226	pCi/L	--	0.35	0.27	0.31	0.42	0.1	0.26	0.15	0.24	3.3	0.24
Radium 226 precision (±)	pCi/L	--	0.17	0.14	0.17	0.18	0.13	0.15	0.13	0.14	0.36	0.16
Radium 226 MDC	pCi/L	--	0.2	0.16	0.21	0.19	0.21	0.19	0.18	0.18	0.15	0.21
Radium 228	pCi/L	--	1.7	0.5	0.2	<0.6	0.5	<0.5	1.7	1.1	-0.5	0.9
Radium 228 precision (±)	pCi/L	--	1	0.7	0.9	0.9	0.8	0.9	1	0.8	0.7	0.7
Radium 228 MDC	pCi/L	--	1.5	1.1	1.6	1.5	1.2	1.4	1.5	1.2	1.2	1.1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	2.05	0.77	0.51	0.42	0.6	0.26	1.85	1.34	2.8	1.14

* Duplicate sample

Table 5
C-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	C22-1 10/5/2012 C12100311-001 100	C22-1* 10/5/2012 C12100311-002 100
Alkalinity, Total as CaCO3	mg/L	--	128	129
Carbonate as CO3	mg/L	--	<5	<5
Bicarbonate as HCO3	mg/L	--	156	157
Calcium	mg/L	--	29	29
Chloride	mg/L	2000	7	7
Fluoride	mg/L	--	0.3	0.2
Magnesium	mg/L	--	5	5
Nitrogen, Ammonia as N	mg/L	--	0.18	0.17
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	<0.1
Potassium	mg/L	--	3	3
Silica	mg/L	--	10.8	10.7
Sodium	mg/L	--	104	103
Sulfate	mg/L	3000	195	192
Conductivity @ 25 C	mmhos/cm	--	0.676	0.674
pH	s.u.	6.5-8.5	8.15	8.17
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	443	431
Aluminum-D	mg/L	5	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01
Iron-D	mg/L	--	0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001
Manganese-D	mg/L	--	0.03	0.03
Mercury-D	mg/L	0.00005	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05
Selenium-D	mg/L	0.05	<0.001	<0.001
Thallium-D	mg/L	--	<0.001	<0.001
Uranium-D	mg/L	--	<0.0003	<0.0003
Vanadium-D	mg/L	0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01
Antimony-T	mg/L	--		
Beryllium-T	mg/L	--		
Iron-T	mg/L	--	0.04	0.04
Manganese-T	mg/L	--	0.03	0.04
Thallium-T	mg/L	--		
Gross Alpha - minus U - Calculated	pCi/L	15	0.07	0.04
Gross Alpha - Unadjusted	pCi/L	--	0.07	0.04
Gross Alpha precision (±)	pCi/L	--	1.1	1.1
Gross Alpha MDC	pCi/L	--	1.8	1.8
Gross Beta	pCi/L	--	2.5	2.2
Gross Beta precision (±)	pCi/L	--	1.7	1.6
Gross Beta MDC	pCi/L	--	2.7	2.6
Radium 226	pCi/L	--	0.15	0.26
Radium 226 precision (±)	pCi/L	--	0.13	0.16
Radium 226 MDC	pCi/L	--	0.19	0.2
Radium 228	pCi/L	--	1.2	1.1
Radium 228 precision (±)	pCi/L	--	1	1
Radium 228 MDC	pCi/L	--	1.5	1.6
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.35	1.36

* Duplicate sample

Table 6
C-Wellfield New
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	C22-2 6/11/12 C12060482-004 110	C22-2 8/27/2012 C12081112-001 110	C22-2* 8/27/12 C12081112-002 110	C22-2 10/9/2012 C12100393-001 110	C22-3 6/11/12 C12060482-005 120	C22-3 8/28/2012 C12081183-003 120	C22-3 10/9/2012 C12100393-002 120	C22-4 6/18/12 C12060737-001 100	C22-4 10/12/2012 C12100579-007 100	CBG-1 6/12/12 C12060482-002 100
Alkalinity, Total as CaCO3	mg/L	--	0	142	141		0	143		127		0
Carbonate as CO3	mg/L	--	<5	<5	<5		<5	<5		<5		<5
Bicarbonate as HCO3	mg/L	--	169	173	173	173	165	166	171	151	153	190
Calcium	mg/L	--	35	37	41		28	31		32		50
Chloride	mg/L	2000	7	8	7	7	9	9	10	4	4	4
Fluoride	mg/L	--	0.2	0.2	0.2		0.2	0.2		0.3		0.2
Magnesium	mg/L	--	6	6	7		4	4		5		10
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05		<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Potassium	mg/L	--	4	4	4		3	3		3		5
Silica	mg/L	--	11	13.7	13.5		9.4	10.3		12.2		13.4
Sodium	mg/L	--	107	108	116		108	109		134		97
Sulfate	mg/L	3000	211	229	229		174	177		239		237
Conductivity @ 25 C	mmhos/cm	--	0.759	0.768	0.769	0.729	0.676	0.674	0.634	0.807	0.685	0.801
pH	s.u.	6.5-8.5	8.27	8.23	8.22		8.56	8.51		8.52		8
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	501	494	501	502	442	433	438	577	464	539
Aluminum-D	mg/L	5	<0.008	<0.1	<0.1		0.018	<0.1		<0.1		<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001		<0.001	<0.001		<0.05		<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001		<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Beryllium-D	mg/L	--	<0.01	<0.001	<0.001		<0.01	<0.001		<0.01		<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005		<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05		<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01		<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03		<0.03	<0.03		0.03		0.04
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001		<0.001
Manganese-D	mg/L	--	0.03	0.05	0.04		<0.01	0.02		0.02		0.02
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001		<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05		<0.05
Selenium-D	mg/L	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	<0.001
Thallium-D	mg/L	--	<0.001	<0.001	<0.001		<0.001	<0.001		<0.1		<0.001
Uranium-D	mg/L	--	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0003	<0.0003	0.0005	<0.0003	0.0112
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01		<0.01	<0.01		0.01		<0.01
Antimony-T	mg/L	--	0				0			0		0
Beryllium-T	mg/L	--	0				0			0		0
Iron-T	mg/L	--	0.15	0.31	0.31		1.11	1.06		6.33		0.05
Manganese-T	mg/L	--	0.04	0.05	0.05		0.02	0.03		0.1		0.03
Thallium-T	mg/L											
Gross Alpha - minus U - Calculated	mg/L	15	1.3	-1.0	0.1		0.5	<-0.3		-1.14		73.02
Gross Alpha - Unadjusted	pCi/L	--	1.3	-1	0.1		0.5	<-0.3		-0.8		80.6
Gross Alpha precision (±)	pCi/L	--	1.1	1.2	1.3		1.2	1.1		1.4		3.4
Gross Alpha MDC	pCi/L	--	1.8	2.1	2.1		2	1.8		2.4		2.3
Gross Beta	pCi/L	--	3.2	2.4	1.8		2.3	<1.2		1.4		16.9
Gross Beta precision (±)	pCi/L	--	1.6	1.6	1.6		1.6	1.6		1.9		2
Gross Beta MDC	pCi/L	--	2.5	2.7	2.6		2.6	2.7		3.1		2.7
Radium 226	pCi/L	--	0.37	0.04	0.06		0.39	0.2		-0.1		21
Radium 226 precision (±)	pCi/L	--	0.12	0.1	0.11		0.14	0.13		0.1		0.85
Radium 226 MDC	pCi/L	--	0.11	0.17	0.18		0.13	0.17		0.22		0.13
Radium 228	pCi/L	--	-0.04	0.2	0.7		0.6	<0.5		4.9		0.9
Radium 228 precision (±)	pCi/L	--	0.5	0.6	0.7		0.7	0.8		1.1		0.7
Radium 228 MDC	pCi/L	--	0.9	1	1.1		1.1	1.3		1.5		1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	0.41	0.24	0.76		0.99	0.2		5		21.9

* Duplicate sample

Table 6
C-Wellfield New
Well Water Quality Data

CBG-1-2* 6/12/12 C12060482-003 100	CBG-1 8/28/2012 C12081183-004 100	CBG-1 10/10/2012 C12100498-005 100	CBG-2 6/12/12 C12060482-001 110	CBG-2 8/29/2012 C12081233-002 110	CBG-2 10/10/2012 C12100498-006 110	CBG-2* 10/10/2012 C12100498-007 110	CBG-3 6/13/12 C12060643-001 120	CBG-3 8/29/2012 C12081233-003 120	CBG-3 10/9/2012 C12100498-004 130	CBG-4 6/13/12 C12060643-002 140	CBG-4 8/29/2012 C12081233-004 140
0	164		0	137			115	155		234	239
<5	<5		<5	<5			<5	<5		<5	<5
191	198	198	162	167	168	166	140	182	210	285	291
51	60		34	36			36	42		63	59
4	5	4	4	4	4	6	5	5	4	4	4
0.2	0.2		0.3	0.3			0.3	0.3		0.3	0.3
10	10		6	6			5	6		12	11
<0.05	<0.05		<0.05	<0.05			<0.05	<0.05		<0.05	<0.05
<0.1	<0.1		<0.1	<0.1			<0.1	<0.1		1.7	1.8
5	6		4	4			5	5		6	6
13.4	14.8		11.6	11.4			10.7	9.2		18.3	16.5
98	106		82	86			74	94		56	55
234	244		167	169			142	181		82	81
0.802	0.818	0.776	0.632	0.622	0.585		0.543	0.683	0.61	0.603	0.595
7.99	8.07		8.1	8.09			8.44	8.37		7.73	7.75
542	557	546	410	406	415	401	358	455	413	375	385
<0.008	<0.1		<0.1	<0.1			<0.1	<0.1		<0.1	<0.1
<0.001	<0.001		<0.001	<0.001			<0.001	<0.001		<0.001	<0.001
<0.001	0.001		<0.001	<0.001			<0.001	<0.001		<0.001	<0.001
<0.1	<0.1		<0.1	<0.1			<0.1	<0.1		<0.1	<0.1
<0.01	<0.001		<0.001	<0.001			<0.01	<0.001		<0.001	<0.001
<0.1	<0.1		<0.1	<0.1			<0.1	<0.1		<0.1	<0.1
<0.005	<0.005		<0.005	<0.005			<0.005	<0.005		<0.005	<0.005
<0.05	<0.05		<0.05	<0.05			<0.05	<0.05		<0.05	<0.05
<0.01	<0.01		<0.01	<0.01			<0.01	<0.01		<0.01	<0.01
0.04	0.03		<0.03	<0.03			<0.03	<0.03		<0.03	<0.03
<0.001	<0.001		<0.001	<0.001			<0.001	<0.001		<0.001	<0.001
0.02	0.02		0.04	0.04			0.01	0.01		0.02	<0.01
<0.001	<0.001		<0.001	<0.001			<0.001	<0.001		<0.001	<0.001
<0.1	<0.1		<0.1	<0.1			<0.1	<0.1		<0.1	<0.1
<0.05	<0.05		<0.05	<0.05			<0.05	<0.05		<0.05	<0.05
<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.025	0.024
<0.001	<0.001		<0.001	<0.001			<0.001	<0.001		<0.001	<0.001
0.0111	0.0143	0.0124	0.0003	0.0004	0.0003	0.0003	<0.0003	0.0003	0.0008	0.0347	0.0357
<0.1	<0.1		<0.1	<0.1			<0.1	<0.1		<0.1	<0.1
<0.01	<0.01		<0.01	<0.01			0.01	<0.01		<0.01	<0.01
0			0				0			0	
0			0				0			0	
0.05	0.48		0.03	<0.03			<0.03	0.06		<0.03	<0.03
0.02	0.03		0.04	0.04			0.01	0.02		0.02	<0.01
64.89	109.32		2.10	<0.5			1.00	<0.9		-0.69	3.23
72.4	119		2.3	<0.5			1	<0.9		22.8	27.4
3.2	4.1		1.6	1			1	1.1		2	2.1
2.1	2		2.5	1.7			1.7	1.8		1.9	1.8
17.4	40.6		4.6	<0.4			2.8	3.6		9.5	8.8
1.9	2.3		1.7	1.7			1.6	1.6		1.8	1.8
2.5	2.6		2.8	2.9			2.7	2.7		2.7	2.7
19	20		0.45	0.68			0.06	0.28		0.13	0.48
0.81	0.94		0.13	0.18			0.09	0.12		0.1	0.17
0.12	0.17		0.11	0.16			0.13	0.13		0.13	0.18
0.9	<0.6		-0.05	<2.4			0.2	<0.08		0.8	<0.9
0.6	0.8		0.5	1.8			0.6	1.4		0.6	1.9
1	1.2		0.9	2.7			1.1	2.3		1	3.1
19.9	20		0.5	0.68			0.26	0.28		0.93	0.48

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID		WYDEQ	E4-3	E4-3	E4-5	E4-5	E4-6	E4-6	E4-7	E4-7	E4-7
Sample Date/Time		Class III	7/27/2012	10/22/2012	7/27/2012	10/22/2012	7/24/2012	10/22/2012	6/22/12 11:20	8/30/2012	10/12/2012
Job Number		Livestock	C12070995-006	C12100906-001	C12070995-005	C12100906-002	C12070840-004	C12100906-003	C12060984-005	C12081293-003	C12100579-003
HSU		Standard	140	140	140	140	140	140	140	140	140
Alkalinity, Total as CaCO3	mg/L	--	255	270	243	249	233	239	246	250	
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	
Bicarbonate as HCO3	mg/L	--	311	329	296	304	284	292	300	305	308
Calcium	mg/L	--	78	74	78	79	64	68	73	75	
Chloride	mg/L	2000	9	9	25	25	8	8	9	9	9
Fluoride	mg/L	--	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.2	
Magnesium	mg/L	--	16	16	16	15	13	14	15	15	
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.8	1.8	1.9	1.9	1.5	1.5	2.2	2.1	
Potassium	mg/L	--	6	6	6	6	5	6	6	7	
Silica	mg/L	--	20	19.6	19.2	18.4	16.9	19	16.9	19.6	
Sodium	mg/L	--	61	59	68	69	62	64	60	56	
Sulfate	mg/L	3000	98	93	111	105	98	97	100	100	
Conductivity @ 25 C	mmhos/cm	--	0.695	0.68	0.72	0.742	0.658	0.656	0.69	0.676	0.587
pH	s.u.	6.5-8.5	7.63	7.56	7.6	7.64	7.56	7.67	7.63	7.69	
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	430	411	496	465	418	406	445	428	424
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Manganese-D	mg/L	--	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
Selenium-D	mg/L	0.05	0.089	0.075	0.169	0.16	0.076	0.064	0.088	0.088	0.083
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Uranium-D	mg/L	--	0.0693	0.0635	0.122	0.126	0.0531	0.0504	0.0832	0.0858	0.0785
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Zinc-D	mg/L	25	0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	
Antimony-T	mg/L	--							<0.001		
Beryllium-T	mg/L	--							<0.001		
Iron-T	mg/L	--	0.03	0.05	15.1	1.39	<0.03	<0.03	<0.03	0.06	
Manganese-T	mg/L	--	<0.01	<0.01	0.13	0.01	<0.01	<0.01	<0.01	<0.01	
Thallium-T	mg/L	--							<0.001		
Gross Alpha - minus U - Calculated	pCi/L	15	-0.22	-6.99	22.41	-15.20	-7.05	-4.82	7.67	-8.19	
Gross Alpha - Unadjusted	pCi/L	--	46.7	36	105	70.1	28.9	29.3	64	49.9	
Gross Alpha precision (±)	pCi/L	--	3	2.5	4.6	3.5	2.1	2.3	3.3	2.9	
Gross Alpha MDC	pCi/L	--	1.5	2	1.9	2.1	1.7	2	2.3	2	
Gross Beta	pCi/L	--	17.4	12.6	30.4	20.2	7.2	11.6	14.7	19.7	
Gross Beta precision (±)	pCi/L	--	1.9	1.9	2.7	2.3	1.9	1.8	2	2.1	
Gross Beta MDC	pCi/L	--	2.6	2.7	3.5	3.2	2.8	2.7	2.8	2.9	
Radium 226	pCi/L	--	0.3	0.39	0.32	0.2	0.46	0.5	0.14	0.41	
Radium 226 precision (±)	pCi/L	--	0.15	0.2	0.14	0.15	0.15	0.22	0.13	0.14	
Radium 226 MDC	pCi/L	--	0.17	0.24	0.16	0.2	0.14	0.25	0.18	0.14	
Radium 228	pCi/L	--	<1	2.9	<1.1	2.3	1.2	1.6	1.2	<0.6	
Radium 228 precision (±)	pCi/L	--	0.8	1.4	0.8	1.2	0.7	1.4	0.8	0.7	
Radium 228 MDC	pCi/L	--	1.3	2.1	1.2	1.8	1	2.2	1.2	1.2	
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	0.3	3.29	0.32	2.5	1.66	2.1	1.34	0.41	

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID		WYDEQ	E5-1	E5-1	E5-2	E5-2	E5-3	E5-3	E5-3	E5-4	E5-4
Sample Date/Time		Class III	8/1/2012	10/23/2012	8/3/2012	10/25/2012	6/22/12 14:00	8/30/2012	10/25/2012	7/25/2012	10/22/2012
Job Number		Livestock	C12080049-001	C12100957-001	C12080142-002	C12101066-001	C12060984-006	C12081293-007	C12101066-002	C12070893-001	C12100906-005
HSU		Standard	140	140	140	140	140	140	140	140	140
Alkalinity, Total as CaCO3	mg/L	--	310	314	266	283	238	241		208	214
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5		<5	<5
Bicarbonate as HCO3	mg/L	--	378	383	325	345	290	294	293	254	261
Calcium	mg/L	--	139	136	127	130	68	75		51	56
Chloride	mg/L	2000	49	53	46	45	20	22	22	8	8
Fluoride	mg/L	--	0.2	0.2	0.2	0.2	0.3	0.3		0.3	0.3
Magnesium	mg/L	--	27	25	23	24	13	14		9	10
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.8	1.7	2	2	1.8	1.6		3.3	1.7
Potassium	mg/L	--	8	8	8	8	6	6		5	6
Silica	mg/L	--	18.5	17.8	17.3	16.6	15.8	18.1		15.2	18.2
Sodium	mg/L	--	75	65	70	65	60	57		53	54
Sulfate	mg/L	3000	228	214	249	241	83	92		61	61
Conductivity @ 25 C	mmhos/cm	--	1.09	1.12	1.07	1.06	0.678	0.68		0.567	0.546
pH	s.u.	6.5-8.5	7.44	7.37	7.49	7.43	7.68	7.8		7.74	7.76
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	725	747	747	722	415	415	416	328	325
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
Iron-D	mg/L	--	0.04	<0.03	<0.03	0.03	<0.03	<0.03		<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
Manganese-D	mg/L	--	0.02	0.02	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05	<0.05
Selenium-D	mg/L	0.05	1.13	1.15	0.6	0.665	0.149	0.148	0.144	0.047	0.039
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
Uranium-D	mg/L	--	0.434	0.353	0.319	0.296	0.0439	0.0473	0.0475	0.0266	0.0284
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01	<0.01
Antimony-T	mg/L	--					<0.001				
Beryllium-T	mg/L	--					<0.001				
Iron-T	mg/L	--	0.09	3.72	<0.03	0.04	<0.03	0.13		<0.03	<0.03
Manganese-T	mg/L	--	0.02	0.05	<0.01	<0.01	<0.01	0.01		<0.01	<0.01
Thallium-T	mg/L	--					<0.001				
Gross Alpha - minus U - Calculated	pCi/L	15	-48.82	-35.98	10.04	-39.39	1.28	12.18		5.79	0.37
Gross Alpha - Unadjusted	pCi/L	--	245	203	226	161	31	44.2		23.8	19.6
Gross Alpha precision (±)	pCi/L	--	7.4	9.4	6.8	5.7	2.4	2.8		2.2	1.9
Gross Alpha MDC	pCi/L	--	3.4	6.4	3.1	2.9	2.2	2		2.4	1.8
Gross Beta	pCi/L	--	69	89.2	51.9	60.7	9.8	13		10.6	5.9
Gross Beta precision (±)	pCi/L	--	4.2	7.7	3.8	3.5	1.8	2.2		1.8	1.7
Gross Beta MDC	pCi/L	--	4.9	10	4.5	4	2.7	3.2		2.6	2.7
Radium 226	pCi/L	--	10	7.3	0.73	0.48	0.44	0.64		0.15	0.14
Radium 226 precision (±)	pCi/L	--	0.63	0.62	0.25	0.16	0.17	0.19		0.11	0.16
Radium 226 MDC	pCi/L	--	0.15	0.21	0.25	0.16	0.19	0.18		0.14	0.24
Radium 228	pCi/L	--	1.2	0.9	1.1	1.7	1.5	<-0.5		<0.7	1.5
Radium 228 precision (±)	pCi/L	--	0.7	1.4	1	0.8	0.8	1.1		0.8	1.4
Radium 228 MDC	pCi/L	--	1	2.3	1.6	1.2	1.3	1.8		1.2	2.1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	11.2	8.2	1.83	2.18	1.94	0.64	0	0.15	1.64

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E6-1 7/25/2012 C12070893-004 140	E6-1 10/26/2012 C12101137-003 140	E6-2 7/17/2012 C12070564-002 140	E6-2 10/11/2012 C12100554-005 140	E6-4 7/17/2012 C12070564-003 140	E6-4 10/11/2012 C12100554-009 140	E6-5 7/25/2012 C12070893-002 140	E6-5 10/23/2012 C12100957-003 140	E6-6 7/27/2012 C12070995-001 140
Alkalinity, Total as CaCO3	mg/L	--	232	244	394	406	300	315	206	220	135
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	283	297	481	495	366	384	252	268	164
Calcium	mg/L	--	106	128	228	232	140	146	58	58	102
Chloride	mg/L	2000	27	32	98	94	65	65	4	4	13
Fluoride	mg/L	--	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Magnesium	mg/L	--	20	23	42	43	25	26	11	11	17
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.2	2.3	2	1.8	2.4	2.3	3.2	1.6	0.6
Potassium	mg/L	--	7	7	11	10	9	8	5	5	8
Silica	mg/L	--	16.9	15.9	19.6	19	17.9	17.2	16.2	15.4	13.4
Sodium	mg/L	--	62	66	65	67	64	70	55	52	86
Sulfate	mg/L	3000	189	216	384	371	227	218	92	93	330
Conductivity @ 25 C	mmhos/cm	--	0.933	0.968	1.42	1.55	1.14	1.1	0.614	0.591	0.89
pH	s.u.	6.5-8.5	7.56	7.61	7.15	7.11	7.37	7.2	7.74	7.7	7.8
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	592	656	1140	1160	782	789	368	371	670
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	0.05	<0.03	<0.03	<0.03	<0.03	0.38
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Manganese-D	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.276	0.294	3.24	3.26	0.624	0.663	0.03	0.026	0.022
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.141	0.164	1.16	1.15	0.269	0.272	0.0514	0.05	0.0157
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	0.01	<0.01	0.06	0.09	<0.01	<0.01	0.01
Antimony-T	mg/L	--									
Beryllium-T	mg/L	--									
Iron-T	mg/L	--	<0.03	<0.03	0.12	0.18	<0.03	0.07	0.15	0.05	3.37
Manganese-T	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03
Thallium-T	mg/L	--									
Gross Alpha - minus U - Calculated	pCi/L	15	0.34	-6.03	-43.32	29.45	15.89	-36.14	0.00	-7.65	12.27
Gross Alpha - Unadjusted	pCi/L	--	95.8	105	742	808	198	148	34.8	26.2	22.9
Gross Alpha precision (±)	pCi/L	--	4.6	4.9	20.4	22	7.1	8.8	2.2	2.1	2.5
Gross Alpha MDC	pCi/L	--	3.7	2	7.7	9	4.3	6.6	1.7	1.8	2.7
Gross Beta	pCi/L	--	27.3	56.4	85.5	169	27.3	34.9	9.9	15	7.2
Gross Beta precision (±)	pCi/L	--	2.8	2.9	12.7	13.7	3.7	8.4	1.9	1.9	2.1
Gross Beta MDC	pCi/L	--	3.7	3.3	16.4	16	5	12.5	2.8	2.6	3.2
Radium 226	pCi/L	--	0.51	0.33	1.4	0.97	0.98	1.3	0.38	0.35	0.34
Radium 226 precision (±)	pCi/L	--	0.16	0.18	0.26	0.2	0.23	0.25	0.14	0.19	0.15
Radium 226 MDC	pCi/L	--	0.14	0.21	0.19	0.14	0.19	0.16	0.15	0.23	0.17
Radium 228	pCi/L	--	<0.3	1.7	0.5	2.4	1.5	3.3	<0.4	0.03	2.5
Radium 228 precision (±)	pCi/L	--	0.7	1.3	0.7	0.9	0.8	1.1	0.8	1.5	0.9
Radium 228 MDC	pCi/L	--	1.2	2.1	1.2	1.3	1.2	1.5	1.2	2.5	1.3
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	0.51	2.03	1.9	3.37	2.48	4.6	0.38	0.38	2.84

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E6-6* 7/27/2012 C12070995-003 140	E6-6 10/23/2012 C12100957-002 140	E6-7 7/27/2012 C12070995-002 140	E6-7 10/23/2012 C12100957-004 140	E6-7* 10/23/2012 C12100957-005 140	E6-8 8/1/2012 C12080049-002 120	E6-8 10/26/2012 C12101137-001 120	E6-8 * 10/26/2012 C12101137-002 120	E7-1 7/17/2012 C12070564-004 140
Alkalinity, Total as CaCO3	mg/L	--	134	133	197	203	203	171	180	172	289
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	164	163	241	248	247	209	220	210	352
Calcium	mg/L	--	102	99	56	57	59	57	64	65	114
Chloride	mg/L	2000	13	13	3	3	3	32	31	31	13
Fluoride	mg/L	--	0.3	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.2
Magnesium	mg/L	--	17	16	10	10	10	8	9	9	20
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	0.6	0.5	1.7	1.7	1.7	<0.1	<0.1	<0.1	2.3
Potassium	mg/L	--	8	7	6	6	6	6	6	6	8
Silica	mg/L	--	12	9.3	15.2	15.1	15.1	10.7	10.5	10.1	18.8
Sodium	mg/L	--	86	80	36	36	37	91	96	95	61
Sulfate	mg/L	3000	329	334	68	66	67	181	166	162	187
Conductivity @ 25 C	mmhos/cm	--	0.9	0.948	0.5	0.52	0.521	0.761	0.753	0.753	0.913
pH	s.u.	6.5-8.5	7.8	7.61	7.8	7.7	7.67	8.03	8.05	8.04	7.43
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	685	673	316	318	313	494	483	481	617
Aluminum-D	mg/L	5	0.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	0.15	<0.03	<0.03	<0.03	<0.03	0.16	0.16	0.15	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	0.06	0.06	0.04
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.024	0.027	0.01	0.01	0.01	0.001	<0.001	<0.001	0.412
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0155	0.0197	0.0276	0.0278	0.0283	0.0005	<0.0003	<0.0003	0.128
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Antimony-T	mg/L	--									
Beryllium-T	mg/L	--									
Iron-T	mg/L	--	22.6	3.74	<0.03	<0.03	<0.03	0.45	0.23	0.23	<0.03
Manganese-T	mg/L	--	0.27	0.05	<0.01	<0.01	<0.01	0.06	0.06	0.06	0.04
Thallium-T	mg/L	--									
Gross Alpha - minus U - Calculated	pCi/L	15	10.31	6.66	8.71	-4.22	-1.76	-0.29	9.60	7.70	28.34
Gross Alpha - Unadjusted	pCi/L	--	20.8	20	27.4	14.6	17.4	0.05	9.6	7.7	115
Gross Alpha precision (±)	pCi/L	--	2.2	2.2	2.2	1.7	1.7	1.4	1.7	1.6	5.2
Gross Alpha MDC	pCi/L	--	1.8	2.2	2	1.7	1.7	2.3	1.7	1.8	4.1
Gross Beta	pCi/L	--	8.2	8.7	8.4	9.7	11.9	3.7	7.1	7.1	16.2
Gross Beta precision (±)	pCi/L	--	1.9	2	1.8	1.8	1.8	1.7	1.6	1.6	2.9
Gross Beta MDC	pCi/L	--	2.8	3.1	2.7	2.7	2.7	2.7	2.5	2.5	4.1
Radium 226	pCi/L	--	<0.15	0.49	0.2	0.48	0.46	0.73	0.61	0.55	2.1
Radium 226 precision (±)	pCi/L	--	0.12	0.2	0.13	0.21	0.24	0.18	0.22	0.24	0.29
Radium 226 MDC	pCi/L	--	0.16	0.22	0.17	0.24	0.29	0.15	0.22	0.27	0.17
Radium 228	pCi/L	--	<1	1	2.6	0.9	1.9	0.7	1.8	2.6	1.3
Radium 228 precision (±)	pCi/L	--	0.8	1.4	0.9	1.6	1.9	0.6	1.4	1.7	0.7
Radium 228 MDC	pCi/L	--	1.2	2.3	1.3	2.6	3.1	1	2.2	2.6	1.1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	<1	1.49	2.8	1.38	2.36	1.43	2.41	3.15	3.4

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E7-1 10/11/2012 C12100554-010 140	E7-2 7/25/2012 C12070893-003 140	E7-2 10/30/2012 C12101202-001 140	E7-6 7/30/2012 C12071021-001 140	E7-6 10/24/2012 C12101013-003 140	E8-1 7/30/2012 C12071021-002 140	E8-1 10/24/2012 C12101013-002 140	E8-2 8/10/2012 C12080505-002 140	E8-2 10/10/2012 C12100498-009 140
Alkalinity, Total as CaCO3	mg/L	--	296	214	228	297	281	204	210	203	213
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	361	261	278	363	342	249	256	248	260
Calcium	mg/L	--	107	64	71	162	148	62	61	54	55
Chloride	mg/L	2000	13	15	16	59	55	5	5	3	3
Fluoride	mg/L	--	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Magnesium	mg/L	--	19	12	12	26	23	11	10	10	11
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	0.45	0.4	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	2.2	1.7	3.3	1.6	1.2	1.2	1.1	1.2	1.3
Potassium	mg/L	--	7	6	6	9	8	8	7	6	6
Silica	mg/L	--	16.7	16.7	16.3	14.7	13.8	16.2	16	15.1	15.7
Sodium	mg/L	--	59	53	55	64	62	41	38	30	32
Sulfate	mg/L	3000	171	75	77	284	274	80	76	42	41
Conductivity @ 25 C	mmhos/cm	--	0.88	0.644	0.62	1.23	1.15	0.563	0.554	0.481	0.471
pH	s.u.	6.5-8.5	7.4	7.68	7.7	7.46	7.57	7.63	7.67	7.76	7.86
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	618	379	385	833	790	351	345	301	295
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	0.1	0.08	<0.03	<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.02	<0.01	<0.01	0.79	0.72	<0.01	<0.01	0.01	<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.408	0.098	0.095	0.732	0.557	0.119	0.144	0.016	0.012
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.127	0.0482	0.0489	0.115	0.0915	0.0686	0.0623	0.0284	0.0279
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01
Antimony-T	mg/L	--									
Beryllium-T	mg/L	--									
Iron-T	mg/L	--	<0.03	<0.03	<0.03	0.28	0.66	0.08	0.04	3.48	0.68
Manganese-T	mg/L	--	0.02	<0.01	<0.01	0.87	0.72	<0.01	<0.01	0.08	0.02
Thallium-T	mg/L	--									
Gross Alpha - minus U - Calculated	pCi/L	15	-24.08	5.67	9.49	47.15	19.25	7.96	-5.58	-4.03	3.51
Gross Alpha - Unadjusted	pCi/L	--	61.9	38.3	42.6	125	81.2	54.4	36.6	15.2	22.4
Gross Alpha precision (±)	pCi/L	--	3.4	2.6	2.6	6.1	7.1	2.9	2.5	1.7	1.8
Gross Alpha MDC	pCi/L	--	2.3	2.3	1.5	3.2	5.5	1.2	1.6	1.9	1.6
Gross Beta	pCi/L	--	21.9	13.8	17.5	20.4	28.8	14.4	18.1	7.8	7.8
Gross Beta precision (±)	pCi/L	--	2.8	1.9	1.8	3.7	7	1.8	1.8	1.7	2.5
Gross Beta MDC	pCi/L	--	3.9	2.7	2.5	5.2	10.7	2.5	2.5	2.6	3.9
Radium 226	pCi/L	--	2	0.43	0.22	0.88	1.6	0.41	0.66	0.78	0.49
Radium 226 precision (±)	pCi/L	--	0.29	0.15	0.12	0.21	0.28	0.16	0.21	0.28	0.15
Radium 226 MDC	pCi/L	--	0.16	0.15	0.15	0.16	0.19	0.16	0.2	0.29	0.14
Radium 228	pCi/L	--	1.7	1.4	1.8	2	1.5	0.5	2.4	0.2	-0.4
Radium 228 precision (±)	pCi/L	--	1	0.8	0.7	0.9	1	0.8	1.1	1.2	0.8
Radium 228 MDC	pCi/L	--	1.5	1.2	1	1.3	1.5	1.3	1.6	1.9	1.3
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	3.7	1.83	2.02	2.88	3.1	0.91	3.06	0.98	0.09

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E9-2 7/26/2012 C12070944-002 140	E9-2 10/18/2012 C12100826-002 140	E9-3 7/26/2012 C12070944-001 140	E9-3 10/30/2012 C12101202-002 140	E9-4 7/27/2012 C12070995-004 140	E9-4 10/18/2012 C12100826-003 140	E9-5 8/10/2012 C12080505-001 140	E9-5 10/11/2012 C12100554-008 140	E9-6 8/13/2012 C12080546-001 140
Alkalinity, Total as CaCO3	mg/L	--	208	203	201	205	182	182	244	257	230
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	13
Bicarbonate as HCO3	mg/L	--	254	248	245	250	222	222	298	313	254
Calcium	mg/L	--	73	74	64	71	60	56	112	113	77
Chloride	mg/L	2000	5	4	3	3	3	3	16	15	5
Fluoride	mg/L	--	0.2	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.3
Magnesium	mg/L	--	13	13	11	12	10	10	19	20	13
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1	1	1.4	1.3	1.4	1.4	0.9	1.2	1.8
Potassium	mg/L	--	7	7	6	6	6	6	8	8	7
Silica	mg/L	--	15.2	15.8	16	16.4	17.2	16.8	16.4	16.8	16.4
Sodium	mg/L	--	33	29	27	27	33	31	31	34	31
Sulfate	mg/L	3000	94	93	62	61	68	64	163	155	87
Conductivity @ 25 C	mmhos/cm	--	0.578	0.567	0.509	0.5	0.46	0.47	0.815	0.78	0 6
pH	s.u.	6.5-8.5	7.67	7.71	7.81	7.8	7.8	7.87	7.62	7.6	7.7
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	361	358	311	319	291	285	557	523	405
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	0.011	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.02	0.014	0.006	0.006	0.007	0.007	0.557	0.367	0.046
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0412	0.0405	0.0292	0.0294	0.0165	0.0179	0.647	0.844	0.0529
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--									
Beryllium-T	mg/L	--									
Iron-T	mg/L	--	0.04	<0.03	<0.03	<0.03	0.19	0.04	2.29	89.8	31.7
Manganese-T	mg/L	--	0.02	0.03	<0.01	<0.01	<0.01	<0.01	0.02	0.63	0.23
Thallium-T	mg/L	--									
Gross Alpha - minus U - Calculated	pCi/L	15	16.91	-4.92	4.03	2.50	4.83	-1.52	260.98	148.61	10.09
Gross Alpha - Unadjusted	pCi/L	--	44.8	22.5	23.8	22.4	16	10.6	699	720	45.9
Gross Alpha precision (±)	pCi/L	--	2.6	1.9	2.1	2	1.6	1.5	10.4	10.2	2.9
Gross Alpha MDC	pCi/L	--	1.9	1.7	2	1.7	1.3	1.6	2.3	2.7	2.2
Gross Beta	pCi/L	--	12.2	11.7	8.8	13.5	5.8	6.6	105	167	16.9
Gross Beta precision (±)	pCi/L	--	1.9	1.8	1.7	1.7	1.6	1.7	4	4.6	2.3
Gross Beta MDC	pCi/L	--	2.6	2.6	2.6	2.4	2.5	2.7	3.2	3.3	3.2
Radium 226	pCi/L	--	2.4	3.9	0.32	0.39	<-0.005	0.22	198	134	1.1
Radium 226 precision (±)	pCi/L	--	0.34	0.5	0.16	0.16	0.1	0.18	3	2.2	0.24
Radium 226 MDC	pCi/L	--	0.19	0.25	0.2	0.16	0.18	0.24	0.2	0.14	0.18
Radium 228	pCi/L	--	1.9	1.3	<1	1.5	3.2	-1	0.8	2.3	0.7
Radium 228 precision (±)	pCi/L	--	0.8	1.1	0.8	0.8	1	0.9	0.9	0.9	0.9
Radium 228 MDC	pCi/L	--	1.2	1.8	1.2	1.2	1.3	1.7	1.4	1.3	1.4
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	4.3	5.2	0.32	1.89	3.2	-0.78	198.8	136.3	1.8

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E9-6 10/23/2012 C12100957-006 140	E10-1 7/26/2012 C12070944-003 140	E10-1 10/18/2012 C12100826-001 140	E10-2 7/18/2012 C12070620-001 140	E10-2 10/18/2012 C12100826-004 140	E10-3 7/30/2012 C12071021-003 140	E10-3* 10/19/2012 C12100864-001 140	E10-4 7/19/2012 C12070681-003 140	E10-4 10/19/2012 C12100864-009 140
Alkalinity, Total as CaCO3	mg/L	--	219	175	178	176	182	183	182	291	293
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	267	213	217	215	222	224	222	354	357
Calcium	mg/L	--	76	57	59	67	66	57	55	156	145
Chloride	mg/L	2000	5	3	3	4	3	3	3	43	39
Fluoride	mg/L	--	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.1	0.2
Magnesium	mg/L	--	13	10	10	11	11	9	9	27	26
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.23	0.1
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.8	2.4	4	2.5	2.4	2.4	2.5	1	1
Potassium	mg/L	--	7	6	6	7	6	7	5	10	8
Silica	mg/L	--	17.2	16.4	17.5	17.2	15.7	15.7	15.5	17.5	16.9
Sodium	mg/L	--	32	32	30	44	37	44	40	50	47
Sulfate	mg/L	3000	82	70	66	99	98	81	81	288	268
Conductivity @ 25 C	mmhos/cm	--	0.586	0.492	0.482	0.556	0.553	0.521	0.513	1.12	1.08
pH	s.u.	6.5-8.5	7.62	7.7	7.7	7.71	7.61	7.82	7.92	7.41	7.44
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	369	311	302	356	353	322	312	792	767
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	0.1	<0.03	<0.03	0.65	0.39
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.01	<0.01	<0.01	0.03	0.02	<0.01	<0.01	0.68	0.37
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.043	0.048	0.034	0.034	0.035	0.022	0.024	0.273	0.29
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0603	0.0406	0.0363	0.0424	0.0439	0.0258	0.0263	0.388	0.43
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--									
Beryllium-T	mg/L	--									
Iron-T	mg/L	--	0.31	<0.03	<0.03	3.04	6.56	<0.03	0.22	2.63	1.5
Manganese-T	mg/L	--	<0.01	<0.01	<0.01	0.03	0.03	<0.01	<0.01	0.74	0.42
Thallium-T	mg/L	--									
Gross Alpha - minus U - Calculated	pCi/L	15	-11.12	-2.59	-4.38	0.10	-7.82	4.33	-6.01	-49.68	-51.11
Gross Alpha - Unadjusted	pCi/L	--	29.7	24.9	20.2	28.8	21.9	21.8	11.8	213	240
Gross Alpha precision (±)	pCi/L	--	2.3	2.1	1.9	2.1	1.9	1.9	1.5	9.4	7.2
Gross Alpha MDC	pCi/L	--	1.9	1.9	1.9	1.9	1.7	1.3	1.6	5.9	3.7
Gross Beta	pCi/L	--	17.2	9.8	9.3	9.5	11.8	8.2	6.6	32.7	93.1
Gross Beta precision (±)	pCi/L	--	1.9	1.8	1.8	1.8	2	1.6	1.8	10.5	4.1
Gross Beta MDC	pCi/L	--	2.6	2.7	2.6	2.7	2.9	2.5	2.9	15.4	4.3
Radium 226	pCi/L	--	0.67	0.49	0.93	1.3	1.2	0.35	0.09	1.5	0.82
Radium 226 precision (±)	pCi/L	--	0.18	0.17	0.27	0.22	0.3	0.15	0.1	0.21	0.12
Radium 226 MDC	pCi/L	--	0.16	0.18	0.25	0.13	0.25	0.17	0.16	0.1	0.1
Radium 228	pCi/L	--	1.1	<0.9	0.2	1.4	2.6	0.3	0.4	1.4	1.5
Radium 228 precision (±)	pCi/L	--	1.1	0.7	0.9	0.8	1	0.9	1.4	0.7	0.9
Radium 228 MDC	pCi/L	--	1.7	1.1	1.4	1.2	1.5	1.6	2.3	1.1	1.4
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.77	0.49	1.13	2.7	3.8	0.65	0.49	2.9	2.32

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E10-5 7/30/2012 C12071021-004 140	E10-5 10/19/2012 C12100864-007 140	E10-6 7/31/2012 C12080001-005 140	E10-6* 10/19/2012 C12100864-002 140	E10-6 10/19/2012 C12100864-003 140	E10-7 7/31/2012 C12080001-003 140	E10-7 10/30/2012 C12101202-003 140	E14-2 8/23/2012 C12081030-003 146	E14-2 10/17/2012 C12100755-002 146
Alkalinity, Total as CaCO3	mg/L	--	407	442	199	206	206	228	234	275	277
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	497	540	243	251	252	278	285	336	337
Calcium	mg/L	--	210	208	78	85	86	83	91	235	247
Chloride	mg/L	2000	107	104	5	5	5	4	4	85	91
Fluoride	mg/L	--	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
Magnesium	mg/L	--	34	34	14	15	15	16	16	42	42
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	0.8	1.1	2	1.9	1.5	1.3	1.2	18	21
Potassium	mg/L	--	11	10	7	7	7	6	6	12	11
Silica	mg/L	--	20.6	20.2	14.7	16.2	15.9	12.1	12.5	7.9	8.9
Sodium	mg/L	--	76	68	44	41	41	31	32	170	152
Sulfate	mg/L	3000	277	259	139	131	129	112	105	627	653
Conductivity @ 25 C	mmhos/cm	--	1.48	1.48	0.654	0.642	0.645	0.644	0.63	1.98	2.01
pH	s.u.	6.5-8.5	7.08	7.15	7.71	7.81	7.77	7.57	7.5	7.72	7.66
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	994	1040	411	417	422	396	404	1490	1530
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.996	1.12	0.046	0.048	0.045	0.01	0.01	0.525	0.614
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.185	0.207	0.0306	0.0291	0.0276	0.0426	0.0416	0.207	0.214
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--									
Beryllium-T	mg/L	--									
Iron-T	mg/L	--	<0.03	<0.03	<0.03	<0.03	0.04	<0.03	0.03	0.11	41.5
Manganese-T	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.78
Thallium-T	mg/L	--									
Gross Alpha - minus U - Calculated	pCi/L	15	30.76	-0.14	4.48	5.50	-2.29	5.96	-0.86	33.86	58.12
Gross Alpha - Unadjusted	pCi/L	--	156	140	25.2	25.2	16.4	34.8	27.3	174	203
Gross Alpha precision (±)	pCi/L	--	9.8	10.1	2.3	2.1	1.7	2.4	2.2	19.2	9.9
Gross Alpha MDC	pCi/L	--	5.9	9.4	1.7	1.9	1.7	1.4	1.6	20.4	7
Gross Beta	pCi/L	--	34.5	29.8	11.2	6.7	8.8	9.3	16.3	<34.1	33.7
Gross Beta precision (±)	pCi/L	--	7.2	9.6	1.7	1.8	1.9	1.8	1.7	24.5	5.9
Gross Beta MDC	pCi/L	--	10.8	14.8	2.5	2.8	2.8	2.6	2.4	39.4	8.6
Radium 226	pCi/L	--	0.46	0.48	0.37	0.17	0.22	0.28	0.41	1.3	4.5
Radium 226 precision (±)	pCi/L	--	0.16	0.11	0.17	0.12	0.13	0.16	0.14	0.15	0.41
Radium 226 MDC	pCi/L	--	0.16	0.11	0.19	0.17	0.17	0.2	0.14	0.1	0.17
Radium 228	pCi/L	--	0.8	1.7	0.5	2.8	1.8	0.8	1.2	2.5	2
Radium 228 precision (±)	pCi/L	--	1	1.1	1	1.6	1.6	1	0.6	1	0.7
Radium 228 MDC	pCi/L	--	1.5	1.6	1.6	2.4	2.5	1.7	1	1.5	1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.26	2.18	0.87	2.97	2.02	1.08	1.61	3.8	6.5

* Duplicate sample

Table 7
E-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E16-2 7/31/2012 C12080001-001 140	E16-2* 7/31/2012 C12080001-002 140	E16-2 10/26/2012 C12101137-004 140	E17-1 7/31/2012 C12080001-004 140	E17-1 10/19/2012 C12100864-008 140
Alkalinity, Total as CaCO3	mg/L	--	192	191	197	168	168
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	234	233	241	204	206
Calcium	mg/L	--	68	65	73	56	52
Chloride	mg/L	2000	8	8	7	5	5
Fluoride	mg/L	--	0.2	0.2	0.2	0.3	0.3
Magnesium	mg/L	--	14	14	15	10	10
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1	1	1	0.6	0.6
Potassium	mg/L	--	5	5	6	6	5
Silica	mg/L	--	17.1	16.2	15.5	14.8	14.2
Sodium	mg/L	--	58	55	60	49	43
Sulfate	mg/L	3000	152	152	141	116	109
Conductivity @ 25 C	mmhos/cm	--	0.681	0.678	0.675	0.536	0.539
pH	s.u.	6.5-8.5	7.66	7.64	7.7	7.78	7.79
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	422	434	439	339	344
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.052	0.052	0.055	0.028	0.031
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0778	0.0786	0.0757	0.0539	0.0567
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--					
Beryllium-T	mg/L	--					
Iron-T	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03
Manganese-T	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01
Thallium-T	mg/L	--					
Gross Alpha - minus U - Calculated	pCi/L	15	14.53	3.59	-10.55	2.61	-10.49
Gross Alpha - Unadjusted	pCi/L	--	67.2	56.8	40.7	39.1	27.9
Gross Alpha precision (±)	pCi/L	--	3.2	3	2.8	2.4	2
Gross Alpha MDC	pCi/L	--	1.4	1.5	1.6	1.3	1.8
Gross Beta	pCi/L	--	16.3	15	29.1	11.3	9
Gross Beta precision (±)	pCi/L	--	1.7	1.8	1.9	1.7	1.7
Gross Beta MDC	pCi/L	--	2.3	2.5	2.4	2.5	2.4
Radium 226	pCi/L	--	0.23	0.05	0.23	0.15	0.23
Radium 226 precision (±)	pCi/L	--	0.15	0.11	0.17	0.14	0.09
Radium 226 MDC	pCi/L	--	0.2	0.19	0.22	0.2	0.11
Radium 228	pCi/L	--	1.1	2.2	3.2	0.7	0.9
Radium 228 precision (±)	pCi/L	--	1.1	1.1	1.5	1.1	1
Radium 228 MDC	pCi/L	--	1.7	1.6	2.2	1.8	1.6
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.33	2.25	3.43	0.85	1.13

* Duplicate sample

Table 8
E-Wellfield New
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	E9-7 6/7/2012 C12060299-001 110	E9-7-2* 6/7/2012 C12060299-002 110	E9-7 8/24/2012 C12081078-003 110	E9-7 10/11/2012 C12100554-006 110	E9-8 6/7/12 13:45 C12060299-003 120	E9-8 8/24/2012 C12081078-004 120	E9-8 10/11/2012 C12100554-007 120	E9-9 9/4/2012 C12090046-001 140	E9-9 10/11/2012 C12100554-003 140	E9-9 10/25/2012 C12101066-004 140
Alkalinity, Total as CaCO3	mg/L	--	113	115	125		165	164		206		208
Carbonate as CO3	mg/L	--	<5	<5	<5		<5	<5		<5		<5
Bicarbonate as HCO3	mg/L	--	138	140	150	149	201	194	179	251	253	254
Calcium	mg/L	--	26	26	26		26	24		82		79
Chloride	mg/L	2000	4	4	5	5	5	5	5	6	6	6
Fluoride	mg/L	--	0.3	0.3	0.3		0.3	0.3		0.3		0.2
Magnesium	mg/L	--	4	5	4		4	4		14		13
Nitrogen, Ammonia as N	mg/L	--	0.05	0.05	<0.05		<0.05	<0.05		<0.05		<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	<0.1	<0.1		<0.1	<0.1		1.6		1.6
Potassium	mg/L	--	4	4	4		4	4		7		6
Silica	mg/L	--	13.2	13.5	13.7		13.5	14		16.9		15.2
Sodium	mg/L	--	88	89	81		91	82		32		27
Sulfate	mg/L	3000	141	137	135		97	105		123		119
Conductivity @ 25 C	mmhos/cm	--	0.545	0.546	0.547	0.507	0.538	0.526	0.506	0.633	0.321	0.634
pH	s.u.	6.5-8.5	8.55	8.55	8.29		8.15	8.19		7.81		7.8
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	343	338	355	350	327	335	336	417	416	416
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Antimony-D	mg/L	--	0	0	<0.001		0	<0.001		<0.001		<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001		<0.001	<0.001		0.001		<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Beryllium-D	mg/L	--	0	0	<0.001		0	<0.001		<0.001		<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005		<0.005	<0.005		<0.005		<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05		<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01		<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03		<0.03	<0.03		<0.03		<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001		<0.001
Manganese-D	mg/L	--	0.01	0.01	0.02		0.02	0.02		0.02		<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001		<0.001	<0.001		<0.001		<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05		<0.05	<0.05		<0.05		<0.05
Selenium-D	mg/L	0.05	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.013	0.012	0.011
Thallium-D	mg/L	--	0	0	<0.001		0	<0.001		<0.001		<0.001
Uranium-D	mg/L	--	0.0029	<0.0003	0.0003	0.0007	<0.0003	<0.0003	<0.0003	0.0307	0.0325	0.0298
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1		<0.1	<0.1		<0.1		<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01		<0.01	<0.01		<0.01		<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	0.36	0.39	0.04		<0.03	<0.03		2.68		0.1
Manganese-T	mg/L	--	0.01	0.01	0.02		0.02	0.03		0.07		<0.01
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	-1.06	0.9	<-0.5		1	<-1		-2.48		1.73
Gross Alpha - Unadjusted	pCi/L	--	0.9	0.9	<-0.5		1	<-1		18.3		21.9
Gross Alpha precision (±)	pCi/L	--	1.7	1.6	1		1.8	1		1.8		2
Gross Alpha MDC	pCi/L	--	2	0.9	1.8		0.5	1.8		1.8		1.9
Gross Beta	pCi/L	--	1.6	1.5	<1.4		1.6	<1		9.4		10.5
Gross Beta precision (±)	pCi/L	--	2.6	2.5	1.5		2.7	1.6		1.9		1.8
Gross Beta MDC	pCi/L	--	0.07	0.09	2.6		0.2	2.6		2.9		2.8
Radium 226	pCi/L	--	0.13	0.13	0.19		0.15	<0.12		0.28		0.16
Radium 226 precision (±)	pCi/L	--	0.21	0.2	0.14		0.21	0.12		0.15		0.15
Radium 226 MDC	pCi/L	--	1.6	0.2	0.18		1.4	0.17		0.18		0.21
Radium 228	pCi/L	--	1.3	1.2	<0.7		1.3	<0.5		0.6		1.8
Radium 228 precision (±)	pCi/L	--	2	2	0.7		2	0.6		0.7		1
Radium 228 MDC	pCi/L	--	1.67	0.29	1.1		1.6	1		1.2		1.6
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.43	1.33	0.19		1.45	<0.5		0.88		1.96

* Duplicate sample

Table 9
F-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	F1-2 6/26/2012 C12061096-005 140	F1-2 10/31/2012 C12110001-001 140	F1-2* 10/31/2012 C12110001-002 140	F2-1 6/28/2012 C12070005-001 140	F2-1 10/29/2012 C12101163-002 140	F2-2 8/29/2012 C12081233-005 140	F2-2 10/24/2012 C12101013-001 140	F2-3 6/25/2012 C12061096-003 140
Alkalinity, Total as CaCO3	mg/L	--	0	208	208	202	214	251		204
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5		<5
Bicarbonate as HCO3	mg/L	--	248	253	254	246	261	307	322	249
Calcium	mg/L	--	74	82	81	56	60	126		55
Chloride	mg/L	2000	5	7	6	4	4	18	20	3
Fluoride	mg/L	--	0.2	0.2	0.2	0.2	0.2	0.2		0.2
Magnesium	mg/L	--	13	14	14	9	10	21		9
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	2.3	2.3	2.3	1.5	1.5	4.2		1.6
Potassium	mg/L	--	7	7	7	6	6	9		6
Silica	mg/L	--	13.9	14.6	15	15.4	16	16.9		16.6
Sodium	mg/L	--	48	52	52	55	54	31		57
Sulfate	mg/L	3000	128	133	133	78	79	179		82
Conductivity @ 25 C	mmhos/cm	--	0.666	0.663	0.66	0.554	0.553	0.867	0.791	0.569
pH	s.u.	6.5-8.5	7.73	7.64	7.67	7.6	7.62	7.47		7.63
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	456	436	441	366	347	595		372
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Manganese-D	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Selenium-D	mg/L	0.05	0.037	0.047	0.044	0.022	0.024	0.317	0.281	0.029
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Uranium-D	mg/L	--	0.027	0.0374	0.0355	0.0826	0.0863	0.0935	0.0921	0.0633
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
Antimony-T	mg/L	--						0.17		
Beryllium-T	mg/L	--								
Iron-T	mg/L	--	0.08	0.56	0.52	<0.03	<0.03			<0.03
Manganese-T	mg/L	--	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
Thallium-T	mg/L	--								
Gross Alpha - minus U - Calculated	pCi/L	15	4.82	-1.92	-4.93	-3.82	-11.73	10.80		9.35
Gross Alpha - Unadjusted	pCi/L	--	23.1	23.4	19.1	52.1	46.7	74.1		52.2
Gross Alpha precision (±)	pCi/L	--	2.2	2.2	2	2.7	2.8	4		2.9
Gross Alpha MDC	pCi/L	--	2.1	2.2	2.1	1.9	1.7	2.7		2.1
Gross Beta	pCi/L	--	10	11.4	12.4	11.8	26.2	25.3		12.1
Gross Beta precision (±)	pCi/L	--	1.8	1.8	1.8	1.9	1.9	2.7		1.8
Gross Beta MDC	pCi/L	--	2.7	2.7	2.6	2.6	2.4	3.7		2.6
Radium 226	pCi/L	--	0.59	0.71	0.57	0.55	0.47	1		0.46
Radium 226 precision (±)	pCi/L	--	0.16	0.21	0.19	0.15	0.17	0.23		0.15
Radium 226 MDC	pCi/L	--	0.14	0.2	0.2	0.14	0.18	0.18		0.14
Radium 228	pCi/L	--	0.6	1.7	1.6	0.5	-0.1	<2.4		0.3
Radium 228 precision (±)	pCi/L	--	0.6	0.7	0.7	0.6	1.1	1.9		0.6
Radium 228 MDC	pCi/L	--	1	1.1	1.1	0.9	1.9	3		1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	1.19	2.41	2.17	1.05	0.37	1		0.76

* Duplicate sample

Table 9
F-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	F2-3 10/31/2012 C12110001-003 140	F3-1 6/27/2012 C12070005-004 130	F3-1 10/29/2012 C12101163-001 130	F3-2 8/1/2012 C12080049-003 140	F3-2 11/2/2012 C12110118-001 140	F12-2 8/23/2012 C12081030-004 140	F12-2 10/26/2012 C12101137-005 140	F13-1 8/2/2012 C12080089-002 140
Alkalinity, Total as CaCO3	mg/L	--	211	227	230	227	229	525	571	214
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	258	277	281	278	279	640	697	261
Calcium	mg/L	--	59	82	95	67	66	238	286	100
Chloride	mg/L	2000	4	6	6	12	9	112	124	7
Fluoride	mg/L	--	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Magnesium	mg/L	--	10	13	14	11	11	39	45	16
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05	<0.05	0.36	<0.05	<0.1	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.6	1.2	1.2	1.1	1	<0.1	0.1	0.8
Potassium	mg/L	--	6	7	8	6	6	12	13	8
Silica	mg/L	--	16.9	16.7	17.2	15.5	18.2	13.4	13.1	19.1
Sodium	mg/L	--	58	81	91	56	57	151	164	109
Sulfate	mg/L	3000	82	219	221	115	109	463	488	281
Conductivity @ 25 C	mmhos/cm	--	0.558	0.87	0.876	0.674	0.638	2.01	2.14	0.961
pH	s.u.	6.5-8.5	7.68	7.73	7.58	7.49	7.58	7.37	7.47	7.65
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	350	616	589	430	414	1460	1520	669
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	0.13	<0.03	<0.03	0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01	<0.01	0.06	0.02	0.06	0.08	0.04
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.027	0.056	0.067	0.022	0.066	0.358	0.383	0.033
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0656	0.0375	0.0463	0.0772	0.0786	0.137	0.164	0.0504
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Antimony-T	mg/L	--				0.17		0.26		<0.03
Beryllium-T	mg/L	--								
Iron-T	mg/L	--	<0.03	<0.03	<0.03		<0.03		1.47	
Manganese-T	mg/L	--	<0.01	<0.01	<0.01	0.07	0.02	0.07	0.08	0.05
Thallium-T	mg/L	--		0						
Gross Alpha - minus U - Calculated	pCi/L	15	-12.71	13.31	24.65	-0.16	1.19	51.25	26.97	26.68
Gross Alpha - Unadjusted	pCi/L	--	31.7	38.7	56	52.1	54.4	144	138	60.8
Gross Alpha precision (±)	pCi/L	--	2.2	2.9	3.4	3	2.9	9.3	9.7	3.6
Gross Alpha MDC	pCi/L	--	1.8	2.6	2	2.7	2	8.3	6.7	2.9
Gross Beta	pCi/L	--	17	10	17.6	16.3	18.9	31.1	57.7	10.9
Gross Beta precision (±)	pCi/L	--	1.9	2.5	2	2	1.9	7.3	6.5	2.2
Gross Beta MDC	pCi/L	--	2.7	3.9	2.7	2.8	2.6	10.9	9	3.3
Radium 226	pCi/L	--	0.64	-0.05	0.46	0.15	0.54	1.7	0.15	0.44
Radium 226 precision (±)	pCi/L	--	0.21	0.11	0.22	0.11	0.17	0.17	0.19	0.18
Radium 226 MDC	pCi/L	--	0.21	0.22	0.25	0.15	0.17	0.1	0.28	0.2
Radium 228	pCi/L	--	1.9	1.3	1.3	1.6	1.1	2.1	2.3	1.5
Radium 228 precision (±)	pCi/L	--	0.8	0.8	1.6	0.7	0.7	1	1.4	0.7
Radium 228 MDC	pCi/L	--	1.2	1.2	2.6	1	1.1	1.5	2.1	1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	2.54	1.35	1.76	1.75	1.64	3.8	2.45	1.94

* Duplicate sample

Table 9
F-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	F13-1 11/1/2012 C12110079-002 140	F14-1 8/2/2012 C12080089-003 140	F14-1* 08/02/12 C12080089-004 140	F14-1 11/1/2012 C12110079-001 140	F14-3 8/13/2012 C12080546-002 110	F14-3* 41134 C12080546-003 110	F15-1 8/24/2012 C12081078-001 140	F15-1 10/25/2012 C12101066-003 140
Alkalinity, Total as CaCO3	mg/L	--	215	219	221	225	118	118	244	254
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	262	267	269	274	142	144	298	310
Calcium	mg/L	--	92	98	98	92	38	38	113	107
Chloride	mg/L	2000	6	9	9	9	6	6	16	16
Fluoride	mg/L	--	0.2	0.2	0.2	0.2	0.4	0.4	0.2	<0.2
Magnesium	mg/L	--	14	16	16	14	6	5	21	20
Nitrogen, Ammonia as N	mg/L	--		<0.05	<0.05		0.22	0.22	0.06	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	0.9	4.5	4.4	4.4	<0.1	<0.1	0.9	0.8
Potassium	mg/L	--	8	8	8	7	5	5	6	6
Silica	mg/L	--	18.7	17.4	17.5	16.7	11.1	11	13.9	11.4
Sodium	mg/L	--	100	23	23	21	74	70	14	14
Sulfate	mg/L	3000	279	89	90	88	150	149	126	127
Conductivity @ 25 C	mmhos/cm	--	0.948	0.638	0.637	0.622	0.57	0.57	0.742	0.736
pH	s.u.	6.5-8.5	7.79	7.58	7.58	7.69	7.9	7.9	8.06	7.82
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	671	410	411	412	368	367	468	484
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.06	0.01	0.01	<0.01	0.01	0.01	<0.01	0.04
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.034	0.02	0.02	0.019	<0.001	<0.001	0.034	0.034
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0465	0.02	0.0195	0.0184	<0.0003	<0.0003	0.0244	0.0243
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--		<0.03	<0.03		<0.03	<0.03	0.26	
Beryllium-T	mg/L	--								
Iron-T	mg/L	--	0.28			<0.03				7.14
Manganese-T	mg/L	--	0.07	0.01	0.01	<0.01	0.01	0.01	<0.01	0.1
Thallium-T	mg/L	--								
Gross Alpha - minus U - Calculated	pCi/L	15	22.32	1.06	5.10	1.64	-0.20	-1	8.88	10.25
Gross Alpha - Unadjusted	pCi/L	--	53.8	14.6	18.3	14.1	-0.2	-1	25.4	26.7
Gross Alpha precision (±)	pCi/L	--	3.2	1.9	2	1.7	1	1.1	2.4	2.6
Gross Alpha MDC	pCi/L	--	2.4	2.2	2.1	2	1.7	1.9	2.2	2.7
Gross Beta	pCi/L	--	21.1	9.1	7.5	13.2	5	2.5	13.4	12.7
Gross Beta precision (±)	pCi/L	--	2.2	1.9	2	1.8	1.7	1.8	2.2	2.1
Gross Beta MDC	pCi/L	--	3	2.9	3.1	2.6	2.7	3	3.3	3.2
Radium 226	pCi/L	--	0.62	0.54	0.62	0.67	0.43	0.4	0.93	2.2
Radium 226 precision (±)	pCi/L	--	0.2	0.2	0.21	0.19	0.17	0.16	0.22	0.55
Radium 226 MDC	pCi/L	--	0.2	0.22	0.22	0.17	0.18	0.18	0.17	0.45
Radium 228	pCi/L	--	2.3	1.1	2	1.5	0.7	1.1	1	1.6
Radium 228 precision (±)	pCi/L	--	0.8	0.7	0.8	0.6	0.9	0.9	0.7	1.7
Radium 228 MDC	pCi/L	--	1.1	1.1	1.1	0.9	1.5	1.4	1	2.8
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	2.92	1.64	2.62	2.17	1.13	1.5	1.93	3.8

* Duplicate sample

Table 9
F-Wellfield pre-2011
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	F16-1 8/24/2012 C12081078-002 160	F16-1 10/19/2012 C12100864-006 160	F28-1 8/3/12 C12080142-003 130	F28-1 11/1/2012 C12110079-003 130
Alkalinity, Total as CaCO3	mg/L	--	455	423	227	242
Carbonate as CO3	mg/L	--	<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	555	516	276	295
Calcium	mg/L	--	391	314	216	223
Chloride	mg/L	2000	182	168	14	13
Fluoride	mg/L	--	0.1	0.2	0.2	0.2
Magnesium	mg/L	--	84	85	38	37
Nitrogen, Ammonia as N	mg/L	--	0.08	<0.05	<0.05	
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	0.1	0.3	<0.5
Potassium	mg/L	--	17	16	12	12
Silica	mg/L	--	14.2	11.1	19.7	19.3
Sodium	mg/L	--	45	44	83	79
Sulfate	mg/L	3000	730	686	631	609
Conductivity @ 25 C	mmhos/cm	--	2.38	2.23	1.45	1.49
pH	s.u.	6.5-8.5	7.61	7.76	7.49	7.59
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	1850	1660	1190	1190
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	<0.001	<0.001	<0.001	0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03	0.81	0.51
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.02	<0.01	0.26	0.22
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.138	0.406	0.133	0.132
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	1.4	1.89	0.0651	0.0731
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01	0.01	<0.01
Antimony-T	mg/L	--	1.23		0.92	
Beryllium-T	mg/L	--				
Iron-T	mg/L	--		20.8		0.62
Manganese-T	mg/L	--	<0.01	0.11	0.26	0.23
Thallium-T	mg/L	--				
Gross Alpha - minus U - Calculated	pCi/L	15	-12.80	210.47	31.13	31.01
Gross Alpha - Unadjusted	pCi/L	--	935	1490	75.2	80.5
Gross Alpha precision (±)	pCi/L	--	25.9	26.9	5.3	5
Gross Alpha MDC	pCi/L	--	10.2	10.2	5	3.8
Gross Beta	pCi/L	--	358	296	22.8	31.6
Gross Beta precision (±)	pCi/L	--	16.4	12.1	4.1	3.6
Gross Beta MDC	pCi/L	--	16.5	11.2	6	5
Radium 226	pCi/L	--	64	59	1.4	1.6
Radium 226 precision (±)	pCi/L	--	1.7	0.99	0.27	0.29
Radium 226 MDC	pCi/L	--	0.17	0.11	0.2	0.2
Radium 228	pCi/L	--	1.6	0.4	4.1	4.8
Radium 228 precision (±)	pCi/L	--	0.7	0.9	0.9	0.9
Radium 228 MDC	pCi/L	--	1	1.5	1.3	1.1
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	65.6	59.4	1.4	6.4

* Duplicate sample

Table 10
F-Wellfield New
Well Water Quality Data

Well ID		WYDEQ	F23-1	F23-1	F23-1	F23-2	F23-2	F23-2*	F23-3	F23-3	F23-4	F23-4
Sample Date/Time		Class III	6/18/2012	8/30/2012	10/26/2012	6/5/2012	8/23/2012	10/22/2012	9/18/2012	10/15/2012	9/18/2012	10/19/2012
Job Number		Livestock	C12060737-002	C12081293-001	C12101137-006	C12060299-006	C12081030-005	C12100906-004	C12090654-002	C12100662-003	C12090654-001	C12100864-004
HSU		Standard	110	110	110	120	120	120	120	120	120	120
Alkalinity, Total as CaCO3	mg/L	--	118	120		274	290		244	234	216	225
Carbonate as CO3	mg/L	--	<5	<5		<5	<5		<5	<5	<5	<5
Bicarbonate as HCO3	mg/L	--	142	144	147	334	354	346	298	285	264	275
Calcium	mg/L	--	45	51		442	418		376	344	195	174
Chloride	mg/L	2000	9	10	10	62	58	56	23	23	7	7
Fluoride	mg/L	--	0.5	0.4		0.1	0.2		0.2	0.2	0.2	0.2
Magnesium	mg/L	--	7	8		95	85		62	57	32	29
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	0.08	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	<0.1	<0.1		0.2	0.2		0.2	0.1	0.4	0.4
Potassium	mg/L	--	4	5		16	14		15	13	11	10
Silica	mg/L	--	12.6	8.9		18.6	14.5		20.5	17	21.6	17.5
Sodium	mg/L	--	111	96		91	77		105	97	94	87
Sulfate	mg/L	3000	236	242	234	1300	1280		1150	1140	530	525
Conductivity @ 25 C	umhos/cm	--	0.783	0.756	0.761	2.69	2.58	2.26	2.23	2.23	1.34	1.32
pH	s.u.	6.5-8.5	8.56	8.36		7.28	7.25		7.35	7.4	7.65	7.65
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	533	510	517	2320	2380	2300	1960	1940	1030	1030
Aluminum-D	mg/L	5	<0.1	<0.1		0.6	<0.1		<0.1	<0.1	<0.1	<0.1
Antimony-D	mg/L	--	0.002	<0.001		0	<0.001		<0.001	<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	0.002	<0.001		0.001	<0.001		<0.001	<0.001	0.001	0.001
Barium-D	mg/L	--	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	<0.01	<0.001		0	<0.001		<0.001	<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1		<0.1	0.1		<0.1	<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005		<0.005	<0.005		<0.005	<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Iron-D	mg/L	--	<0.03	<0.03		0.26	<0.03		<0.03	<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001		0.002	<0.001		<0.001	<0.001	<0.001	<0.001
Manganese-D	mg/L	--	<0.01	<0.01		1.23	1.26		0.47	0.44	0.16	0.17
Mercury-D	mg/L	0.00005	<0.001	<0.001		<0.001	<0.001		<0.001	<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05		<0.05	<0.05		<0.05	<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	0.004	<0.001	<0.001	0.003	0.003	0.004	0.003	0.003	0.012	0.013
Thallium-D	mg/L	--	<0.001	<0.001		0	<0.001		<0.001	<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0007	<0.0003	<0.0003	0.21	0.22	0.219	0.0921	0.097	0.0366	0.0383
Vanadium-D	mg/L	0.1	<0.1	<0.1		<0.1	<0.1		<0.1	<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01		<0.01	<0.01		<0.01	<0.01	<0.01	<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	1.3	0.69		5.36	1.54		0.71	0.18	6.64	0.24
Manganese-T	mg/L	--	0.01	0.01		1.3	1.49		0.49	0.54	0.24	0.19
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	-1.27	<0.6		84.83	58.06		23.85	64.33	35.92	12.27
Gross Alpha - Unadjusted	pCi/L	--	-0.8	<0.6		227	207		86.2	130	60.7	38.2
Gross Alpha precision (±)	pCi/L	--	1.2	1.4		12.1	11.5		6.7	8.3	4.2	3.7
Gross Alpha MDC	pCi/L	--	2.1	2.2		9	8.2		5.9	6.1	3.5	4.1
Gross Beta	pCi/L	--	3.5	2.7		54.1	62.3		25	31.2	17.7	14.5
Gross Beta precision (±)	pCi/L	--	1.6	1.7		9.3	8.6		5.6	5.8	3.1	3.1
Gross Beta MDC	pCi/L	--	2.6	2.7		13.4	12.1		8.4	8.6	4.6	4.6
Radium 226	pCi/L	--	-0.1	0.26		2.8	1.4		2.4	2.2	0.59	0.49
Radium 226 precision (±)	pCi/L	--	0.08	0.12		0.39	0.16		0.33	0.27	0.21	0.14
Radium 226 MDC	pCi/L	--	0.19	0.15		0.2	0.11		0.19	0.14	0.22	0.15
Radium 228	pCi/L	--	0.07	<-0.02		12.3	6.7		6.9	6.1	1.9	3.1
Radium 228 precision (±)	pCi/L	--	0.7	0.7		1.7	1.3		1.1	0.9	1	1.4
Radium 228 MDC	pCi/L	--	1.1	1.2		1.9	1.6		1.3	1	1.6	2.2
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	0.17	0.26		15.1	8.1		9.3	8.3	2.49	3.59

* Duplicate sample

Table 10
F-Wellfield New
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	F25-2 6/5/2012 C12060177-004 120	F25-2 8/21/2012 C12080946-001 120	F25-2 10/11/2012 C12100579-001 120	F25-2* 10/11/2012 C12100579-002 120	F25-3 6/5/2012 C12060177-003 110	F25-3 8/21/2012 C12080946-002 110	F25-3 10/19/2012 C12100864-005 110	F28-2 9/12/2012 C12090390-001 110	F28-2 10/17/2012 C12100755-007 110	F28-3 9/13/2012 C12090449-001 120
Alkalinity, Total as CaCO3	mg/L	--	252	259			124	120		149	137	221
Carbonate as CO3	mg/L	--	<5	<5			<5	<5		<5	<5	<5
Bicarbonate as HCO3	mg/L	--	308	316	313	312	151	146	149	181	168	269
Calcium	mg/L	--	299	302			70	75		103	100	187
Chloride	mg/L	2000	7	7	7	7	4	4	5	7	7	8
Fluoride	mg/L	--	0.2	0.1			0.3	0.2		0.2	0.2	0.2
Magnesium	mg/L	--	52	51			12	13		17	16	31
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05			<0.05	<0.05		<0.05	<0.05	<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	0.1	0.1			<0.1	<0.1		<0.1	<0.1	0.3
Potassium	mg/L	--	14	14			7	7		8	8	9
Silica	mg/L	--	21.1	19.9			14.3	13.7		17.9	16.3	22.3
Sodium	mg/L	--	93	89			87	87		96	90	85
Sulfate	mg/L	3000	886	864			284	282		336	332	485
Conductivity @ 25 C	umhos/cm	--	1.89	1.86	1.748	1.748	0.838	0.83	0.75	0.939	0.927	1.26
pH	s.u.	6.5-8.5	7.39	7.43			7.97	7.9		8.17	8.09	7.66
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	1590	1550	1570	1580	600	582	597	678	670	965
Aluminum-D	mg/L	5	<0.1	<0.1			<0.1	<0.1		<0.1	<0.1	<0.1
Antimony-D	mg/L	--	0	<0.001			0	<0.001		<0.001	<0.001	<0.001
Arsenic-D	mg/L	0.2	0.007	0.004			0.002	0.005		0.002	0.002	0.003
Barium-D	mg/L	--	<0.1	<0.1			<0.1	<0.1		<0.1	<0.1	<0.1
Beryllium-D	mg/L	--	0	<0.001			0	<0.001		<0.001	<0.001	<0.001
Boron-D	mg/L	5	<0.1	<0.1			<0.1	<0.1		<0.1	<0.1	<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005			<0.005	<0.005		<0.005	<0.005	<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05			<0.05	<0.05		<0.05	<0.05	<0.05
Copper-D	mg/L	0.5	<0.01	<0.01			<0.01	<0.01		<0.01	<0.01	<0.01
Iron-D	mg/L	--	0.47	0.08			<0.03	0.05		<0.03	<0.03	<0.03
Lead-D	mg/L	0.1	<0.001	<0.001			<0.001	<0.001		<0.001	<0.001	<0.001
Manganese-D	mg/L	--	0.93	0.23			0.06	0.07		0.02	0.02	0.05
Mercury-D	mg/L	0.00005	<0.001	<0.001			<0.001	<0.001		<0.001	<0.001	<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1			<0.1	<0.1		<0.1	<0.1	<0.1
Nickel-D	mg/L	--	<0.05	<0.05			<0.05	<0.05		<0.05	<0.05	<0.05
Selenium-D	mg/L	0.05	<0.001	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.002
Thallium-D	mg/L	--	0	<0.001			0	<0.001		<0.001	<0.001	<0.001
Uranium-D	mg/L	--	0.0388	0.039	0.0355	0.035	0.0101	0.0106	0.0109	0.0372	0.0338	0.0365
Vanadium-D	mg/L	0.1	<0.1	<0.1			<0.1	<0.1		<0.1	<0.1	<0.1
Zinc-D	mg/L	25	<0.01	<0.01			<0.01	<0.01		<0.01	<0.01	<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	2.07	1.07			0.84	0.16		0.54	1.52	5.25
Manganese-T	mg/L	--	0.96	0.25			0.08	0.08		0.02	0.04	0.14
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	27.83	18.50			14.96	7.72		23.12	31.62	21.49
Gross Alpha - Unadjusted	pCi/L	--	54.1	44.9			21.8	14.9		48.3	54.5	46.2
Gross Alpha precision (±)	pCi/L	--	5.5	6.2			2.1	2		3.1	3.1	3.8
Gross Alpha MDC	pCi/L	--	5.5	7.9			2	2.4		2.9	2.3	3.7
Gross Beta	pCi/L	--	17.8	14.4			6.5	5.9		14	9.2	15.4
Gross Beta precision (±)	pCi/L	--	4.9	5.5			1.8	1.8		2.1	2	3
Gross Beta MDC	pCi/L	--	7.6	8.6			2.7	2.9		3	2.9	4.5
Radium 226	pCi/L	--	1.6	1.2			0.38	0.39		0.44	0.51	1.1
Radium 226 precision (±)	pCi/L	--	0.22	0.22			0.12	0.14		0.18	0.19	0.24
Radium 226 MDC	pCi/L	--	0.1	0.14			0.1	0.14		0.19	0.21	0.17
Radium 228	pCi/L	--	3.8	4			0.2	<0.4		0.9	1.1	3.3
Radium 228 precision (±)	pCi/L	--	0.8	0.8			0.7	0.6		1	1	1.2
Radium 228 MDC	pCi/L	--	1	1			1.1	1		1.6	1.5	1.8
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	5.4	5.2			0.58	0.39		1.34	1.61	4.4

* Duplicate sample

Table 10
F-Wellfield New
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	F28-3* 10/17/2012 C12100755-008 120	F28-3 10/17/2012 C12100755-009 120	F29-1 11/1/2012 C12110079-004	F31-1 6/4/2012 C12060177-001 120	F31-1 8/22/2012 C12080977-001 120	F31-1 10/15/2012 C12100696-001 120	F31-2 6/4/2012 C12060177-002 110	F31-2 8/23/2012 C12081030-001 110	F31-2 10/17/2012 C12100755-006 110	FBG-1 6/6/2012 C12060299-004 120
Alkalinity, Total as CaCO3	mg/L	--	234	232	253	206	211	212	140	139		213
Carbonate as CO3	mg/L	--	<5	<5	<5	<5	<5	<5	<5	<5		<5
Bicarbonate as HCO3	mg/L	--	286	283	309	251	258	259	170	170	175	260
Calcium	mg/L	--	197	205	205	195	197	206	104	109		65
Chloride	mg/L	2000	7	7	9	14	15	37	7	7	7	5
Fluoride	mg/L	--	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3		0.2
Magnesium	mg/L	--	36	36	35	35	34	38	18	18		12
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Nitrogen, Nitrate+Nitrite as N	mg/L	100	0.2	0.2	<1	0.1	<0.1	<0.1	<0.1	<0.1		1.4
Potassium	mg/L	--	9	10	12	12	11	12	9	10		7
Silica	mg/L	--	21.8	20.6	21.5	20.9	19.6	18.9	16.8	15.3		18.2
Sodium	mg/L	--	86	81	65	94	109	99	67	76		79
Sulfate	mg/L	3000	544	543	533	612	633	643	330	338		154
Conductivity @ 25 C	umhos/cm	--	1.36	1.35	1.38	1.49	1.5	1.51	0.934	0.925	0.4	0.729
pH	s.u.	6.5-8.5	7.57	7.54	7.49	7.58	7.62	7.55	7.9	7.85		7.79
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	1060	1070	1070	1170	1190	1170	674	661	670	85
Aluminum-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Antimony-D	mg/L	--	<0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001		0
Arsenic-D	mg/L	0.2	0.004	0.003	0.002	0.001	0.002	0.002	<0.001	0.001		0.001
Barium-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Beryllium-D	mg/L	--	<0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001		0
Boron-D	mg/L	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Cadmium-D	mg/L	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005		<0.005
Chromium-D	mg/L	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Copper-D	mg/L	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
Iron-D	mg/L	--	<0.03	<0.03	0.18	<0.03	<0.03	<0.03	<0.03	<0.03		<0.03
Lead-D	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Manganese-D	mg/L	--	0.09	0.1	0.26	0.14	0.25	0.28	0.04	0.05		0.05
Mercury-D	mg/L	0.00005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
Molybdenum-D	mg/L	--	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Nickel-D	mg/L	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05		<0.05
Selenium-D	mg/L	0.05	0.002	0.002	0.017	0.034	0.027	0.03	<0.001	<0.001	0.001	0.031
Thallium-D	mg/L	--	<0.001	<0.001	<0.001	0	<0.001	<0.001	0	<0.001		0
Uranium-D	mg/L	--	0.0433	0.043	0.0479	0.0431	0.0431	0.0509	0.036	0.0355	0.0325	0.0505
Vanadium-D	mg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		<0.1
Zinc-D	mg/L	25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01		<0.01
Antimony-T	mg/L	--										
Beryllium-T	mg/L	--										
Iron-T	mg/L	--	0.62	1.3	7.62	0.24	0.07	0.18	3.82	0.62		1.66
Manganese-T	mg/L	--	0.09	0.11	0.31	0.15	0.25	0.27	0.07	0.06		0.06
Thallium-T	mg/L	--										
Gross Alpha - minus U - Calculated	pCi/L	15	40.29	28.49	34.57	35.62	20.82	29.54	45.63	21.17		19.31
Gross Alpha - Unadjusted	pCi/L	--	69.6	57.6	67	64.8	50	64	70	45.2		53.5
Gross Alpha precision (±)	pCi/L	--	4.6	4.3	4.6	4.9	4.7	4.8	3.7	3.1		2.9
Gross Alpha MDC	pCi/L	--	3.6	3.5	3.5	4.3	5	4	2.4	2.5		2.5
Gross Beta	pCi/L	--	12	14.2	29.4	18.3	15.3	22.9	11.5	13.9		16
Gross Beta precision (±)	pCi/L	--	3.1	3.4	3.7	3.8	3.8	3.9	2.3	2.3		1.9
Gross Beta MDC	pCi/L	--	4.7	5.1	5.2	5.7	5.9	5.7	3.4	3.3		2.6
Radium 226	pCi/L	--	1.5	1.6	1.9	0.99	0.92	1.4	0.78	0.63		0.42
Radium 226 precision (±)	pCi/L	--	0.28	0.29	0.32	0.17	0.14	0.22	0.16	0.13		0.18
Radium 226 MDC	pCi/L	--	0.2	0.21	0.22	0.09	0.1	0.14	0.1	0.12		0.19
Radium 228	pCi/L	--	3.3	5.2	3.2	4.2	3.9	2.8	1	<1.3		1.6
Radium 228 precision (±)	pCi/L	--	1	1	1	0.8	1	0.9	0.7	1		1.2
Radium 228 MDC	pCi/L	--	1.5	1.3	1.5	0.9	1.3	1.3	1	1.5		1.9
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	4.8	6.8	5.1	5.19	4.82	4.2	1.78	0.63		2.02

* Duplicate sample

Table 10
F-Wellfield New
Well Water Quality Data

Well ID Sample Date/Time Job Number HSU		WYDEQ Class III Livestock Standard	FBG-1 8/30/2012 C12081293-004 120	FBG-1* 8/30/12 C12081293-005 120	FBG-1 10/12/2012 C12100579-005 120	FBG-2 6/6/2012 C12060299-005 100	FBG-2 8/30/2012 C12081293-006 100	FBG-2 10/12/2012 C12100579-006 110
Alkalinity, Total as CaCO3	mg/L	--	229	230		101	105	
Carbonate as CO3	mg/L	--	<5	<5		<5	<5	
Bicarbonate as HCO3	mg/L	--	279	280	274	123	128	120
Calcium	mg/L	--	72	70		41	44	
Chloride	mg/L	2000	4	4	4	5	5	5
Fluoride	mg/L	--	0.3	0.3		0.4	0.3	
Magnesium	mg/L	--	13	13		7	7	
Nitrogen, Ammonia as N	mg/L	--	<0.05	<0.05		<0.05	<0.05	
Nitrogen, Nitrate+Nitrite as N	mg/L	100	1.7	1.7		<0.1	<0.1	
Potassium	mg/L	--	7	7		5	5	
Silica	mg/L	--	19.4	19.2		12.2	13.3	
Sodium	mg/L	--	104	104		69	61	
Sulfate	mg/L	3000	213	214		165	170	
Conductivity @ 25 C	umhos/cm	--	0.854	0.854	0.8	0.563	0.556	0.512
pH	s.u.	6.5-8.5	7.86	7.88		8.14	8.2	
Solids, Total Dissolved TDS @ 180 C	mg/L	5000	577	572	536	367	369	371
Aluminum-D	mg/L	5	<0.1	<0.1		<0.1	<0.1	
Antimony-D	mg/L	--	<0.001	<0.001		0	<0.001	
Arsenic-D	mg/L	0.2	0.003	0.003		<0.001	<0.001	
Barium-D	mg/L	--	<0.1	<0.1		<0.1	<0.1	
Beryllium-D	mg/L	--	<0.001	<0.001		0	<0.001	
Boron-D	mg/L	5	<0.1	<0.1		<0.1	<0.1	
Cadmium-D	mg/L	0.05	<0.005	<0.005		<0.005	<0.005	
Chromium-D	mg/L	0.05	<0.05	<0.05		<0.05	<0.05	
Copper-D	mg/L	0.5	<0.01	<0.01		<0.01	<0.01	
Iron-D	mg/L	--	<0.03	<0.03		<0.03	<0.03	
Lead-D	mg/L	0.1	<0.001	<0.001		<0.001	<0.001	
Manganese-D	mg/L	--	0.02	0.02		0.04	0.15	
Mercury-D	mg/L	0.00005	<0.001	<0.001		<0.001	<0.001	
Molybdenum-D	mg/L	--	<0.1	<0.1		<0.1	<0.1	
Nickel-D	mg/L	--	<0.05	<0.05		<0.05	<0.05	
Selenium-D	mg/L	0.05	0.042	0.041	0.033	<0.001	<0.001	<0.001
Thallium-D	mg/L	--	<0.001	<0.001		0	<0.001	
Uranium-D	mg/L	--	0.0672	0.0663	0.0527	0.0006	0.0009	0.0008
Vanadium-D	mg/L	0.1	<0.1	<0.1		<0.1	<0.1	
Zinc-D	mg/L	25	<0.01	<0.01		<0.01	<0.01	
Antimony-T	mg/L	--						
Beryllium-T	mg/L	--						
Iron-T	mg/L	--	0.49	0.48		0.05	0.06	
Manganese-T	mg/L	--	0.02	0.03		0.06	0.15	
Thallium-T	mg/L	--						
Gross Alpha - minus U - Calculated	pCi/L	15	15.91	20.21		0.49	1.09	
Gross Alpha - Unadjusted	pCi/L	--	61.4	65.1		0.9	1.7	
Gross Alpha precision (±)	pCi/L	--	3.2	3.3		1	1.1	
Gross Alpha MDC	pCi/L	--	2.1	2.3		1.7	1.6	
Gross Beta	pCi/L	--	18.8	16.9		0.5	4.3	
Gross Beta precision (±)	pCi/L	--	2.1	2.1		2.3	1.6	
Gross Beta MDC	pCi/L	--	2.9	3		3.9	2.6	
Radium 226	pCi/L	--	0.5	0.46		0.28	0.57	
Radium 226 precision (±)	pCi/L	--	0.16	0.17		0.14	0.17	
Radium 226 MDC	pCi/L	--	0.15	0.18		0.16	0.16	
Radium 228	pCi/L	--	<0.3	<0.2		0.7	<-0.5	
Radium 228 precision (±)	pCi/L	--	0.8	0.9		1	0.9	
Radium 228 MDC	pCi/L	--	1.3	1.5		1.6	1.6	
Combined Total Radium 226 and Radium 228 (Calculated)	pCi/L	5	0.5	9.29		0.98	0.57	

* Duplicate sample

Table 11 MX-2686A Water Quality

Analyte	Units	MX-2686A 9/30/1981
Ammonia as N	mg/L	<0.2
Bicarbonate	mg/L	22
Boron	mg/L	0.2
Carbonate	mg/L	0
Chloride	mg/L	190
Conductivity	umhos	2200
Depth to Water	ft	100.38
Dissolved Aluminum	mg/L	<0.5
Dissolved Arsenic	mg/L	<0.005
Dissolved Barium	mg/L	<0.2
Dissolved Cadmium	mg/L	<0.005
Dissolved Calcium	mg/L	370
Dissolved Chromium	mg/L	0.01
Dissolved Cobalt	mg/L	0.02
Dissolved Copper	mg/L	0.024
Dissolved Iron	mg/L	0.08
Dissolved Lead	mg/L	<0.005
Dissolved Lead 210	PCI/L	1.7
Dissolved Magnesium	mg/L	0.014
Dissolved Manganese	mg/L	120
Dissolved Mercury	mg/L	<0.0001
Dissolved Molybdenum	mg/L	<0.005
Dissolved Natural Uranium	PCI/L	75
Dissolved Nickel	mg/L	<0.02
Dissolved Oxygen		3.4
Dissolved Polonium 210	PCI/L	-0.2
Dissolved Radium 226	PCI/L	2.5
Dissolved Selenium	mg/L	0.645
Dissolved Silver	mg/L	<0.005
Dissolved Thorium 230	PCI/L	15
Dissolved Vanadium	mg/L	0.005
Dissolved Zinc	mg/L	0.18
Fluoride	mg/L	0.7
Groundwater Elevation	ft	5323.37
NO3 as N	mg/L	12
pH	std. units	7.4
Potassium	mg/L	6.7
Sodium	mg/L	260
Sulfate	mg/L	1370
Total Dissolved Solids	mg/L	2678
Total Gross Alpha	PCI/L	62
Total Suspended Solids	mg/L	21

Table 12 Proposed Wells to Discontinue Sampling

Well	Total Depth (ft)	Water in Casing (ft)	Sand Unit	Comments	Cl	Notes
C3-5	61.8	5.31	140	Mulitiple Day Bailing Well; Recovers in 24 hrs.fully after bailing well empty; rate of ~ 0.26 gal/hr	313	bail
C4-1	71.7	1.68	140	Came back .06ft in 24hrs		bailed dry
C4-5	122.1	31.09	130	slow recharge of < 0.3 gpm	78	
C5-2	76.0	3.75	140	Multiple Day Bailing Well; low recharge rate of ~0.15gal/hr	233	bail
C5-4	27.2	DRY	150			
C6-1	76.7	4.59	140	Multiple Day Bailing Well; low recharge rate of ~ 0.15gal/hr	35	bail
C6-2	126.9	27.13	130	low recharge rate < 0.3gpm	21	
C8-1	61.4	0.41	140	Unsampleable / Dry		
C8-2	26.3	DRY	150	DRY		
C9-1	26.4	DRY	150	DRY		
C11-6	84.0	11.14	140	Slow recharge rate of < 0.15gpm	30	
C16-1	22.6	DRY	150	DRY		
C18-1	63.2	0.84	150	no recharge		bailed dry
C20-1	48.8	2.99	150	Mulitiple Day Bailing Well; recharge rate of < 0.8gal/min	14	bail
C22-4	254.3	151.9	100	Slow recharge rate of < 1.0 gal/hr, takes 4-5 days to get a 3V sample	4	
E4-1		DRY	140			
E6-5	136.8	10.95	140	broken casing	4	
E7-3		DRY	150			
E7-5	120.6	1.25	140	unsampleable / dry		
E9-6	86.3	5.5	110	Multiple day bailer well for Low volume sample;slow recharge of < 0.3 gpm	5	bail
E10-2	71.8	6.45	140	Multiple day pumping well, slow recharge <0.3GPM, pump in place	3	
E10-4	66.8	9.35	140	Multiple day pumping well, slow recharge <0.3gpm, pump in place	39	
E14-2	76.7	4.69	146	Multiple day bailer slow recharge ~0.02gal/hr	9	bail
E14-3	121.6	0.1	140	unsampleable / DRY		
E18-1	51.9	DRY	150	DRY		
E18-2	51.9	DRY	150			
E18-7	50.5	DRY	150			
E18-9	103.4	DRY	140			
F3-2	97.4	15.09	140	slow recharge < 0.45gpm	9	
F4-1	46.5	0.61	150	exremely slow recharge, Dry		
F13-1	182.3	15.89	140	slow recharge	6	
F14-2	208.1	208.25	130	Unsampleable		
F14-3	286.2	105.65	110	Unsampleable		
F15-1	131.1	5.15	140	Multiple day bailing well, Low Volume Sample Collected; recharge rate < 0.13gal/hr	16	bail
F23-1	301.3		110	WL indicator frequently gets stuck; slow recharge	10	
F25-1	142.4	142.3	150	DRY		
F26-1	75.6	0.54	160	Unsampleable (0.54ft of water in well)		