AP - ___033____

STAGE 1 REPORTS

DATE: 2/19/2004

RECEIVED

FEB 22 2004

Oil Conservation Division
Environmental Bureau

STAGE 1 SITE INVESTIGATION REPORT FOR THE DEFS ELDRIDGE RANCH STUDY AREA, LEA COUNTY, NEW MEXICO

(Abatement Plan #AP-33)

February 2004

Prepared For

Duke Energy Field Services, LP
370 17th Street, Suite 2500
Denver, CO 80202

Prepared By

Remediacon Incorporated
P.O. Box 302
Evergreen, Colorado 80437

AP033

STAGE 1 SITE INVESTIGATION REPORT FOR THE DEFS ELDRIDGE RANCH STUDY AREA, LEA COUNTY, NEW MEXICO

(Abatement Plan #AP-33)

RECEIVED
FEB 22 2004
Oil Conservation Division
Environmental Bureau

Prepared For

Duke Energy Field Services, LP
370 17th Street, Suite 2500
Denver, CO 80202

Prepared By

Remediacon
P.O. Box 302
Evergreen, Colorado 80437
Telephone (303)674-4370
Facsimile (720)528-8132

February 19, 2004

EXECUTIVE SUMMARY

This Stage 1 investigation report provides the information required for Abatement Plan #AP-33 for the Eldridge Ranch study area. The study area is located approximately 1 mile north of and 0.75 miles east of the town of Monument in Lea County New Mexico. The area includes two properties; the Huston property and the DEFS Eldridge Property. The Eldridge property and its water rights were purchased by DEFS in early January 2004. The study area and the surrounding land within 1 mile are uninhabited and unimproved with the exception of one property that is unimpacted by the study area releases.

Seven buried pipelines owned by various parties transverse the study area. One producing gas well and an associated Chevron historic blowdown/burn pit are also within the study area boundaries. The Chevron March 2001 report indicates that hydrocarbon-contaminated soils contained total petroleum hydrocarbons at concentrations up to 2,500 mg/kg TPH within this pit. No sampling was completed below 4 feet, and no laboratory analyses for benzene, toluene, ethylbenzene and xylenes were completed. Wells surrounding the historic blowdown/burn pit contain elevated concentrations of chlorides that are indicative of a release to groundwater. A number of producing oil wells lie west of and adjacent to the study area.

Study area topography falls to the southeast. The surface drainage consists of two shallow swales that are separated by a low-relief divide. The surface drainages have not been impacted by hydrocarbon releases so they need not be considered in the report.

A hydrocarbon release was discovered in June 2000. An OCD contractor began evaluations in August 2001. DEFS began study area activities at OCD's request in July 2002. Since then, DEFS has completed numerous characterization activities and four sets of quarterly groundwater monitoring. As directed by OCD requirements, DEFS also commissioned the removal of free phase hydrocarbons in June 2003, and this activity continues.

Thirty-five wells were installed in November 2003 to provide the supplementary data necessary to complete this report. Twenty of the wells were primarily installed to investigate the dissolved phase hydrocarbons. The remaining 15 wells were installed to delineate the extent of free phase hydrocarbons at three locations within the study area. The resulting detailed geologic logs verified the lithologic distribution described in past reports. A continuous basal sand was identified beneath the entire study area; however, this sand does not appear to be substantially more permeable than the overlying saturated materials.

The groundwater flows toward the southeast in the northern part of the study area before being deflected to a more southerly direction near the DEFS Eldridge property boundary. The groundwater velocity is estimated at 3 feet per day; however, this number appears to be high. There is also a vertically-downward groundwater flow component based upon a well cluster at the Huston/DEFS Eldridge Property boundary.

Three release areas are present in the study area. Each release area includes wells that contain free phase hydrocarbons (FPH). The north release area originates from a leak in the NMG-148 pipeline. The middle release area includes FPH from a second leak in the NMG-148 pipeline; however, the hydrocarbon distribution within the release area suggests that additional sources may be present. There is no known origin for the free phase hydrocarbons at the southern location. All of the leaks in the two DEFS pipelines within the study area have been identified. The remaining non-DEFS pipelines that could potentially be contributing hydrocarbons must be tested to verify that there are no continuing releases within the middle and south release areas. Hydrostatic testing and/or exposing pipelines to reveal historic or present leak locations must be completed because there is generally no surface evidence of a leak.

Benzene was selected as the constituent of concern at the study area because of its widespread occurrence in the groundwater and its stringent regulatory standards.

Three dissolved phase hydrocarbon plumes are present at the study area. Two of the plumes originate from the three release areas described above. These two plumes are aligned northwest to southeast in the same direction as the groundwater flow.

The third plume lies on both sides of DEFS Eldridge northern property boundary. It is believed to have originated from enhanced hydrocarbon migration that resulted from pumping of the high-capacity irrigation well on the northern DEFS Eldridge boundary. The hydrocarbon concentrations in this plume have been declining since the initiation of investigative activities because the pumping of the irrigation well is no longer drawing additional hydrocarbon mass into this region.

The study area has been sufficiently defined and characterized to proceed to Stage 2 of the abatement plan process. The non-DEFS pipelines that traverse the study area must either be hydrostatically tested or exposed and inspected to verify that they contain no FPH to ensure that there are no continuing leaks. Preparation of the Stage 2 workplan can begin upon OCD approval of this document.

The most important considerations relative to the completion of Stage 2 include:

1. Natural groundwater flow is generally southeastward on the Huston property and southward on the DEFS Eldridge property. Groundwater was deflected toward the irrigation well when it was operating.

2. The dissolved phase hydrocarbons originated from three geographically distinct areas that contain free phase hydrocarbons. Not all of the free phase hydrocarbons originated from the leaks in the NMG-148 pipeline that were identified in January 2003.

3. The dissolved phase hydrocarbons are attenuating from natural causes as they migrate away from the source areas.

4. The entire plume on the DEFS Eldridge property and the Huston property immediately adjacent is shrinking because the irrigation well is no longer used..

5. Appropriate testing for potential non-DEFS hydrocarbons in the middle and south release areas must be completed to ensure that the selected remedy is appropriate. DEFS cannot ensure that any remedy proposed near MW-8 and MW-11, the probable source of the hydrocarbons in the irrigation well, will be effective unless all non-DEFS leaks are identified and adequately characterized.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLES

FIGURES

APPENDICIES

1 INTRODUCTION

This Stage 1 study area investigation report provides the information required for Abatement Plan #AP-33 for the Eldridge Ranch study area (study area). Remediacon Incorporated (Remediacon) prepared the plan for Duke Energy Field Services, LP (DEFS) to satisfy the requirements contained in 19.15.1.19.E (3) NMAC.

1.1 Purpose and Objectives

As stated in 19.15.1.19.E (3) NMAC, "(t)he purpose of Stage 1 of the abatement plan shall be to design and conduct a study area investigation that will adequately define study area conditions, and provide the data necessary to select and design an effective abatement option." The objectives of the investigation were derived based upon the purpose and requirements listed in NMAC section referenced above. The objectives included:

- Describing the surface setting and surface-water hydrology of the study area;
- Identifying all permitted water wells within 1 mile of the study area;
- Defining the distribution of subsurface materials;
- Measuring the hydrogeologic properties of the materials;
- Measuring the groundwater flow direction and gradient, and calculating a representative advective groundwater velocity;
- Selecting the appropriate hydrocarbon constituent(s) of concern;
- Delineating the release areas and distribution of the dissolved phase constituents of concern in the groundwater;
- Listing identified and potential release points for the groundwater sources;
- Analyzing the effects of natural attenuation on the constituents of concern; and
- Identifying any additional study area activities that must be completed prior to the initiation of the Stage 2 abatement activities.

1.2 Report Organization

The remainder of the report is divided into five additional sections. Section 2 describes the study area setting and summarizes the activities completed prior to November 2003. Section 3 describes the field activities that were completed in November 2003, December 2003 and January 2004. Section 4 presents the data collected during all of the field activities that were used to formulate interpretations and derive conclusions. Section 5 provides a detailed description of the study area's subsurface setting. This model will be used to analyze potential remediation options and to formulate a comprehensive remediation strategy. Section 6 recommends additional activities that should be completed independent of the preparation of the Stage 2 abatement plan.

2 BACKGROUND INFORMATION

This section presents background information that is relevant to this report. The first subsection describes the surface conditions within the study area. The second subsection reviews the investigative activities completed at the study area.

2.1 Study Area Setting

This section summarizes the study area conditions including: 1) a description of the study area location and boundaries; 2) the neighboring land uses; 3) the topographic setting; 4); the surface-water conditions and 5) permitted water wells within 1 mile of the study area.

2.1.1 Study Area Location, Boundaries and Considerations

The study area is located approximately 1 mile north of and 0.75 miles east of the town of Monument in Lea County New Mexico (Figure 1). The OCD location descriptor of Unit P, Section 21, Township 19 South, Range 37 East was derived from the irrigation well where the hydrocarbons were initially detected. The well's coordinates are 32 degrees 38.5 minutes north, 103 degrees 15.4 minutes east.

The study area boundaries were defined according to the methodology in 19.15.1.19.E (3) (b) (i) NMAC. The boundary locations are shown on Figure 2. Details on how the boundaries were derived are in Section 5.3.4.

The study area includes two properties (Figure 2). The Huston property, currently a trust, is the northern property and constitutes approximately 90 percent of the study area. The DEFS Eldridge property includes the southern approximate 10 percent of the study area. The Eldridge property and the water rights associated with it were purchased by DEFS in early January 2004. The property will now be referred to as the DEFS Eldridge property to indicate DEFS ownership while maintaining the Eldridge reference that was used in prior reports.

2.1.2 Study Area and Neighboring Land Uses

The study area, and land within 1 mile, is generally uninhabited and unimproved. The DEFS Eldridge property includes a residence (unoccupied) and numerous farm buildings.

The Huston property is leased for grazing. No windmills are present within the study area boundaries.

There is one residence located approximately 1,500 feet west-southwest of the study area (Figure 2). As discussed in Section 5.3.4, the groundwater beneath this property is up-gradient from the study area and thus cannot be impacted by the releases.

Oil and gas production began on the study area prior to World War II, and it continues on the surrounding properties to the north, east and west. There is one active gas production well within the study area labeled Chevron Gas Well on Figure 3. There are numerous inactive or abandoned crude-oil production components (pits, pump jacks, heater treaters, gathering lines, etc.) present within and immediately surrounding the study area. An historic blowdown/burn pit that was associated with the Chevron gas well is also shown on Figure 3.

Seven buried pipelines transverse the study area. The pipelines are shown on the aerial photograph in Figure 3. The pipelines include:

1. The DEFS distribution line (DEFS ZZ-2, Figure 3).
2. A Conoco distribution line (Conoco, Figure 3).
3. Two northeast trending Sid Richardson gathering lines (Sid Richardson, Figure 3).
4. A Dynegy northeast trending gathering pipeline (Dynegy, Figure 3). This line is spiral welded, indicating that it is very old. A poly sleeve was inserted (slipped) into this line along the length that lies beneath the study area. A pipeline is typically slipped when the original line no longer possesses integrity at its operating pressure.
5. An historic pipeline that extends west and east across the study area passing immediately south of the Chevron gas well (Historic Gathering Line, Figure 3). There are no pipeline markers along the alignment; however, a consultant for Dynegy completed a site investigation on this line between State Highway 8 and the gas well shown on Figure 3.
6. The north-trending DEFS gathering line (NMG-148C, Figure 3) and the west trending DEFS gathering line (NMG-148A&B, Figure 3). These two lines are combined and called the NMG-148 pipeline in this report.

There are currently 62 temporary and permanent monitoring wells at the study area. Their locations are shown on Figure 4. The use of these wells, and the resulting data, is described in more detail below.

2.1.3 Topographic Setting

The study area topography generally slopes to the southeast (Figure 2). There are no deeply incised ravines within the study area boundaries.

2.1.4 Surface-Water Conditions

The surface drainage consists of two shallow swales that are separated by a low-relief high area. The swale locations are shown on Figure 3. The eastern swale is larger and better developed. The two drainages are the approximate eastern and western boundaries of the study area.

Neither swale is well defined and the grasses that grow within them best outline their alignments. Both swales probably only contain water during the most intense, long-

duration precipitation episodes. There are reaches where running water has scoured defined depressions; however, these reaches are limited and only capable of minimal surface-water storage between precipitation episodes.

Section 19.15.1.19.E (3) (b) (ii) of the NMAC requires evaluation of the surface-water hydrology within the study area, specifically the "magnitude of contamination and impacts to surface water and stream sediments." The surface-water bodies at this location were not impacted by the releases within the study area so they do not need to be evaluated any further.

2.1.5 Permitted Water Wells

A list of permitted water wells was obtained from The New Mexico State Engineer Water Administration Technical Engineering Resource System (W.A.T.E.R.S.) internet web site (http://www.seo.state.nm.us/water-info/). The query included Section 21, the section containing the study area, and the eight sections surrounding it (Sections 15, 16, 17, 20, 22, 27, 28 and 29). This area is slightly larger than the minimum 1-mile distance from the study area boundaries. The well locations are shown on Figure 5 and summarized in Table 1. The relationship, if any, between these wells and the affected groundwater beneath the study area is discussed in Section 5.3.4.

2.2 Summary of Pre-Fall 2003 Field Programs

This section summarizes the activities completed at the study area from the discovery of hydrocarbons in the groundwater to the date of this report. The section also describes the documents generated since the start of the investigative activities.

The irrigation well reportedly began discharging hydrocarbons in mid-June of 2000. The OCD was notified soon thereafter. The OCD and other state agencies reportedly collected water samples from the house well and the irrigation well on the DEFS Eldridge property. The NMED collected samples on October 26, 2000. Their results indicated that the house well contained 2.5 mg/l benzene. The benzene concentration in the irrigation well was measured at 4.4 mg/l.

The OCD also requested that the pipeline owners test their pipelines. DEFS pressure tested their pipelines in Fall 2000 and provided data to the OCD that indicated they were not leaking. Dynegy also completed limited subsurface characterization of the historic gathering pipeline that extends west from the vicinity of the Chevron well. Dynegy concluded that it was not leaking; however, the length that they investigated was west of the study area and thus outside the area of affected subsurface materials and groundwater. Dynegy did not investigate their northeast trending, spiral welded, gathering pipeline (Dynegy, Figure 3) that was slipped, probably because of integrity issues, within the study area.

The OCD commissioned AMEC Incorporated to evaluate the release. AMEC completed two investigations and prepared reports in August 2001 and May 2002. OCD then contacted DEFS based upon the results and conclusions of these investigations and requested that they continue investigating the release.

DEFS voluntarily complied with this request and retained Remediacon in late June 2002 to review the existing data and formulate the investigative plan requested by OCD. Remediacon prepared a work plan dated July 10, 2002 that proposed inventorying and sampling the existing 14 AMEC monitoring wells (MW-1 through MW-14). The results of the field investigation were detailed in an August 30, 2002 Remediacon letter that DEFS transmitted to the OCD.

The August 2002 letter concluded that more subsurface material and groundwater characterization was necessary. Remediacon formulated a work plan that was forwarded to OCD in early September 2002 and subsequently approved. The field work was completed from late September through mid-October of 2002. A Remediacon report titled "Characterization Report For The Eldridge Ranch Study Area, Lea County New Mexico" was submitted to the OCD on November 4, 2002.

Among the recommendations included in the November 2002 report was further investigation of all the potential origins of free phase hydrocarbons (FPH) on the groundwater including all of the pipelines traversing the study area. DEFS decided to test all of its gathering and distribution pipelines in the study area based upon this recommendation. Remediacon prepared a work plan for the pipeline testing that was submitted on or around November 22, 2002.

The 26-inch, high-pressure distribution (ZZ-2) pipeline was uncovered, inspected and pressure tested in late December 2002. No leaks were detected. DEFS then decided to hydrostatically test their gathering lines. DEFS directed their pipeline subcontractor to begin flagging the pipeline alignments as part of the "one call" procedure that must be completed prior to the start of any intrusive activities.

The DEFS pipeline contractor noted surface evidence of a leak on their pipeline right of way on state land north of the Huston property during the flagging activities. The pipeline was immediately exposed in this area and a leak was found. The affected materials were removed from this excavation and remediation is nearing completion. The release at this study area is a separate project, and it will not be considered any further in this report.

Hydrostatic testing began on the approximately 4,000 feet of the NMG-148A, B and C gathering lines the week of January 13, 2003. The pipeline was first isolated into five segments. Each segment was pressured to 100 psi with fresh water and then periodically checked for pressure declines. The surface along the segments that could not maintain a sustained pressure was inspected for wet spots that would be indicative of leaks. No wet spots appeared, so DEFS decided to expose the entire length of each segment. Each segment was then continually repressurized after exposure with water to 100 psi and

visually inspected for leaks. The entire pipeline was then removed from north of the Huston property boundary to State Highway 8.

The testing identified four leaks within the study area boundaries. Leaks NMG-148C#1 and NMG-148C#2 were too close together to separate into discrete release points so they were combined into a location that is referred to as NMG-148C#1&#2. Locations NMG-148C#3 and NMG-148C#4 are physically distinct and were characterized individually.

Monitor wells were installed at the three potential release points at the locations shown on Figure 4. Well MW-25 was installed at pipeline leak location NMG-148C#4. Trace concentrations of hydrocarbons were measured in the groundwater. Well MW-26 was installed at combined pipeline leak locations NMG-148C#1&#2. This well subsequently produced FPH. Well MW-27 was installed at pipeline leak location NMG-148C#3. This well also subsequently produced FPH. The field characterization activities and their associated results were summarized in a February 21, 2003 letter to the OCD.

Quarterly groundwater monitoring was completed in February, June and September 2003. The data from these episodes were provided to the OCD in summary reports, and they are integrated into this report.

DEFS notified OCD on March 25, 2003 that it would voluntarily initiate Rule 19 activities. DEFS provided a Stage 1 abatement plan work plan to OCD on May 30, 2003. An addendum that included a Sampling and Analysis Plan was submitted on or about July 7, 2003. OCD approved the plan in an October 22, 2003 letter.

2.3 Summary of Remediation Activities

FPH removal was initiated at the study area on July 24, 2003 in the six wells that contained free product (MW-8, MW-11, MW-18, MW-23, MW-26 and MW-27). The product is collected in FPH-only bailers that are emptied twice weekly. MW-18 no longer produces FPH but it is gauged twice weekly to verify that it has not returned.

FPH-only bailers were recently placed in the three new wells that contain FPH (MW-N, MW-CC and MW-EE). These bailers are also emptied twice weekly.

A total of 70 gallons of product have been removed as of February 9, 2004. DEFS will continue removing free product from all the above wells until approval of the Stage 2 abatement plan. The FPH removal program will then be modified to comply with the requirements set forth in that plan.

3 SUMMARY OF FALL 2003 INVESTIGATIVE FIELD ACTIVITIES

Five investigative activities were completed at the study area between November 2003 and January 2004. The activities included:

- Installation of wells to characterize the extent of dissolved-phase hydrocarbons (DPH) in the groundwater;
- Installation of wells to characterize the extent of FPH floating on the groundwater;
- Detailed lithologic data compilation;
- Comprehensive quarterly groundwater monitoring; and
- Characterization of free-phase hydrocarbons.

Each activity is discussed separately below.

3.1 Installation Of Dissolved-Phase Hydrocarbon Characterization Wells

Twenty wells were installed to better delineate the distribution of dissolved-phase hydrocarbons (DPH) on the Huston property. The well locations, labeled MW-A through MW-T, are shown on Figure 4. Well location, elevation and completion information is summarized in Table 2.

The wells were located according to the following rationale:

- MW-A, MW-B: Provide additional data on the Huston-DEFS Eldridge property boundary.
- MW-C through MW-G: Transect between the FPH in wells MW-8 and MW-11 and the anomalous DPH measured in MW-4.
- MW-H: Provide additional data to evaluate whether a preferential groundwater flow pathway is present in the western drainage.
- MW-I, MW-J, MW-K (in conjunction with MW-AA): Transect to track the groundwater migration patterns from the MW-8, MW-11 area.
- MW-L: Another well to provide data for preferential groundwater flow evaluation.
- MW-M through MW-S: Installed to evaluate DPH migration and attenuation from the MW-27 area.
- MW-T: Installed in a second phase to define conditions up-gradient from the MW-M through MW-S transect.

The wells were installed using sonic drilling technology. This method was selected because of its potential for maximizing core recovery while minimizing the generation of drill cuttings. The method produces a nominal 6-inch diameter boring.

The sonic technique provides 4-inch diameter core in 10-foot lengths. The core is extruded by vibration from the core barrel into a flexible, transparent plastic sleeve that retains the moisture and vapor. Overall core recovery was estimated at 90 percent.

All of the core generated was measured and evaluated using the following procedure:

1. The outside of the bag was marked on 1-foot increments using an indelible marker.
2. The probe of a photoionization detector (PID) was inserted through the sleeve midway between each 1-foot mark to measure the vapors emanating from the core.
3. The bag was sliced longitudinally to expose the core.
4. Split soil samples were collected from the intervals with the highest measured PID readings and from the vadose zone interval immediately above the uppermost identified saturated materials. The samples were placed in sealed plastic bags. One set of samples was placed in an ice-filled cooler for preservation. The remaining samples were placed in a warm location to permit any hydrocarbon vapors to volatize into the bag's headspace.
5. Representative pieces of the entire length of the core were removed and placed in a corebox in the appropriate order. Detailed logs of the materials were compiled while the core was being removed.
6. The core in the corebox was then photographed to document color variations.
7. The headspace of each retained sample was then measured with the PID.
8. Select samples that were preserved in the cooler were later submitted to the laboratory for analysis.

The excess core, the core from the corebox and the nominal volume of soil cuttings were placed in 55-gallon drums. The drums were then transported to a gondola where they were stored. All of the soil cuttings were then disposed of in a permitted landfarm.

The wells were installed using threaded, flush-coupled, Schedule 40 PVC with 0.010-inch factory-cut slots. Artificially graded 6-20 sand was placed from the bottom of the boring to a minimum of 1 foot above the top of the slots. A minimum of 2-feet of hydrated bentonite was placed on top of the sand to seal the well from surface infiltration. The annular space at the surface was temporarily sealed. A locking J-plug was placed on each boring and secured with a locking nylon strap to provide evidence of any tampering. The wells will remain as temporary completions until a final decision is reached on abandonment or completing them as a permanent well.

Each well, except MW-N, was developed by removing a minimum of ten casing volumes of water using a 12-volt submersible pump. Well MW-N contained free product so it was not developed. The pump was decontaminated between each hole and new tubing was used to minimize the chance of cross contamination. Temperature, pH and conductivity were measured during development to ensure that the groundwater stabilized. The well was then purged and sampled using the standard monitoring procedures described in Section 3.4 below.

All of the above protocols meet or exceed the standards set forth in the approved Sampling and Analysis Plan (SAP).

3.2 Installation Of Free Phase Hydrocarbon Characterization Wells

Fifteen wells were installed to better delineate the extent of FPH present on the Huston property. The well locations, labeled MW-AA through MW-NN, are shown on Figure 4. Well location, elevation and completion information is summarized in Table 2.

The FPH wells were initially installed adjacent to the five wells with measurable thicknesses of FPH on the groundwater. An FPH well was also installed south of the historic Chevron blowdown/burn pit. A second phase of wells was then installed both down-gradient and cross gradient to better define the limits of measurable FPH. Well MW-NN was installed in a third phase down-gradient from MW-27 to ensure that the limits of FPH at this location had been established. A summary of the well installation rationale is provided below:

FPH Location	Initial Phase	Second Phase	Third Phase
MW-8:	MW-AA	MW-GG	
MW-11:	MW-BB	MW-HH, MW-II, MW-JJ	
MW-23:	MW-DD	MW-MM	
MW-26:	MW-EE		
MW-27:	MW-CC	MW-KK, MW-LL	MW-NN
Chevron blowdown/burn pit	MW-FF		

The wells were installed using the techniques described in Section 3.1 above.

The wells were gauged periodically for the presence of FPH. Only wells MW-CC, MW-EE and DPH well MW-N contained FPH five weeks after they were installed. These two FPH wells and MW-N were not developed. The remaining FPH wells were developed as discussed in Section 3.1 above.

3.3 Detailed Lithologic Data Compilation

The primary objective of this task was to compile data from the core retrieved during the drilling program for evaluation for evidence of hydrocarbon-affected zones and lithologic intervals that might serve as preferential groundwater-flow pathways. The procedural details for gathering the lithologic data were included in Section 3.1 above.

The information from this activity is included on the boring logs. The logs for the 20 DPH wells and 15 FPH wells are attached as Appendix 1.

Eleven soil samples were also submitted to Environmental Labs of Texas to assess the relationship, if any, between the field PID readings and the concentration of the BTEX constituents present within the soil matrix.

3.4 Comprehensive Quarterly Groundwater Monitoring

All the pre-existing and new wells that did not contain FPH were sampled during the December 2003 quarterly groundwater-monitoring event. The existing and new wells on the Huston property were sampled the week of December 8, 2003. The existing wells on the DEFS Eldridge property, including the former House Well, were sampled on January 15, 2004, after DEFS assumed ownership of the property.

The wells were sampled using the protocol included in the approved SAP for this study area. All of the wells were initially gauged to provide data on the saturated thickness in each well. All of the new and existing wells on the Huston property were gauged on December 9, 2003. The wells on the Huston property were re-measured on January 12, 2003, along with the wells on the DEFS Eldridge property.

Each well was then purged until the field parameters (temperature, pH and conductivity) equilibrated within the range set in the SAP. Each well was sampled using a disposable bailer. The samples were stored in ice-filled chests until they could be delivered directly to Environmental Labs of Texas in Midland, Texas. Each sample was analyzed for benzene, toluene, ethylbenzene, xylenes and chlorides. Copies of the two laboratory reports and the chains of custody are included as Appendix 2

3.5 Characterization Of Free-Phase Hydrocarbons

The final field activity was the collection and analyses of FPH and DPH samples from the wells containing FPH. The FPH samples were subjected to physical properties, PIANO (paraffin, isoparaffins, aromatics, naththenics and olefins) measurement and isotopic analysis. These data were evaluated to differentiate different FPH sources.

PIANO analyses had already been completed on samples from wells MW-8, MW-11, MW-18, MW-23, MW-26 and MW-27 prior to the Fall 2003 field activities. PIANO analyses were completed on the FPH samples from MW-N, MW-CC and MW-EE as part of the fall field program. A copy of the laboratory report for the most recent analysis is in Appendix 2.

FPH samples were submitted to Humble Geochemical Services Division in Humble Texas for ^{13}C isotopic analysis. Samples from MW-8, MW-11, MW-18, MW-23, MW-26 and MW-27 were submitted in September 2003. Samples from MW-N, MW-CC and MW-EE were submitted in January 2004. Copies of their analytical reports are in Appendix 2.

The final activity completed in this task was the collection of DPH samples from the eight wells that contained FPH in the fall of 2003 (MW-8, MW-11, MW-18, MW-23, MW-26, MW-27, MW-N, MW-CC and MW-EE). The samples were collected directly beneath the product/water interface without purging the well. The samples from MW-8 through MW-27 were collected using a low-flow bladder pump with disposable bailers. The samples from MW-N, MW-CC and MW-EE were collected using a disposable bailer

after first removing the free product using a FPH-only bailer. The samples were analyzed for the BTEX constituents to assess relative contributions to the groundwater.

4 COMPREHENSIVE DATA SUMMARY

This section provides a comprehensive summary of all data collected at the study area. The results from the fall 2003 investigative program are included in comprehensive tables rather than separately.

4.1 Soils Analytical Data and Lithologic Distribution

Two kinds of subsurface material data were generated. The first type were the field and laboratory measurement of hydrocarbons. These measurements included the field PID measurements from the grab soil samples and the laboratory analytical data. The field PID readings are summarized in Table 3. The laboratory analytical data is summarized in Table 4.

The high recovery rate of the continuous core resulted in the generation of more detailed physical descriptions than in the past. This physical data included the lithologic composition of the materials as well as delineation of stained and odorous zones.

The PID data was combined with the visual and olfactory observations to define the hydrocarbon-affected intervals in each boring. Figure 6 is a contour map of the top of the hydrocarbon-affected interval based upon the November 2003 borings. A contour map of the thickness of the hydrocarbon interval is included as Figure 7.

The second data type were the detailed lithologic descriptions that were compiled for each of the November 2003 borings. Logs were generated for each boring that include lithologic, PID and saturated material descriptions. The boring logs are included in Appendix 3. North-south and east-west cross sections were also generated from the boring data (Figures 8, 9 and 10).

4.2 Saturated Material Properties

No additional hydraulic conductivity measurements were made during the most recent field program because the pumping test completed in October 2002 provided a representative measurement of the hydraulic conductivity of the subsurface materials. Table 5 provides the data from that test.

Purging data from the well development forms were evaluated to assess whether different areas have lower or higher hydraulic conductivity differences relative to each other. Additional slug and/or pump tests will be completed, if necessary, during the design phase.

4.3 Water-Table Elevation and Product Thickness Data

This section summarizes the water-table information and product thickness data. Depth-to-water and product (if present) measurements have been completed nine times since the initial AMEC investigation in August 2001. The water-table elevation information is summarized first and then followed by the product thickness data.

4.3.1 Water-Table Elevations

Table 6 summarizes the calculated water-table elevations based upon the gauging data. The water-table elevations for the wells containing free product were estimated using the following formula:

$GWE_{corr} = MGWE + (PT*PD)$: where

MGWE is the actual measured groundwater elevation;
PT is the measured free-phase hydrocarbon thickness; and
PD is the free phase hydrocarbon density (assumed 0.76).

This correction provides an accurate estimate of the water table elevation if free product was not present in the well.

Figure 11 is a hydrograph for select wells at the study area. The wells were selected based upon length of record and geographic location. Well MW-1D was included because it is the only well at the study area completed into the deeper saturated materials. Examination of the hydrograph indicates that the relative differences in groundwater elevations remain essentially constant after the water table is allowed to equilibrate following installation. The shape of the water table remains the same as it rises and falls if the relative water-table elevations do not change between wells. Figure 12 is the water-table map based upon the January 12, 2004 gauging data. This map reflects the greater data density resulting from the installation of 35 new wells between October 2003 and January 2004.

4.3.2 Free Phase Hydrocarbon Thickness Data

Nine of the 62 temporary and permanent study area monitoring wells have contained FPH. The free product thickness measurements are summarized in Table 7. Only eight wells currently contain measurable FPH as MW-18 only contained FPH in February and June 2003.

The interval between the well installation and the date that FPH first appeared varied by well. Well MW-8 did not produce measurable FPH until 14 months after it was installed (June 2003). Well MW-11 did not produce measurable FPH until 7 months after it was installed by AMEC (October 2002). Well MW-18 did not produce measurable FPH

until 3 months after it was installed by Trident. The remaining wells produced free product immediately after installation.

There is no obvious explanation for the differing lag times in FPH appearance. Wells MW-8 and MW-11 were installed using hollow-stem auger, and AMEC reportedly developed them in an unspecified fashion. Both wells were also purged and sampled a minimum of two times before they produced FPH. Wells MW-18, MW-23, MW-26 and MW-27 were installed using air rotary, and all four were developed in the fashion described in Section 3.1 above. Well MW-18 was purged and sampled once before it producted FPH. Wells MW-N, MW-CC and MW-EE were all installed using the sonic drilling technique described in Section 3.1 above.

4.4 Dissolved Phase Constituents

This section summarizes the DPH data generated during all of the episodes. It also includes the DPH result for the samples collected from the wells containing FPH.

The summary tables were divided into wells installed before and after November 2003. Table 8 summarize the benzene concentrations, Table 9 the toluene concentrations, Table 10 the ethylbenzene concentrations and Table 11 the total xylene concentrations.

Table 12 summarizes the BTEX results from the samples collected from the wells containing FPH. The samples were collected without purging from the static water column immediately below the product.

Table 13 summarizes the chloride concentrations measured in all of the wells. Chlorides can be a good indicator of a produced water spill or release from an oil/gas producing operation.

4.5 Free Phase Hydrocarbon Composition

The FPH samples collected from each well were subjected to physical properties, PIANO and speciated carbon isotopic analyses to evaluate their potential differing origins. The physical properties and PIANO analytical results are summarized in Table 14. The summarized chemical data includes the separated paraffin, isoparaffins, aromatics, naththenics and olefins fractions by weight percent and the BTEX constituents by weight percent. The physical property data includes the specific gravity, the color and the odor (as described by the lab) of each FPH sample.

The isotopic results are summarized in Table 15. Each sample was first separated into their respective saturate, aromatic and resin fractions. The ^{13}C and ^{14}C concentrations were then measured, and those ratios were compared to a standard.

5 INTERPRETATIONS AND CONCLUSIONS

This section presents the interpretations and conclusions that are based on the data presented above. The information provided below is sufficient to select an appropriate remediation strategy and prepare a preliminary design as part of the Stage 2 abatement plan process.

The information is grouped into separate sections on saturated material types and properties, the groundwater flow direction and gradient, hydrocarbon distribution and natural attenuation efficiency.

5.1 Saturated Material Types and Properties

The subsurface material types and their distribution were initially defined in the November 2002 Remediacon report. The recently-completed compilation of geologic data verified that no major material types were overlooked. The data was also evaluated for evidence of lithologic-based preferential groundwater flow pathways.

5.1.1 Material Types

This section describes the unconsolidated materials that contain the affected groundwater beneath the study area. The permitted water wells provide an indication of the thickness of the unconsolidated materials above the bedrock. There are five permitted wells in Section 21 (Figure 5). The depths for these wells vary between 60 and 83 feet. These values establish the thickness of the unconsolidated materials, assuming the drillers stopped their borings when they encountered bedrock.

The above values correlate well with the estimates provided by Nicholson and Clebsch (1961). Their maps indicate that the top of the red beds in this area are present at an elevation of 3,550 feet, resulting in an unconsolidated material thickness of approximately 75 feet.

The November 2002 Remediacon report listed the following four materials as present beneath the study area:

- An extensive upper layer of caliche;
- An unconsolidated sand that contains varying percentages of fines (clays and silts);
- A cemented (indurated) sand; and
- Low plasticity silts and clays.

This section also summarizes and updates the information on the composition and distribution of the above materials. Figure 8 is a cross section that generally follows the alignment of the western swale. Figures 9 and 10 are east-west trending cross sections near the northern end of the western drainage and approximately 500 feet north of the Huston-DEFS Eldridge property boundary.

Caliche is the uppermost continuous material beneath the study area. The caliche is usually the thickest in the center of the study area between the two swales. It generally lies above the saturated zones. Although the cementation associated with it makes the materials very hard, it does not act as a significant vertical hydrocarbon infiltration barrier based upon the areas of FPH that are present on top of the water table. The caliche is not considered important in evaluating potential remediation options except that it would impede any drilling and excavation activities.

The materials beneath the caliche occur in three geographic regions. The materials in the far western region of the study area are generally well-sorted, very-fine-grained sands that are overlain by between 4 and 16 feet of caliche. The cementation of these sands varies. In some areas, the sands are not cemented. Other areas contain alternating cemented and uncemented sands. The eastern boundary of this area appears to coincide with, and may be related to, the western boundary of the western surface drainage.

Varying mixtures of clays, silts and sands are the dominant materials beneath the caliche in the region between the two swales. These materials are described as very-fine grained with varying percentages of silt and clay. There were alternating cemented (chert) and uncemented intervals noted in both the 2003 and recent Trident logs.

A low-plasticity clay was encountered in the eastern region primarily beneath the eastern drainage swale. The logs for the borings in this area describe the clay as containing 20 percent silt and very-fine-grained sand. These clay layers are also described as interlayered with the same type of cemented fine-grained sands (chert) that are found throughout the study area.

The recent geologic data compilation activities identified an extensive, very-fine-grained sand as the basal material encountered in most borings. The depth to the top of this sand varies as shown in Figure 13. The depth to the sand is greater in the area between the two swales. The bottom of the sand was never encountered.

This sand may possess a higher primary permeability than the overlying materials. Trident reviewed their purging forms from the December sampling event and categorized the relative permeability of all of the wells that were sampled as low, medium and high based upon their ability to produce water. This evaluation did not include the eight wells that contained free product (MW-8, MW-11, MW-23, MW-26, MW-27, MW-N, MW-CC, MW-EE) since they were not purged. Their sampling forms are included in Appendix 3.

Trident classified wells MW-D, MW-G, MW-M, MW-KK and MW-FF as having medium permeability. It classified wells MW-7, MW-13, MW-14 and MW-BB as having low permeability. The remaining wells were all classified as having high permeabilities.

There is no correlation between the thickness of the basal sand and the permeability based upon the above qualitative evaluation. Well MW-BB, the only recent well with a

low permeability rating, contained 10 feet of the basal sand. The five wells with moderate permeabilities contained between 0.8 and 10.4 feet of sand.
The material distribution is sufficiently defined to complete the Stage 2 process. There is no indication of a potential for preferential groundwater flow that would originate from lithologic differences. Additional characterization may be necessary during the design phase depending upon the remediation techniques selected.

5.1.2 Hydrologic Material Properties

A pumping test was completed in October 2002 to measure the hydraulic conductivity of the saturated materials along the Huston-DEFS Eldridge property boundary. The irrigation well was pumped for 250 minutes at an average flow rate of 73 gallons per minute. The resulting drawdown was measured in wells MW-1 through MW-5. The data was analyzed using the commercially-available Aqtesolv computer program. The data and results of that test are presented in Table 5 and are summarized below:

Well	Hydraulic Conductivity (feet/day)	Specific Yield (-)
MW-1	96	0.2
MW-2	191	0.5
MW-3	196	0.5

Wells MW-4 and MW-5 could not be analyzed because they had no measurable drawdown during the test.

The hydraulic conductivity values are considered moderate to high (US Bureau of Reclamation, 1977). The specific yield values are higher than normally anticipated. The above values were derived along the Huston-DEFS Eldridge property boundary; however, they appear to be representative for the entire study area based upon the results of Trident's evaluation of their January 2004 purge records. Further testing will not be completed unless it is necessary during the Stage 2 design process.

5.2 Groundwater Flow Direction and Gradient

This section summarizes groundwater flow beneath the study area. Historic water-table fluctuations are evaluated first. Horizontal and vertical groundwater flow is then assessed.

Figure 11 is a hydrograph showing the water-table changes over time in select wells. The earliest wells were selected because they show the longest period of record and they provide adequate coverage of the study area. Well MW-1D was included because it is completed into a deeper interval within the saturated materials.

Examination of Figure 11 indicates that the water-table elevation has remained relatively constant since DEFS contractors begin measuring the water levels in July 2002. This consistency indicates that down-gradient withdrawals, if any, are not reducing the saturated material thickness at the study area. Figure 11 also indicates that the relative water-table difference between the wells has remained constant since July 2002. The lateral groundwater flow relationships will remain constant as long as the relative head differences between wells are maintained.

Figure 12 shows the contoured water-table elevations based upon the January 2004 readings (Table 6). A relatively uniform groundwater gradient of approximately 0.003 feet per foot to the southeast is present between MW-EE and MW-18 (Figure 12). The groundwater gradient then deflects to the south and increases to approximately 0.016 feet/foot south of well MW-5. The gradient probably steepens because of the convergence of groundwater into a more restricted area on the DEFS Eldridge property. The gradient must steepen to increase the velocity to balance the regional groundwater flow rate as the flow area is reduced.

There are four locations where the water-table elevations of one or two wells are anomalous with the regional groundwater gradient (Figure 12). These locations include:

- MW-A and MW-B: The water-table elevations for these two wells are approximately 3.5 feet lower than the anticipated values. Both MW-A and MW-B are completed through the same approximate intervals as neighboring wells MW-1, MW-2, MW-3 and MW-5.

- MW-6 and MW-7: MW-7 sits on a slope approximately 6-feet higher than the wells to the east, and the water table elevations reflect this situation. The groundwater has been elevated at well MW-6 since the initiation of the DEFS studies in July 2002.

- MW-P, MW-Q, MW-R and MW-S: The water table elevations are also higher in these wells than anticipated. This same alignment also exhibits anomalous DPH concentrations as discussed below in Section 5.3.4.

- MW-KK: The measured water table is approximately 1-foot lower than the neighboring wells to the north (MW-22, MW-CC and MW-LL), the south (MW-M) and the east (MW-N).

The above anomalies do not impact the conclusions in this document, nor do they need to be reconciled to complete the Stage 2 activities. They may have to be more fully evaluated if they fall within areas where remediation activities will be implemented.

The vertical flow component must also be considered. The MW-1/MW-1D well cluster provides the sole point on the study area to measure the vertical groundwater gradient.

	Water Table Elevations (feet)				
Well	02/03	06/03	09/03	12/03	01/04
MW-1	3,598.68	3,598.59	3,598.36	3,598.48	3,598.47
MW-1D	3,595.12	3,595.03	3,594.81	3,594.90	3,594.92
Head Difference	3.56 down	3.56 down	3.55 down	3.58 down	3.55 down

The measurements show that a consistent downward groundwater gradient is present at this location. The vertical gradient can be calculated using an average head difference of 3.56 feet and a 6-foot completion difference between the base of MW-1 (27 feet) and the top of the sand pack in MW-1D (33 feet). The resulting gradient is 0.59 feet/foot downward.

The area surrounding well MW-1 was selected for the deep well because of its location relative to the irrigation well. Remediacon believed that hydrocarbons in the deeper saturated materials would have migrated past this location before they reached the irrigation well. DPH have generally only been detected at trace concentrations in MW-1D, confirming that the DPH remain in the upper part of the saturated materials.

Remediacon proposed to install an additional deep monitoring well near MW-24 south of the former irrigated field on the DEFS Eldridge property as part of the Stage 1 field program. This activity was not completed because of the declines in the DPH in the affected wells on the property. The installation of additional wells into the deeper zone may be necessary as part of a boundary-monitoring effort. That possibility will be evaluated during the Stage 2 process.

5.2.1 Groundwater Flow Velocity

The average advective groundwater velocity is typically estimated using the hydraulic conductivity, the effective porosity and the measured groundwater gradient in a modified version of Darcy's Law:

$V = (K * i) / Sy$: where

- K is the hydraulic conductivity (100 to 200 feet/day based upon the information in the table in Section 5.1.2);
- Sy is the specific yield (0.2 to 0.5 rounded from the same table); and
- i is the groundwater gradient (two values: 0.003 in the northern study area and 0.016 beneath the DEFS Eldridge property as defined in opening paragraphs of this section).

Substituting the above values into the equation yields a calculated velocity between 0.6 and 3 feet per day for the Huston property and 3.2 and 160 feet per day for the DEFS Eldridge property. These calculated groundwater velocities represent an extremely high range of numbers that primarily originate from a high hydraulic conductivity. In fact, the upper velocity value for the DEFS Eldridge property is unrealistically high. The numbers are sufficient to complete the Stage 2 evaluation; however, further investigation may have to be completed during the Stage 2 design phase if a remediation component that requires a minimum residence time within an in-situ treatment zone is included.

It is also important to note that this calculation represents the average groundwater velocity and thus the average velocity of an unimpeded chemical constituent. The calculation does not factor in constituent-specific retardation, nor does it evaluate the attenuation effects of dispersion and biodegradation.

5.3 Hydrocarbon Constituent Distribution

This section describes the occurrence and distribution of the hydrocarbon constituents in the groundwater system. The November 2002 Remediacon report discussed the distribution of the inorganic constituents and further information on them is not necessary for the Stage 2 evaluations.

This section contains three subsections. The first subsection reviews the process used to select benzene as the constituent of concern. The second section identifies the locations where the hydrocarbons were introduced into the groundwater. The third subsection describes the distribution of DPH, specifically benzene, in the groundwater beneath the study area.

5.3.1 Identification of Constituent of Concern

Benzene was identified as the constituent of concern in the November 2002 Remediacon report. It was the hydrocarbon constituent that most often exceeded the groundwater standards. This fact, coupled with its far lower standard, makes benzene the major organic constituent of concern in the study area.

None of the data collected since the release of that report alters the above statement. In addition, no other constituents have been identified that warrant consideration. Dissolved benzene is present in the study area groundwater at the highest concentrations over the most extensive area. It is also has the lowest potential remediation standards of any of the hydrocarbon constituents.

5.3.2 Dissolved Hydrocarbon Sources

This subsection describes the areas where hydrocarbons are migrating from FPH into the groundwater. Figure 14 shows the aerial photograph of the study area overlain with the

pipelines, the wells containing the FPH and all of the wells containing greater than 1 mg/l of dissolved benzene. The FPH that are releasing the dissolved constituents are located in the three geographically distinct areas. They are labeled as the north release area, the middle release area and the south release area. The areas are shown on Figure 14.

The north release area includes wells MW-23, MW-26 and MW-EE. All three wells contain FPH. There are no wells containing dissolved benzene at concentrations greater than 1 mg/l. MW-26 is located directly beneath one of the leaks that DEFS located in the NMG-148 pipeline. There was no surface evidence of the hydrocarbon release from the pipeline.

The north release area as defined by the three wells is aligned northwest to southeast. This direction corresponds to the groundwater flow path based upon the water table contours shown in Figure 12. Wells MW-EE and MW-23 that contain FPH are located to the southeast 91 feet and 250 feet from MW-26 respectively. The FPH was not encountered 470 feet from MW-26 in MW-DD. There are no wells between MW-23 and MW-DD so the actual distance of FPH migration could be substantially shorter.

The middle release area includes three wells containing FPH (MW-27, MW-N and MW-CC). MW-27 is located directly beneath one of the leaks that DEFS identified in the NMG-148 pipeline. There was no surface evidence of the hydrocarbon release from the pipeline. There are also nine wells that contain greater than 1 mg/l dissolved benzene (MW-13, MW-LL, MW-M, MW-NN, MW-O, MW-OO, MW-P, MW-Q and MW-T).

MW-CC contains FPH within the middle release area, and it is approximately 40 feet south of MW-27. MW-N, also containing FPH is 300 feet southeast of MW-27. Well MW-NN, located 373 feet from MW-27, does not contain FPH. There is no FPH in well MW-OO that is located between wells MW-27 and MW-N.

The wells in the middle release area are aligned west to east just south of the historic gathering line. The middle release area is also substantially larger than either the north or the south release areas because of the alignment of wells parallel to the historic gathering line. This size difference probably originates from either multiple FPH sources or anomalous hydrocarbon migration. This topic is discussed in more detail in the DPH discussion in Section 5.3.4 below.

The south release area includes two wells that contain FPH (MW-8 and MW-11) and four wells that contain dissolved benzene in excess of 1 mg/l (MW- BB, MW-GG, MW-HH and MW-JJ). Wells MW-10 and MW-L were not included in this grouping because they are up-gradient from the remainder of the cluster. There was no surface evidence of a hydrocarbon release in this area.

Wells MW-8 and MW-11 in the south release area are separated by 153 feet. Well MW-AA does not contain FPH and it is 44 feet southeast of MW-8. MW-BB lies between MW-8 and MW-11 and it does not contain FPH. Well MW-11, the northernmost of the two FPH wells, is approximately 1,200 feet from the nearest leak

identified by DEFS in their NMG-148 line. The relationship between the two locations is shown on Figure 14.

The south release area surrounds the points where four pipelines cross. The DEFS ZZ-2 line was completely exposed by DEFS in December 2002, and there were no leaks or evidence of past leaks (clamps or replacement coating) along it. The Conoco line is parallel to the DEFS ZZ-2 line. The two Sid Richardson lines cross the DEFS ZZ-2 line and the Conoco line between MW-8 and MW-11 (Figure 14). The historic Chevron burn/blowdown pit also lies between the middle and south FPH areas.

There are five additional wells that do not fall within the boundaries of the north, middle and south release areas. None of these wells has ever contained FPH.

Two of these wells, MW-12 and MW-FF, are located adjacent to the Chevron burn/blowdown pit. These wells both contained dissolved chlorides at concentrations above background levels (Table 13). The elevated chloride concentrations indicate that releases from this pit have migrated to the groundwater. The limited March 2001 report prepared for Chevron indicates that hydrocarbon-contaminated soils contained total petroleum hydrocarbons measured in the field at concentrations up to 2,500 mg/kg TPH within this pit. No sampling was completed below 4 feet even though the TPH values still exhibited field measurements over 150 mg/kg. The laboratory results for the sample from 4 feet had elevated detection limits of 50 mg/kg, and no laboratory analysis was completed for benzene, toluene, ethylbenzene and xylenes.

Well MW-K is almost due east of the south FPH area (Figure 14). This well is also southeast (downgradient) from the middle release area. The final two wells MW-4 and MW-A are located to the south. The dissolved hydrocarbons were probably drawn to these two wells through the use of the irrigation well as discussed below in Section 5.3.4.

5.3.3 Free Phase Hydrocarbon Characterization

All of the FPH samples were tested to evaluate their relationships to each other. Only the two DEFS pipelines out of the seven pipelines that traverse the study area have been tested for leaks. Only the FPH associated with north release can be completely attributed to a leak from a DEFS pipeline. The other two areas may include releases from non-DEFS pipelines that have not been tested to ensure that they are not leaking.

A FPH sample from MW-18 was also analyzed. MW-18 contained FPH during the February 2002 and June 2002 sampling episodes. FPH have not been present in this well since the June 2002 episode. Well MW-18 lies southeast of the southern release area (Figure 4) so it is combined with MW-8 and MW-11.

The FPH samples from each location were analyzed for specific gravity, fractionation, and for carbon isotope analyses to evaluate their relationships. Each type of analyses is interpreted relative to distinguishing differing FPH types.

The specific gravity results are summarized on Table 14 and plotted on Figure 15. The samples are grouped by region. They are also similar for MW-27, MW-CC and MW-N from the middle release area. The specific gravities differ between MW-26, MW-EE and MW-23 in the north release area. The specific gravities are very similar for the MW-8, MW-11, and MW-18 grouping from the south release area, and their gravities are higher than those measured in the middle release area.

The FPH samples were also analyzed by separating them into their respective paraffin, isoparaffins, aromatics, naththenics and olefins phases. The paraffin, isoparaffin and aromatic phases accounted for 94 percent of all of the FPH components in each of the samples (Table 14). These three phases are plotted on a trilinear diagram to evaluate potential differences (Figure 16). One cluster includes the samples from the two NMG-148 pipeline leaks (MW-26, MW-27) along with the other two samples from the middle release area (MW-CC, MW-N). Another cluster includes the samples from the south release area (MW-8, MW-11) and MW-23 from the north release area. The samples from wells MW-EE and MW-18 plot at different locations.

Finally, the FPH samples were subjected to carbon isotopic analysis. Each sample was separated into its saturate, aromatic and resin phases. The carbon 13 isotope (^{13}C) concentration was measured for each phase and the resulting concentration was then compared to a standard. The results are reported as the difference between the number of ^{13}C in the sample and the PDB standard. The results are negative because the PDB standard contains more ^{13}C than the study area samples.

The analytical data is shown on Table 15. The data is plotted as two scatter plots the aromatic verses the saturate data is plotted on Figure 17 while the resin verses the saturate data is plotted on Figure 18. The samples from MW-8 and MW-11 plot in distinctly different locations from the other samples on both figures. The sample from MW-18 plots in an intermediate location. The samples from MW-27 and MW-EE have identical values for all three parameters so they plot in the same location on both graphs. The values for MW-23 and MW-26, MW-N and MW-CC plot in the area around the MW-27/MW-EE point.

The above results were evaluated relative to identifying differing FPH types. Locations that contain FPH that cannot be attributed to the leaks identified in the NMG-148 pipeline must be further evaluated to ensure that there are no continuing FPH leaks from non-DEFS pipelines or historic production facilities.

The FPH in the north release area in MW-26, MW-EE and MW-23 all appear to originate from the same DEFS NMG-148 release point. This conclusion is primarily based upon their up-gradient location relative to the other areas and the parallel alignment of the FPH plume to the groundwater flow direction.

The source of the FPH in the south release area is not from the two DEFS pipelines for the following reasons:

1. The physical and isotopic composition of the FPH in the south area is distinctly different than the FPH from the nearest DEFS source at MW-27 as discussed in this section.

2. As shown on Figure 14 the south release area is 1,200 feet from the nearest identified DEFS release. The maximum lateral FPH distances were 470 feet (maximum) for the north area, 370 feet for the middle area and 44 feet for the south area. The 1,200 foot value is 2.6 times greater than the maximum distance measured.

3. The DEFS ZZ-2 line was completely exhumed. There was no evidence of leaks along its entire alignment, and there were also no clamps or other indications of repairs along the entire pipeline.

It is more likely that the FPH in the south release area originated from a non-DEFS pipeline source. The two Sid Richardson pipelines and the Conoco pipeline lie within the southern release area between wells MW-8 and MW-11. There will probably be no surface evidence of a release based upon the results of the NMG-148 pipeline assessment activities. The only way to locate the leaks appears to be to hydrostatically test the lines and exhume them for evidence of historic leaks.

The FPH in the middle release area may originate from one or more sources. The release associated with MW-27 is in this area; however, the affected area is far greater than would be expected for a single release point as exhibited by the north and south release areas. The FPH data is inconclusive relative to identifying the number of releases. The DPH distribution in this area will be evaluated relative to the presence of multiple sources. The non-DEFS lines in this area for which testing information is not available include the Dynegy gathering line that originates at the Chevron pit and extends to the north and the historic gathering that was tested by Dynegy west of the study area.

5.3.4 Immobile and Dissolved Hydrocarbon Distribution and Fate

This section describes the distribution of the immobile hydrocarbon constituents in the unsaturated subsurface materials and the DPH in the groundwater at the study area. The hydrocarbon distribution is complex for the following reasons:

1. Multiple DPH plumes originate from different release areas as described above in Section 5.3.3.

2. The DPH have potentially migrated away from the release areas described above under two different groundwater flow conditions. The first condition is groundwater flow under natural conditions. This condition has been present since June 2000. It was also present in the past when the irrigation well on the northern boundary of the DEFS Eldridge property was not operating.

   The second condition existed when the irrigation pump was operating. During this time, generally between February and November, groundwater flow would have been

deflected southward toward the irrigation well. The effects of pumping would expand northward through the irrigation season as the subsurface materials became progressively more dewatered.

3. Any DPH plume that intercepted the irrigation well's capture zone would expand toward the irrigation well. In addition, increased velocity from pumping would result in greater hydrocarbon travel distances as biodegradation occurred. Eventually, the hydrocarbon plume reached the irrigation well inlet and the affected groundwater was discharged.

4. The use of the irrigation well resulted in the dewatering of the saturated materials beneath the study area. These materials resaturated when pumping ceased. Both the dissolved and the free phase hydrocarbons (if present) would contact these materials as the water table fell and then recovered. This situation could have resulted in a thicker saturated interval of hydrocarbon-affected materials than would be encountered if only natural groundwater fluctuations were present.

5. The DPH that was transported outside of the natural, equilibrated plume areas are now biodegrading because they have been cut off from their original sources since pumping ceased in June 2000 and the groundwater flow direction and velocity returned to natural conditions.

The DPH plumes must be delineated to a degree that permits evaluation of potential remediation options as required in the Stage 2 abatement plan process. This effort includes: 1) delineating the area where a DPH plume is present under natural conditions; and 2) identifying areas outside of the natural plume boundaries where residual DPH transported during irrigation remain.

The immobile hydrocarbon distribution in the subsurface materials will be evaluated first. DPH distribution in the groundwater follows.

5.3.4.1 Hydrocarbon Distribution in the Subsurface Materials

The field and laboratory data from the recent borings was used to characterize the hydrocarbon distribution in the subsurface materials. Evaluation was limited to this data because it was collected at the same time over a representative part of the study area by the same personnel using consistent methods.

The typical subsurface materials characterization program assumes that the unsaturated interval containing affected hydrocarbons can be approximately delineated using a PID. This assumption is not valid for this study area, and the use of the PID results in overestimation of the affected region. Table 16 summarizes the difference in the affected-material thicknesses based upon characterization with and without PID data. The first characterization method was based solely upon the evaluation of direct physical data such as staining and odor. The second method incorporated the PID measurements into the evaluation. Well MW-H showed no impacts in either evaluation. Thirteen of the

remaining 19 DPH borings had thickness differences between the two techniques that ranged between 1.8 and 21.2 feet. All 15 of the FPH borings had differing thickness evaluations that ranged between 3.2 and 24.2 feet.

Table 17 compares the PID readings to the soil analytical results. All of the samples had measured PID values in excess of 100 ppm, yet only three of the samples contained detectable BTEX constituents. The combination of a permeable material coupled with a FPH that has components with high vapor pressures produces this discrepancy. The interpretations presented below are based upon the non-PID results. The PID data was valuable because it indicates that the materials probably posses a high potential for transmitting soil vapors through the subsurface.

The results in Table 17 also indicate that the region of affected materials appears to be limited. MW-II is located approximately midway between MW-8 and MW-11 in the south release area. Location MW-OO is located between MW-27 and MW-N in the middle release area. The presence of high BTEX constituents in these two soil samples indicates that immobile FPH may be present at these locations. Well MW-T was installed to attempt to define the up-gradient limit of hydrocarbons found in the middle release area. The soil sample analyzed was collected from immediately above the water table. Again, the higher BTEX concentrations indicate that immobile FPH may also be present at this location.

Finally, some wells had more than one hydrocarbon-affected interval (Table 18). These wells were generally associated with the middle and south release areas . The distribution at well MW-O is of particular interest because it indicates the possibility of a shallow source location that is not associated with MW-27.

5.3.4.2 Dissolved Phase Hydrocarbon Distribution

Both temporal and areal DPH evaluation was completed. The temporal assessment defines the regions where DPH are present because of use of the irrigation well. The areal distribution must be delineated to evaluate potential remediation options during Stage 2. Benzene is used for the evaluation because it is the identified constituent of concern as discussed in Section 5.3.1 above. The December 2002, January 2003 benzene concentrations used in this evaluation are summarized in Table 8.

Four locations had benzene results that conflict with past sampling events. Wells MW-1, MW-1D, MW-5 and MW-22 are all wells that have historically had benzene concentrations near their detection limits. The December 2003 benzene concentrations in all of these wells were all above their historic values. These wells will have to be re-evaluated following the March 2004 quarterly monitoring episode. This information should be available for the preparation of the Stage 2 abatement plan report.

The benzene concentrations have decreased since sampling began in MW-4, MW-6, MW-10, MW-13, MW-14, MW-18, MW-19 and the house well. The rate of decrease in the wells with the higher benzene concentrations appears to be declining.

The benzene concentration in the former house well on the DEFS Eldridge property declined from 0.59 to 0.15 mg/l between December 2002 and December 2003. This well will be included in future monitoring episodes to track the continued decline of the DPH.

The benzene decline in wells MW-6, MW-18 and MW-19 indicates that the equilibrated plume boundary may lie to the north of these wells. Benzene is decreasing in MW-4; however, the original concentration was so elevated that it will take considerable time at the current rate for the benzene to decrease to nominal levels.

Figure 19 shows the benzene isopleth based upon the December 2003/January 2004 sampling results. The contours were generated using the Surfer program with the kriging option. The benzene concentrations in Table 12 for the wells containing FPH were incorporated into the data set to attempt to understand the relationships between the FPH release areas and the resulting DPH distribution.

DPH plumes underlie three geographically-distinct areas within the study area. The northern plume coincides with the north release area and will be referred to as the north plume. The middle plume includes the middle and south release areas so it will be called the m/s plume. The third plume originates from effects of the irrigation well so it is named the irrigation plume.

The north plume originates at MW-26 and trends to the southeast. The plume appears to be relatively narrow. Well MW-22, which had not had detectable DPH prior to the December 2003 sampling episode, marks the down-gradient extent of the plume; however, it is likely that the plume does not extend past the eastern swale.

The m/s plume includes both the middle and south release areas. The m/s plume is wider than would be expected if all of the DPH were emanating from the two FPH locations of MW-8/MW-11 and MW-27. The lateral expansion results from the hydrocarbons that are present in the alignment marked by wells MW-O, MW-13, MW-P and MW-Q. Together, these wells define a potential west-east-trending line source with a width of approximately 450 feet. The dissolved benzene concentrations decline moving from west (MW-O at 30.4 mg/l) to east (MW-Q at 7.44 mg/l).

There are two potential origins for this line source. The first would be a leak or leaks along the east-west historic gathering line that is immediately north of the line of wells. The second potential origin could be FPH that migrated laterally eastward from a point source rather than down the groundwater gradient like the configuration in the north and south release areas.

The existing monitoring well network establishes that DPH are absent or present at concentrations approaching the detection limit downgradient (southeast) of the m/s plume in wells MW-19, MW-C, MW-D, MW-F and MW-G. Further delineation of the dissolved plume is not necessary to complete the Stage 2 activities. It is important to establish that there are no continuing releases that will continue to supply FPH that would result in an expansion of the m/s plume.

The irrigation plume includes MW-4, MW-A and the House Well. This plume probably originated from DPH in the south release area migrating southward while the irrigation well was operating. The irrigation plume has now been cut off from the source, and it should continue to attenuate as long as the irrigation well is not used; however, the non-DEFS source(s) in the south release area continue to release DPH into the groundwater that will migrate to the southeast along the natural groundwater gradient.

The source of the benzenes in the house well is believed to be percolating irrigation water and/or water from the fish ponds that percolated to the water table and was then captured by the house well. The DPH in this water will also continue to decline from biodegradation.

Defining the origin of the irrigation plume is not necessary for completing the Stage 2 activities, as long as the declining DPH concentrations indicate that no continuing release is present.

The study area boundary is shown on Figure 5. The boundaries of the study area have been defined based upon the wells that contain DPH below a 0.005 mg/l concentration. This definition meets the requirement contained in 19.15.1.19.E(3)(b)(i).

The boundary of the study area based upon the DPH data is shown on Figure 5 to show the relationship between the permitted water wells and DPH plume. Permit 10238 shown on Figure 5 was issued to the only residence near the study area. This well is than the nearest part of the DPH plume. It is approximately 0.2 miles (1,050 feet) from and topographically higher than the southwestern boundary of the study area.

The only other permitted water well that could be potentially impacted by the DPH is 5336 (Figure 5). This well is believed to be the North Water Well that is currently included in the study area monitoring program.

5.4 Natural Attenuation Efficiency

The declines in the DPH concentrations discussed above provide direct evidence of active natural bioremediation in the groundwater. The shape of the northern plume will probably not change because it appears to have never been affected by the pumping of the irrigation well. The southern boundary for the middle/south plume may contract as natural bioremediation continues to remove residual DPH that was transported to the south by use of the irrigation well. The irrigation plume will also continue to contract and, in time, it could disappear entirely if it is no longer connected to an ongoing release.

6 RECOMMENDED INTERIM ACTIVITIES

No additional field activities need to be completed to complete the Stage 2 abatement plan activities. There are two activities that should be completed during the interim period between the submittal of this final investigative report and the onset of any design activities for the Stage 2 abatement plan.

First, the FPH removal program should continue. The program will be evaluated and modified as necessary during the Stage 2 process. Second, quarterly groundwater monitoring should continue. All of the new wells should be sampled in March 2004 to confirm the initial concentrations. A comprehensive monitoring program will be included in the remediation plan that is set forth during the Stage 2 process.

Additionally, the non-DEFS pipelines that could be contributing hydrocarbons must be tested to verify that there all no continuing releases. It is imperative that such testing be completed before a Stage 2 process is adopted in order to assure that all potential sources of hydrocarbons have been eliminated so that any remediation activities are not compromised by continuing releases.

7 REFERENCES

AMEC Earth and Environmental, Inc 2001. Monitoring Well Installation and Ground Water Sampling, Eldridge Ranch, Lea County New Mexico.

AMEC Earth and Environmental, Inc 2002. Phase II Monitoring Well Installation and Ground Water Sampling, Eldridge Ranch, Lea County New Mexico. Report to the Oil Conservation Division.

Barden, Michael, J., 2000. Section 4 Biodegradation of Fuel Hydrocarbons (BTEX) from National Groundwater Association Short Course, Natural Attenuation for Remediation of Contaminated Sites as presented in Denver, Colorado from November 6 to November 8, 2000.

Nicholson, A., Jr., and Clebsch, A., Jr., 1961. Geology and Ground-Water Conditions in Southern Lea County New Mexico. Prepared by the New Mexico State Bureau of Mines and Mineral Resources in conjunction with the U.S. Geological Survey.

Remediacon Incorporated, November 4, 2002. Characterization Report for the Eldridge Ranch Study Area, Lea County New Mexico for Duke Energy Field Services, LP.

US Bureau of Reclamation, 1977, Ground Water Manual. Published by the Government Printing Office, Washington, D.C.

TABLES

Table 1 – Permitted Wells Within 1 Mile of Section 21, Township 19 south, Range 37 east

File Number	Owner (as listed in file)	Section	UTM Zone 13 Easting (meters)	UTM Zone 13 Northing (meters)	Permit Date	Well Depth (feet)	Depth to Water (feet)
1975	O&W Drlg Co	16	663,768	3,614,158	2/12/1953	50	20
2596	MAKIN DRILLING COMPANY	29	661,800	3,611,317	7/20/1954	50	20
2602	OSCAR BOURG DRILLING CO	16	662,944	3,615,353	7/29/1954	96	
2621	LAMANCEDRILLINGCOMPANY	21	663,284	3,612,846	9/13/1954	83	40
3185	CARPER DRILLING CO.	16	664,156	3,614,968	4/23/1956	86	45
3228	MAKIN DRILLING COMPANY	16	664,170	3,614,163	6/18/1956	102	42
3313	D-K DRILLING COMPANY	22	664,578	3,613,767	9/24/1956	90	40
3378	MAKIN DRILLING COMPANY	15	664,558	3,614,973			
3387	AMERADA PETROLEUM CO	22	664,490	3,613,064	12/16/1956	95	35
3417	SHELRO DRILLING COMPANY	15	664,572	3,614,169	1/18/1957	96	44
3515	CACTUS DRILLING COMPANY	27	665,019	3,611,364	10/11/1956	57	35
3517	CACTUS DRILLING COMPANY	15	664,551	3,615,375	10/22/1956	72	45
3525	DENVER DRILLING COMPANY	15	664,773	3,614,370	5/13/1957	100	50
3884, 3885	R.L. LEWIS	28	663,616	3,611,534	6/14/1958	47	30
3922	LEON DICKERSON	29	662,007	3,611,513	8/11/1958	42	22
3937, 3939	N.A. BYRD	28	664,214	3,611,352			
3940	N.A. BYRD	28	664,201	3,612,156			
3949	ROY L WHEELER	29	662,007	3,611,513	8/11/1958	36	18
3952	W.R. HURST	28	663,616	3,611,534			
3956	DENNIS C. SMITH	29	662,007	3,611,513	8/12/1958	40	20
3976	JIMMY T. COOPER	29	662,007	3,611,513			
3982	W.R. HURST	28	663,013	3,610,931			
4104	N.A. BYRD	28	664,319	3,610,849			
4105	N.A. BYRD	27	664,509	3,611,659			
4108	R.H. HUSTON	21	664,189	3,612,959	4/1/1959	70	22
4799	W.V. WHITAKER	29	662,611	3,610,926	8/16/1962	150	
5336	GULFOILCORPORATION	21	663,471	3,613,650	2/15/1964	71	30
5500	FIRST BAPTIST CHURCH	29	662,710	3,611,025	12/4/1964	55	
5790	MONUMENT WATER USERS COOP	29	662,007	3,611,513			
7223	W.J. HART	28	663,112	3,611,030	8/24/1974	60	
8217	DERL TIDWELL	27	664,509	3,611,659	2/19/1980	50	18
9163	LEROYLOTT	21	663,880	3,613,454	4/15/1983	60	47
10238	W.S. ISRAEL	21	663,290	3,612,445	3/18/1992	60	30
10295	TERRY ISRAEL	21	663,290	3,612,445	10/26/1992	70	30
10498	JIMMY T. COOPER	29	662,007	3,611,513			
6933(E)	GULF OIL CORPORATION	17	662,454	3,614,443	4/11/1972	100	65
9631.4, 9632.4 9633.4	L.L. ROBINET	29	662,202	3,611,322			

Notes: All sections in Township 19 south, Range 37 east

Table 2 – Monitoring Well Information

Well	Installed By	Date Installed	Total Well Depth	Screen Interval	Sand Interval
MW-1	AMEC	8/01	28.0	11.8-26.8	9.8-27
MW-1D	Trident	12/02	48.0	34-44	33-48
MW-2	AMEC	8/01	28.0	11.7-26.7	8.7-27
MW-3	AMEC	8/01	30.0	13.4-28.4	10.4-29
MW-4	AMEC	8/01	30.0	13.2-28.2	10.2-29
MW-5	AMEC	8/01	27.0	10.2-25.2	7.2-26
MW-6	AMEC	8/01	30.0	13.5-28.5	10.5-29.0
MW-7	AMEC	8/01	35.0	18.6-33.6	15.6-34
MW-8	AMEC	3/02	30.0	15.0-30.0	12-30
MW-9	AMEC	3/02	27.0	11.4-26.4	8.4-27
MW-10	AMEC	3/02	31.0	15.2-30.2	12-31
MW-11	AMEC	3/02	30.4	15.3-30.3	12-30.4
MW-12	AMEC	3/02	34.0	18-33	15-34
MW-13	AMEC	3/02	36.0	18.11-33.11	16-36
MW-14	AMEC	3/02	32.0	16.11-31.11	14-32
MW-15	Trident	9/02	35.5	20-35	18-35.5
MW-16	Trident	9/02	25.0	9.5-24.5	9-24.5
MW-17	Trident	9/02	25.0	9.5-24.5	9-24.5
MW-18	Trident	9/02	32.0	16.5-31.5	15-32
MW-19	Trident	9/02	30.0	7-27	6-30
MW-20	Trident	9/02	32.0	16.5-31.5	15-32
MW-21	Trident	9/02	35.0	19.5-34.5	18-35
MW-22	Trident	9/02	36.0	17-32	15-36
MW-23	Trident	9/02	30.0	14.5-29.5	11-30
MW-24	Trident	12/02	35.0	19-34	17-34
MW-25	Trident	2/03	37.0	17-37	15-37
MW-26	Trident	2/03	35.0	15-35	13-35
MW-27	Trident	2/03	37.0	17-37	15-37
North Water Well	?	?	~38	?	?
South Water Well	?	?	~23	?	?
West Water Well	?	?	~47	?	?

All units in feet
?: no information available
Minimum of 2 feet of pelletized bentonite on top of all sand packs.

Table 2 – (continued)

Well	Installed By	Date Installed	Total Well Depth	Screen Interval	Sand Interval
MW-A	Trident	11/03	26.5	11-26	8-26.5
MW-B	Trident	11/03	30.5	15-30	11-30.5
MW-C	Trident	11/03	26.5	11-26	9-26.5
MW-D	Trident	11/03	31.5	16-31	14-31.5
MW-E	Trident	11/03	31	15-30	13-31
MW-F	Trident	11/03	26	9-24	6-24
MW-G	Trident	11/03	26	10-25	5-25
MW-H	Trident	11/03	30.5	15-30	12-30
MW-I	Trident	11/03	36.5	19-34	17-36.5
MW-J	Trident	11/03	27.5	12-27	9-27.5
MW-K	Trident	11/03	26	10-25	8-26
MW-L	Trident	11/03	33	16-31	14-33
MW-M	Trident	11/03	38.5	23-38	21-38
MW-N	Trident	11/03	36.5	21-36	19-36.5
MW-O	Trident	11/03	36.5	21-36	19-36.5
MW-P	Trident	11/03	38	20-35	18-38
MW-Q	Trident	11/03	36	19-34	16-36
MW-R	Trident	11/03	31	15-30	13-31
MW-S	Trident	11/03	28.5	13-28	10-28.5
MW-T	Trident	11/03	37	20-35	17-37
MW-AA	Trident	11/03	32.5	17-32	15-32.5
MW-BB	Trident	11/03	29.5	14-29	12-29.5
MW-CC	Trident	11/03	36.5	21-36	19-36.5
MW-DD	Trident	11/03	32.5	17-32	15-32.5
MW-EE	Trident	11/03	33.5	18-33	16-33.5
MW-FF	Trident	11/03	36	15-30	13-36
MW-GG	Trident	11/03	31.5	16-31	14-31.5
MW-HH	Trident	11/03	31.5	16-31	14-31.5
MW-II	Trident	11/03	31.5	16-31	14-31.5
MW-JJ	Trident	11/03	31.5	16-31	14-31.5
MW-KK	Trident	11/03	36.5	21-36	19-36.5
MW-LL	Trident	11/03	37.5	22-37	20-37.5
MW-MM	Trident	11/03	36	19-34	16-36
MW-NN	Trident	11/03	36.5	21-36	19-36
MW-OO	Trident	11/03	37.5	22-37	19-37.5

All units in feet
Minimum of 2 feet of pelletized bentonite on top of all sand packs.

Table 3 – Summary of Field Photoionization Detector (PID) Readings

Depth	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
0-1	0	7	3	3	5	<10	0	11	5	0	7	14	6	10	8	48	2	5	0	28
1-2	0	7	16	3	9	18	1	11	5	0	21	19	1	9	60	88	8	5	--	49
2-3	0	7	16	7	18	18	1	11	15	13	35	14	0	11	162	120	89	5	2	45
3-4	0	7	5	7	18	18	2	11	24	37	15	14	0	11	86	204	251	15	5	86
4-5	4	10	13	7	18	18	12	30	24	37	15	39	0	9	126	153	162	15	--	39
5-6	3	15	17	12	48	18	9	23	--	74	21	26	0	13	63	71	281	15	--	7
6-7	1	11	11	19	9	4	3	6	8	24	10	6	0	6	174	29	281	51	2	10
7-8	1	11	60	33	5	15	8	21	8	15	26	7	0	2	178	38	35	30	0	30
8-9	1	15	32	37	7	15	14	21	8	9	26	13	0	5	72	90	70	30	4	136
9-10	1	15	26	15	9	20	6	25	8	12	15	10	0	14	78	56	70	30	3	57
10-11	1	15	46	30	32	7	8	10	8	45	29	1	0	8	122	50	70	21	8	49
11-12	4	10	20	30	22	7	8	26	20	17	18	1	0	2	143	58	38	8	--	167
12-13	9	19	15	16	50	7	8	26	20	7	27	9	0	7	110	110	78	8	3	202
13-14	16	21	15	24	39	5	8	15	20	12	19	5	0	13	102	83	127	8	75	177
14-15	5	25	15	24	17	5	8	12	10	12	40	23	0	5	101	206	194	27	93	152
15-16	10	64	15	87	31	5	8	18	10	9	40	11	0	8	62	226	216	64	78	90
16-17	4	145	145	44	277	5	8	61	271	15	11	14	184	91	142	245	98	126	51	82
17-18	83	94	112	99	356	5	11	84	109	16	11	80	307	120	253	287	162	94	28	169
18-19	136	52	106	319	356	12	11	38	413	--	20	74	116	116	231	140	170	71	14	119
19-20	151	174	106	176	410	12	11	38	476	--	20	66	103	184	306	131	170	59	11	183
20-21	168	201	106	176	410	12	15	25	263	--	20	--	297	253	422	76	170	17	10	273
21-22	135	168	91	396	457	12	15	25	346	--	32	63	250	246	355	102	170	5	6	99
22-23	145	215	77	483	37	12	10	25	294	--	12	56	151	299	256	266	170	5	--	229
23-24	234	63	7	483	23	12	10	15	255	10	40	77	257	304	321	97	80	5	3	283
24-25	225	37	7	404	17	12	10	15	204	10	33	67	309	295	212	712	80	5	--	136
25-26	276	28	2	444	13	12	10	6	16	8		76	337	305	230	505	138	5		27
26-27		32		444	8				0			31	316	125	245	165	50	20	1	33
27-28		47		5	22				0			67	321	138	246	143	50	20	0	8
28-29		34		21	28				0			48	201	200	222	198	50	5		17
29-30		34		17	32				0			42	149	460	298	374	50	5		14
30-31				17	32				0			34	54	390	347	307	13	5		16
31-32									0			56	20	319	272	372	60			104
32-33									0			14	17	475	256	255	60			110
33-34									0				17	716	121	102	60			102
34-35									0				18	711	176	331	74			160
35-36									0				18	685	191	91	95			114

Notes: Depth units in feet, photoionization units in parts per million (ppm)

Table 3 – (continued)

Depth	AA	BB	CC	DD	EE	FF	GG	HH	II	JJ	KK	LL	MM	NN	OO
0-1	22	8	0	0	39	7	2	6	15	5	8	5	5	5	228
1-2	31	35	0	0	123	26	39	11	75	12	11	23	4	5	155
2-3	98	69	2	0	220	26	71	96	171	126	28	70	5	9	62
3-4	88	53	0	0	312.5	55	114	134	277	246	18	49	8	17	23
4-5	83	59	0	4	198	16	224	85	270	71	12	51	8	7	25
5-6	75	52	0	6	308	23	197	57	65	101	15	117	13	22	22
6-7	91	7	2	20	319	0	50	23	96	79	10	20	6	16	31
7-8	119	11	2	28	324	0	211	33	63	46	18	113	8	17	54
8-9	106	42	2	36	370	6	170	71	165	240	22	57	7	11	31
9-10	97	44	4	63	697	21	176	60	89	334	14	130	8	30	15
10-11	69	50	4	70	1014	16	278	156	146	108	15	18	11	64	7
11-12	36	74	4	86	694	11	98	123	149	93	29	44	9	7	13
12-13	76	155	2	341	401	8	42	91	---	77	37	17	60	8	22
13-14	4	106	9	342	400	8	80	82	---	62	38	31	330	10	8
14-15	17	106	18	343	417	8	152	254	---	90	57	---	293	6	---
15-16	9	181	12	365	806	8	159	239	---	181	88	---	403	18	---
16-17	244	181	135	382	661	31	527	422	223	394	29	322	449	188	298
17-18	84	247	500	307	565	5	488	341	244	445	350	373	561	168	460
18-19	281	297	379	381	397	5	484	268	316	423	280	449	440	411	405
19-20	198	364	189	426	537	38	599	466	578	441	284	387	363	411	384
20-21	228	340	---	428	674	53	585	330	636	659	310	518	168	1226	448
21-22	174	401	---	58	457	142	497	143	722	828	252	320	140	1362	385
22-23	107	478	---	42	826	142	65	127	392	745	790	506	175	1128	310
23-24	85	247	299	65	497	356	57	299	333	376	621	717	152	1752	408
24-25	85	207	195	66	302	356	55	319	415	538	562	641	109	1930	299
25-26	63	340	216	142	105	49	56	318	279	597	291	693	129	986	277
26-27	65	21	200	62	10	65	57	70	20	---	219	316	5	691	116
27-28	48	165	200	23	18	260	107	129	7	382	114	332	7	1053	129
28-29	48		200	11	10	100	152	53	8	443	443	340	9	761	127
29-30	21		200	40	15	51	105	35	13	532	440	412	5	500	457
30-31	14		158	31	22	39	141	38	13	279	57	348	7	582	378
31-32	7		108	67	12	19					31	268	12	1670	343
32-33			65	68	12	9					25	44	9	998	260
33-34			65	69	12	21					22	38	11	722	200
34-35			65	70	12	17					21	26	8	767	121
35-36			14	71	12	6					23	20	13	404	81

Notes: Depth units in feet, photoionization units in parts per million (ppm)

Table 4 – Summary of Soils Analytical Data

Boring	Sample Top (feet)	Sample Bottom (feet)	GRO (C6-C12) (mg/l)	DRO (>C12-C35) (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Total Xylenes (mg/l)
Q	5	6	<10	<10	<0.025	<0.025	<0.025	<0.025
Q	14	15	<10	<10	<0.025	<0.025	<0.025	<0.025
Q	19	20	<10	<10	<0.025	<0.025	<0.025	<0.025
T	23	24	51.8	<10	1.54	1.6	0.456	1.211
AA	18	19	<10	<10	<0.025	<0.025	<0.025	<0.025
BB	18	19	<10	<10	<0.025	<0.025	<0.025	<0.025
EE	22	23	<10	<10	0.065	0.073	<0.025	0.053
GG	19	21	<10	<10	<0.025	<0.025	<0.025	<0.025
II	19	20	71.7	<10	0.69	0.499	0.198	0.624
NN	24	25	<10	<10	<0.025	<0.025	<0.025	<0.025
OO	26	28	483	<10	12.6	20.0	2.34	6.76

Notes: GRO: Total petroleum Hydrocarbons as gasoline range organics
DRO: Total petroleum Hydrocarbons as diesel range organics

Table 5 – Summary of Data from October 2002 Pumping Test

MW-1

Elapsed Time (minutes)	Drawdown (feet)
2.0	0.15
2.5	0.17
3.0	0.17
3.5	0.18
4.0	0.19
4.5	0.19
5.0	0.20
6.0	0.22
7.0	0.24
8.0	0.26
9.0	0.28
14.3	0.33
20	0.29
25	0.30
30	0.31
37.5	0.34
42.5	0.36
50	0.39
60	0.43
70	0.46
86	0.50
90	0.51
100	0.54
150	0.63
175	0.68
201	0.74
226	0.76
250	0.81

MW-2

Elapsed Time (minutes)	Drawdown (feet)
12	0
36	0.02
66	0.07
126	0.13
189	0.19
235	0.24

MW-3

Elapsed (minutes)	Drawdown (feet)
9	0.02
39	0.03
69	0.06
124	0.1
187	0.18
232	0.21

Interpretive Results

Well	Hydraulic Conductivity (feet/day)	Specific Yield (-)
MW-1	96	0.2
MW-2	191	0.5
MW-3	196	0.5

Note: Wells MW-4 and MW-5 could not be analyzed because of no measurable drawdown

Table 6 - Groundwater Elevations Corrected for Free Product When Present

Well	8/9/01	3/3/02	7/18/02	10/10/02	2/22/03	6/5/03	9/24/03	12/9/03	1/12/04
MW-1	3,602.20	3,599.02	3,598.68	3,598.55	3,598.68	3,598.59	3,598.36	3,598.48	3,598.47
MW 1D					3,595.12	3,595.03	3,594.81	3,594.90	3,594.92
MW-2	3,601.63	3,599.33	3,598.95	3,598.81	3,598.99	3,598.88	3,598.66		3,598.75
MW-3	3,601.67	3,601.67	3,599.11	3,598.96	3,599.09	3,599.01	3,598.80	3,598.89	3,598.89
MW-4	3,602.16	3,599.81	3,599.34	3,599.17	3,599.30	3,599.24	3,599.01	3,599.05	3,599.07
MW-5	3,602.98	3,600.48	3,600.09	3,599.93	3,600.20	3,600.03	3,599.75	3,599.91	3,599.92
MW-6	3,606.44	3,603.99	3,603.42	3,603.22	3,603.27	3,603.21	3,603.01	3,602.99	3,602.99
MW-7	3,606.47	3,604.02	3,603.46	3,603.31	3,603.30	3,603.25	3,603.10	3,603.05	3,603.05
MW-8		3,605.22	3,602.50	3,602.33	3,602.34	3,602.25	3,602.00	3,602.00	3,602.13
MW-9		3,604.78	3,601.14	3,600.91	3,601.05	3,600.91	3,600.62	3,600.66	3,600.66
MW-10		3,606.67	3,603.96	3,603.76	3,603.74	3,603.67	3,603.41	3,603.39	3,603.38
MW-11		3,606.16	3,603.64	3,602.47	3,603.39	3,603.32	3,603.04	3,603.07	3,603.04
MW-12		3,607.44	3,604.87	3,604.69	3,604.60	3,604.54	3,604.36	3,604.32	3,604.27
MW-13		3,608.80	3,605.01	3,604.79	3,604.79	3,604.70	3,604.43	3,604.40	3,604.39
MW-14		3,608.66	3,606.04	3,605.85	3,605.81	3,605.74	3,605.51	3,605.47	3,605.45
MW-15				3,608.42	3,608.43	3,608.43	3,608.41	3,608.41	3,608.40
MW-16				3,592.88	3,593.10	3,592.88	3,592.87		3,592.82
MW-17				3,592.92	3,593.17	3,592.98	3,592.72		3,592.89
MW-18				3,600.19	3,600.42	3,600.24	3,599.91	3,600.04	3,600.06
MW-19				3,599.70	3,600.05	3,599.78	3,599.45	3,599.64	3,599.67
MW-20				3,605.44	3,605.32	3,605.26	3,605.14	3,605.09	3,605.04
MW-21				3,606.29	3,606.26	3,606.22	3,606.06	3,606.04	3,606.02
MW-22				3,605.80	3,605.81	3,605.73	3,605.45	3,605.44	3,605.43
MW-23				3,607.55	3,607.50	3,607.46	3,607.26	3,607.24	3,607.21
MW-24					3,587.76	3,587.66	3,587.47		3,587.56
MW-25					3,611.96	3,611.94	3,611.89	3,611.86	3,611.84
MW-26					3,609.37	3,609.36	3,609.20	3,609.18	3,609.14
MW-27					3,606.23	3,606.17	3,605.86	3,606.09	3,605.85
North Water Well				3,589.13	3,609.29	3,609.25	3,609.07	3,609.02	3,609.00
South Water Well					3,591.96	3,591.83	3,591.62		3,591.84
West Water Well					3,607.83	3,607.83	3,607.75	3,607.74	3,607.72

All units in feet

Table 6 - (continued)

Well	12/9/03	1/12/04
MW-A	3,594.96	3,594.95
MW-B	3,595.01	3,595.01
MW-C	3,597.77	3,597.78
MW-D	3,598.11	3,598.14
MW-E	3,598.83	3,598.84
MW-F	3,598.96	3,598.99
MW-G	3,598.98	3,599.01
MW-H	3,600.88	3,600.89
MW-I	3,602.15	3,602.17
MW-J	3,601.61	3,601.67
MW-K	3,601.89	3,601.90
MW-L	3,604.27	3,604.25
MW-M	3,605.18	3,605.16
MW-N	3,605.11	3,605.10
MW-O	3,605.10	3,605.08
MW-P	3,605.08	3,605.07
MW-Q	3,606.03	3,606.01
MW-R	3,604.97	3,605.01
MW-S	3,604.92	3,604.91
MW-T	3,605.08	3,605.06
MW-AA	3,602.45	3,602.44
MW-BB	3,603.45	3,603.44
MW-CC	3,605.16	3,605.14
MW-DD	3,606.98	3,606.96
MW-EE	3,607.61	3,607.59
MW-FF	3,604.81	3,604.80
MW-GG	3,602.60	3,602.58
MW-HH	3,603.73	3,603.71
MW-II	3,603.03	3,603.00
MW-JJ	3,603.47	3,603.44
MW-KK	3,604.14	3,604.12
MW-LL	3,605.10	3,605.08
MW-MM	3,606.65	3,606.62
MW-NN	3,605.09	3,605.07
MW-OO	3,605.17	3,605.15

All units in feet

Table 7 – Measured Free Product Thickness and Free Phase Hydrocarbons Removed

Well	3/03/02	7/18/02	10/10/02 (feet)	2/22/03 (feet)	6/04/03 (feet)	9/24/03 (feet)	12/09/03 (feet)	1/12/04 (feet)
MW-8	0.00	0.00	0.00	0.00	0.30	0.47	0.50	0.00
MW-11	0.00	0.00	0.01	1.35	1.36	1.33	1.40	1.41
MW-18			0.00	0.40	0.40	0.00	0.00	0.00
MW-23			0.58	0.57	0.59	0.56	0.52	0.54
MW-26				0.71	0.84	0.21	0.05	0.02
MW-27				1.25	1.26	1.18	0.37	1.16
MW-N							1.10	1.10
MW-CC							1.20	1.20
MW-EE							0.27	0.26

Removal of free product in wells MW-N, MW-CC and MW-EE began the week of Jan 12, 2004

Table 8 – Summary of Dissolved Phase Benzene Concentrations

Well	Aug-01	Mar-02	Jul-02	Oct-02	Dec-02	Feb-03	Jun-03	Sep-03	Dec 03/ Jan 04
MW-1	0.943	NS	0.279	NS	NS	0.018/0.021	0.004	0.002	0.034
MW-2	<.005	NS	<0.001	NS	NS	<0.001	0.006	<0.001	<0.001
MW-3	<.005	NS	0.002	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-4	10.0	NS	10.4	NS	NS	5.65	3.88	3.53	3.36
MW-5	0.217/0.182	NS	0.160	NS	NS	0.018	0.019/0.023	0.013/0.013	0.052
MW-6	0.600	NS	0.237/0.253	NS	NS	0.022	0.033	0.020	0.004
MW-7	<.005	NS	<0.001	NS	NS	0.004	<0.001	<0.001	<0.001
MW-8		8.60	8.37	NS	NS	9.62	FPH	FPH	FPH
MW-9		<.005	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-10		10.6	14.0	NS	NS	12.4	9.78	7.04	6.95
MW-11		27.8	FPH	NS	NS	FPH	FPH	FPH	FPH
MW-12		9.08	6.95	NS	NS	15.1	11.9	15.2	14.7
MW-13		19.8	19.8	NS	NS	23.2	26.3	16.5	16.1
MW-14		1.04	1.21	NS	NS	0.895	0.537	0.388	0.398
MW-1D				NS	<0.001	0.028	<0.001	<0.001	0.008
MW-15				0.002	NS	0.003	0.001	<0.001	0.029
MW-16				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-17				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-18				0.008	NS	FPH	FPH	0.059	0.018
MW-19				0.003	NS	0.198	0.092	0.078	0.05
MW-20				<0.001	NS	0.001	0.006	<0.001	<0.001
MW-21				0.01/0.011	NS	0.016/0.014	0.016/0.017	0.007/0.006	0.009
MW-22				<0.001	NS	<0.001	0.002	<0.001	0.014
MW-23						FPH	FPH	FPH	FPH
MW-24				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-25					NS	0.004/0.004	0.004	0.009	0.002
MW-26						FPH	FPH	FPH	FPH
MW-27						FPH	FPH	FPH	FPH
North water well					0.385	0.383	0.333	0.359	0.21
South water well					<0.001	0.036	<0.001	<0.001	<0.001
West water well					NS	<0.001	0.001	<0.001	<0.001
House well					0.59	0.403	NS	NS	0.147

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 8 –(continued)

Well	Dec 03/ Jan 04
MW-A	2.11
MW-B	0.321
MW-C	0.027
MW-D	0.008
MW-E	0.847
MW-F	<0.001
MW-G	<0.001
MW-H	0.066
MW-I	0.522
MW-J	<0.001
MW-K	2.33
MW-L	21.4
MW-M	1.67
MW-N	FPH
MW-O	30.4
MW-P	10.2
MW-Q	7.44
MW-R	0.004
MW-S	0.002
MW-T	4.3
MW-AA	0.356
MW-BB	4.34
MW-CC	FPH
MW-DD	0.772
MW-EE	FPH
MW-FF	3.22
MW-GG	5.96
MW-HH	3.23
MW-II	0.518
MW-JJ	15.9
MW-KK	0.263
MW-LL	13.7
MW-MM	0.237
MW-NN	31.5
MW-OO	31.5

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 9 – Summary of Dissolved Phase Toluene Concentrations

Well	Aug-01	Mar-02	Jul-02	Oct-02	Dec-02	Feb-03	Jun-03	Sep-03	Dec 03/ Jan 04
MW-1	0.120	NS	0.002	NS	NS	0.004/0.005	0.002	0.001	0.039
MW-2	<.005	NS	<0.001	NS	NS	<0.001	0.003	<0.001	<0.001
MW-3	<.005	NS	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-4	6.96	NS	5.52	NS	NS	3.02	2.51	2.56	2.46
MW-5	0.185/0.159	NS	0.004	NS	NS	0.006	0.004/0.004	0.006/0.007	0.01
MW-6	0.502	NS	0.046/0.047	NS	NS	0.004	0.005	0.002	0.001
MW-7	<.005	NS	<0.001	NS	NS	<0.001	0.001	<0.001	<0.001
MW-8		0.482	0.176	NS	NS	1.06	FPH	FPH	FPH
MW-9		<.005	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-10		<.100	0.144	NS	NS	0.126	0.174	0.155	0.019
MW-11		2.49	FPH	NS	NS	FPH	FPH	FPH	FPH
MW-12		0.281	0.190	NS	NS	0.491	0.346	0.278	0.142
MW-13		5.95	4.34	NS	NS	1.96	1.54	0.788	0.582
MW-14		0.0059	<0.010	NS	NS	0.002	0.003	0.002	0.002
MW-1D				NS	<0.001	0.003	<0.001	<0.001	0.002
MW-15				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-16				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-17				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-18				0.005	NS			0.042	0.006
MW-19				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-20				<0.001	NS	0.001	<0.001	<0.001	<0.001
MW-21				0.022/0.024	NS	0.021/0.019	0.018/0.019	0.002/0.002	0.006
MW-22				<0.001	NS	<0.001	<0.001	<0.001	0.012
MW-23					NS	FPH	FPH	FPH	FPH
MW-24				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-25				0.002	NS	0.002	0.002	<0.001	<0.001
MW-26						FPH	FPH	FPH	FPH
MW-27						FPH	FPH	FPH	FPH
North water well					0.001	0.007	0.002	0.002	0.006
South water well					<0.001	<0.001	<0.001	<0.001	<0.001
West water well						<0.001	<0.001	<0.001	<0.001
House well					<0.001	<0.001	NS	NS	<0.001

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 9 – (continued)

Well	Dec 03/Jan 04
MW-A	1.8
MW-B	0.221
MW-C	0.019
MW-D	0.008
MW-E	0.012
MW-F	<0.001
MW-G	<0.001
MW-H	<0.001
MW-I	0.004
MW-J	<0.001
MW-K	<0.001
MW-L	<.02
MW-M	0.108
MW-N	FPH
MW-O	0.129
MW-P	0.023
MW-Q	0.045
MW-R	0.003
MW-S	<0.001
MW-T	0.026
MW-AA	0.03
MW-BB	0.064
MW-CC	FPH
MW-DD	0.007
MW-EE	FPH
MW-FF	3.22
MW-GG	0.031
MW-HH	0.052
MW-II	0.167
MW-JJ	0.071
MW-KK	0.115
MW-LL	0.216
MW-MM	0.006
MW-NN	0.043
MW-OO	5.41

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 10 – Summary of Dissolved Phase Ethylbenzene Concentrations

Well	Aug-01	Mar-02	Jul-02	Oct-02	Dec-02	Feb-03	Jun-03	Sep-03	Dec 03/Jan 04
MW-1	0.052	NS	<0.001	NS	NS	<.001/0.001	0.036	<0.001	0.003
MW-2	<.005	NS	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-3	<.005	NS	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-4	0.190	NS	0.189	NS	NS	0.141	0.133	0.092	0.142
MW-5	0.024/0.020	NS	0.020	NS	NS	0.011	0.01/0.01	0.006/0.006	0.021
MW-6	0.024	NS	0.009/0.009	NS	NS	0.006	0.013	0.006	0.006
MW-7	<.005	NS	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-8		<.100	0.074	NS	NS	0.166	FPH		FPH
MW-9		<.100	<0.020	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-10		<.200	FPH	NS	NS	<.025	<0.001	0.011	0.02
MW-11				NS	NS	FPH	FPH	FPH	FPH
MW-12		<.100	0.043	NS	NS	0.109	0.27	0.124	0.102
MW-13		0.205	0.206	NS	NS	0.228	0.214	0.179	0.139
MW-14		<.005	<0.010	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-1D				NS	<.001	<.001	<0.001	<0.001	0.001
MW-15				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-16				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-17				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-18				0.001	NS	FPH	FPH	0.025	0.002
MW-19				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-20				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-21				0.004/0.004	NS	0.01/0.009	0.01/0.007	0.003/0.003	0.006
MW-22				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-23					NS	FPH	FPH	FPH	FPH
MW-24				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-25				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-26						FPH	FPH	FPH	FPH
MW-27						FPH	FPH	FPH	FPH
North water well					0.002	0.002	0.001	0.001	<0.001
South water well					<0.001	<0.001	<0.001	<0.001	<0.001
West water well					NS	<0.001	<0.001	<0.001	<0.001
House well					0.005	0.006	NS	NS	<0.001

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 10 –(continued)

Well	Dec 03/Jan 04
MW-A	0.218
MW-B	0.099
MW-C	0.004
MW-D	0.002
MW-E	0.003
MW-F	<0.001
MW-G	<0.001
MW-H	<0.001
MW-I	0.001
MW-J	<0.001
MW-K	<0.001
MW-L	0.13
MW-M	0.03
MW-N	FPH
MW-O	0.062
MW-P	0.036
MW-Q	0.015
MW-R	<0.001
MW-S	<0.001
MW-T	0.011
MW-AA	0.005
MW-BB	0.058
MW-CC	FPH
MW-DD	0.037
MW-EE	FPH
MW-FF	<.01
MW-GG	<.01
MW-HH	<.01
MW-II	0.01
MW-JJ	0.096
MW-KK	0.006
MW-LL	0.124
MW-MM	0.007
MW-NN	0.121
MW-OO	0.209

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 11 – Summary of Dissolved Phase Total Xylene Concentrations

Well	Aug-01	Mar-02	Jul-02	Oct-02	Dec-02	Feb-03	Jun-03	Sep-03	Dec 03/ Jan 04
MW-1	0.06	NS	<0.001	NS	NS	0.002/0.003	0.224	<0.001	0.012
MW-2	<.005	NS	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-3	<.005	NS	<0.001	NS	NS	<0.001	<0.001	<0.001	<0.001
MW-4	0.632	NS	0.536	NS	NS	0.389	0.421	0.289	0.439
MW-5	0.129/0.019	NS	0.010	NS	NS	0.03	0.026/0.020	0.019/.018	0.035
MW-6	0.100	NS	0.025/0.026	NS	NS	0.01	0.019	0.006	0.007
MW-7	<.005	NS	<0.001	NS	NS	<0.001	<0.001	0.001	<0.001
MW-8		0.197	0.035	NS	NS	0.14	FPH	FPH	FPH
MW-9		<.005	<0.001	NS	NS	<0.001	0.002	<0.001	0.002
MW-10		<.100	<0.020	NS	NS	<.025	<0.001	0.023	0.044
MW-11		0.376	FPH	NS	NS	FPH	FPH	FPH	FPH
MW-12		<.100	0.025	NS	NS	0.088	1.069	0.085	0.035
MW-13		0.432	0.453	NS	NS	0.435	0.298	0.242	0.226
MW-14		0.0085	<0.010	NS	NS	<0.001	0.001	0.001	0.001
MW-1D			0.001	NS	<0.001	<0.001	<0.001	<0.001	0.003
MW-15				<0.001	NS	0.001	0.001	0.001	<0.001
MW-16				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-17				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-18				0.002	NS	FPH	FPH	0.121	0.011
MW-19				<0.001	NS	<0.001	0.001	0.001	<0.001
MW-20				<0.001	NS	<0.001	<0.001	<0.001	<0.001
MW-21				0.0013/0.012	NS	0.028/0.026	0.037/0.024	0.008/0.008	0.022
MW-22				<0.001	NS	<0.001	<0.001	<0.001	0.002
MW-23					NS	FPH	FPH	FPH	FPH
MW-24					<0.001	<0.001	<0.001	<0.001	<0.001
MW-25						0.001/0.001	0.001	<0.001	<0.001
MW-26						FPH	FPH	FPH	FPH
MW-27						FPH	FPH	FPH	FPH
North water well					0.005	0.005	0.003	0.003	0.003
South water well					<0.001	<0.001	<0.001	<0.001	<0.001
West water well					NS	<0.001	<0.001	<0.001	<0.001
House well					<0.001	0.001	NS	NS	<0.001

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 11 – (continued)

Well	Dec 03/Jan 04
MW-A	0.762
MW-B	0.271
MW-C	0.006
MW-D	0.004
MW-E	0.007
MW-F	<0.001
MW-G	<0.001
MW-H	<0.001
MW-I	0.003
MW-J	<0.001
MW-K	<0.001
MW-L	<.02
MW-M	<.02
MW-N	FPH
MW-O	<.05
MW-P	0.018
MW-Q	0.019
MW-R	0.001
MW-S	0.001
MW-T	0.023
MW-AA	0.007
MW-BB	0.011
MW-CC	FPH
MW-DD	0.059
MW-EE	FPH
MW-FF	<.01
MW-GG	0.014
MW-HH	<.01
MW-II	0.028
MW-JJ	<.02
MW-KK	0.013
MW-LL	0.172
MW-MM	0.009
MW-NN	0.028
MW-OO	0.455

All units in mg/l
Cells marked with FPH contained free phase hydrocarbons and were not sampled
Cells marked with NW denote wells that were not sampled
Blank cells denote wells that had not been installed

Table 12 – Summary of Dissolved BTEX Constituents from Wells Containing Free Phase Hydrocarbons

Well	Date Sampled	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-8	9/03	28	17	0.35	0.99
MW-11	9/03	51	8.5	0.38	0.341
MW-23	9/03	8.1	1.2	0.34	0.773
MW-26	9/03	5.8	2.1	0.12	0.163
MW-27	9/03	11	1.8	0.11	0.217
MW-N	12/03	33.2	2.85	0.229	0.416
MW-CC	12/03	17.6	2.94	0.168	0.377
MW-EE	12/03	2.13	1.53	0.111	0.324

All units are mg/l

Table 13 – Summary of December 2003/January 2004 Chloride Concentrations

Well	Chloride
MW-1	64.2
MW-1D	44.3
MW-2	31.9
MW-3	62.0
MW-4	73.8
MW-5	65.0
MW-6	88.6
MW-7	93.1
MW-8	FPH
MW-9	44.3
MW-10	68.0
MW-11	FPH
MW-12	284
MW-13	73.8
MW-14	46.5
MW-15	44.3
MW-16	78.0
MW-17	51.0
MW-18	65.0
MW-19	65.0
MW-20	124.
MW-21	48.7
MW-22	44.3
MW-23	FPH
MW-24	42.5
MW-25	51.0
MW-26	FPH
MW-27	FPH
North Water well	106
South Water Well	62.0
West Water Well	106.0
House Well	78.0

Well	Chloride
A	73.8
B	70.9
C	82.7
D	68.0
E	70.9
F	46.5
G	46.5
H	60.9
I	59.1
J	62.0
K	59.1
L	102
M	186
N	70.9
O	68.0
P	68.0
Q	65.0
R	46.5
S	59.1
T	65.0
AA	88.6
BB	97.5
CC	97.5
DD	48.7
EE	93.1
FF	257
GG	74.4
HH	88.6
II	81.5
JJ	93.1
KK	111
LL	76.8
MM	51.9
NN	70.9
OO	68.0

All units mg/l
FPH: Not analyzed for chlorides

Table 14 – Summary of Laboratory Evaluation of Free Phase Hydrocarbon Samples

Parameter	MW-8	MW-11	MW-18	MW-23	MW-26	MW-27	MW-N	MW-CC	MW-EE
Paraffin	22.454	21.905	18.24	22.019	28.44	28.846	28.618	29.075	22.741
Isoparaffins	30.722	30.427	31.794	31.461	31.08	32.172	31.822	31.466	28.135
Napththenics	41.034	41.629	45.956	40.544	32.14	32.789	33.49	33.632	43.303
% Paraffin, Isoparaffin and Napthenics	94.2	94.0	96.0	94.0	91.7	93.8	93.9	94.2	94.2
Aromatics	3.724	4.017	1.317	3.901	6.99	4.889	4.562	4.321	3.331
Olefins	1.959	2.105	2.589	1.979	1.3	1.296	1.507	1.506	2.483
Unknowns	0.107	0.097	0.104	0.096	0.04	0.007			0.007
Benzene	0.821	0.905	0.016	0.523	2.998	1.95	2.111	1.749	0.846
Toluene	0.271	2.45	0.02	0.219	0.225	0.007	nd	0.007	0.014
Ethylbenzene	1.892	2.093	0.6	1.971	3.133	2.481	2.301	2.3	1.804
Xylenes	0.694	0.737	0.651	1.033	0.588	0.447	0.15	0.265	0.633
Specific Gravity	0.7235	0.7259	0.7285	0.7231	0.7096	0.7058	0.7054	0.7035	0.7234
Color	sour	med straw	straw	straw	straw	straw	Straw	light straw	straw
Odor	sour	sour ngl	sour	sour cond	ngl	ngl	Sour NGL	Sour NGL	Sour NGL

Note: Hydrocarbon units are weight %, specific gravity is ratio to density of water.

Table 15 – Summary of Isotopic Analyses of Free Phase Hydrocarbon Samples

Well	$\delta^{13}C$ per mil Saturate	$\delta^{13}C$ per mil Aromatic	$\delta^{13}C$ per mil Resin
MW-8	-28.6	-28.3	-27.4
MW-11	-28.3	-28.5	-27.9
MW-18	-29.4	-29.0	-28.0
MW-23	-29.8	-29.6	-29.1
MW-26	-29.9	-29.2	-28.1
MW-27	-29.9	-29.4	-28.2
MW-N	-29.8	-29.4	-28.4
MW-CC	-30.0	-29.5	-29.4
MW-EE	-29.9	-29.4	-28.2

Units based upon comparison to PDB sample.

Table 16 – Summary of Interpreted Hydrocarbon Affected Intervals With and Without a Photoionization Detector

Well	Thickness Without PID	Thickness With PID	Thickness Difference
A	1.2	7.2	6.0
B	2.8	6.8	4.0
C	0.0	4.8	4.8
D	4.4	9.0	4.6
E	0.8	13.0	12.2
F	7.6	7.6	0.0
G	8.0	8.0	0.0
H	0.0	0.0	0.0
I	7.0	8.8	1.8
J	12.0	12.0	0.0
K	11.6	11.6	0.0
L	0.0	11.2	11.2
M	4.8	14.0	9.2
N	8.8	18.4	9.6
O	27.0	33.2	6.2
P	4.4	25.6	21.2
Q	9.6	14.0	4.4
R	10.4	10.4	0.0
S	14.4	14.4	0.0
T	11.2	16.8	5.6
AA	0.0	9.2	9.2
BB	0.0	14.8	14.8
CC	4.0	16.0	12.0
DD	0.0	8.8	8.8
EE	2.0	25.2	23.2
FF	0.0	7.2	7.2
GG	10.8	19.2	8.4
HH	0.8	18.0	17.2
II	0.0	20.8	20.8
JJ	1.2	25.4	24.2
KK	3.6	13.2	9.6
LL	3.6	21.2	17.6
MM	10.0	13.2	3.2
NN	9.2	19.6	10.4
OO	2.4	22.0	19.6

All units in feet

Table 17 – Comparison Between Field Photoionization Detector and Laboratory Results

Boring	Top (feet)	Bottom (feet)	PID Reading (ppm)	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)
Q	5	6	281	<0.025	<0.025	<0.025	<0.025
Q	14	15	194	<0.025	<0.025	<0.025	<0.025
Q	19	20	170	<0.025	<0.025	<0.025	<0.025
T	23	24	283	1.54	1.6	0.456	1.211
AA	18	19	281	<0.025	<0.025	<0.025	<0.025
BB	18	19	297	<0.025	<0.025	<0.025	<0.025
EE	22	23	826	0.065	0.073	<0.025	0.053
GG	19	21	599 585	<0.025	<0.025	<0.025	<0.025
II	19	20	578	0.69	0.499	0.198	0.624
NN	24	25	1,930	<0.025	<0.025	<0.025	<0.025
OO	26	28	116 129	12.6	20.0	2.34	6.76

Table 18 - Summary of Borings Containing Multiple Affected Intervals

Well	Depth to Top of Interval	Depth to Bottom of Interval
MW-I	-18.53	-24.13
MW-I	-33.53	-34.93
MW-J	-12.35	-13.15
MW-J	-16.35	-27.55
MW-O	-2.43	-13.43
MW-O	-17.23	-19.63
MW-O	-22.43	-36.03
MW-Q	-18.1	-26.1
MW-Q	-34.5	-36.1
MW-R	-16.19	-18.19
MW-R	-22.99	-31.39
MW-S	-5.46	-10.26
MW-S	-14.26	-21.06
MW-S	-25.86	-28.66
MW-AA	-7.6	-9.6
MW-AA	-16.8	-24
MW-GG	-7.87	-11.47
MW-GG	-16.27	-20.27
MW-II	-2.5	-5.3
MW-II	-8.5	-26.5
MW-JJ	-3.76	-5.76
MW-JJ	-9.76	-33.16
MW-LL	-5.41	-10.61
MW-LL	-16.61	-32.61
MW-OO	0	-2.49
MW-OO	-16.49	-35.69

All units in feet from ground surface.

FIGURES

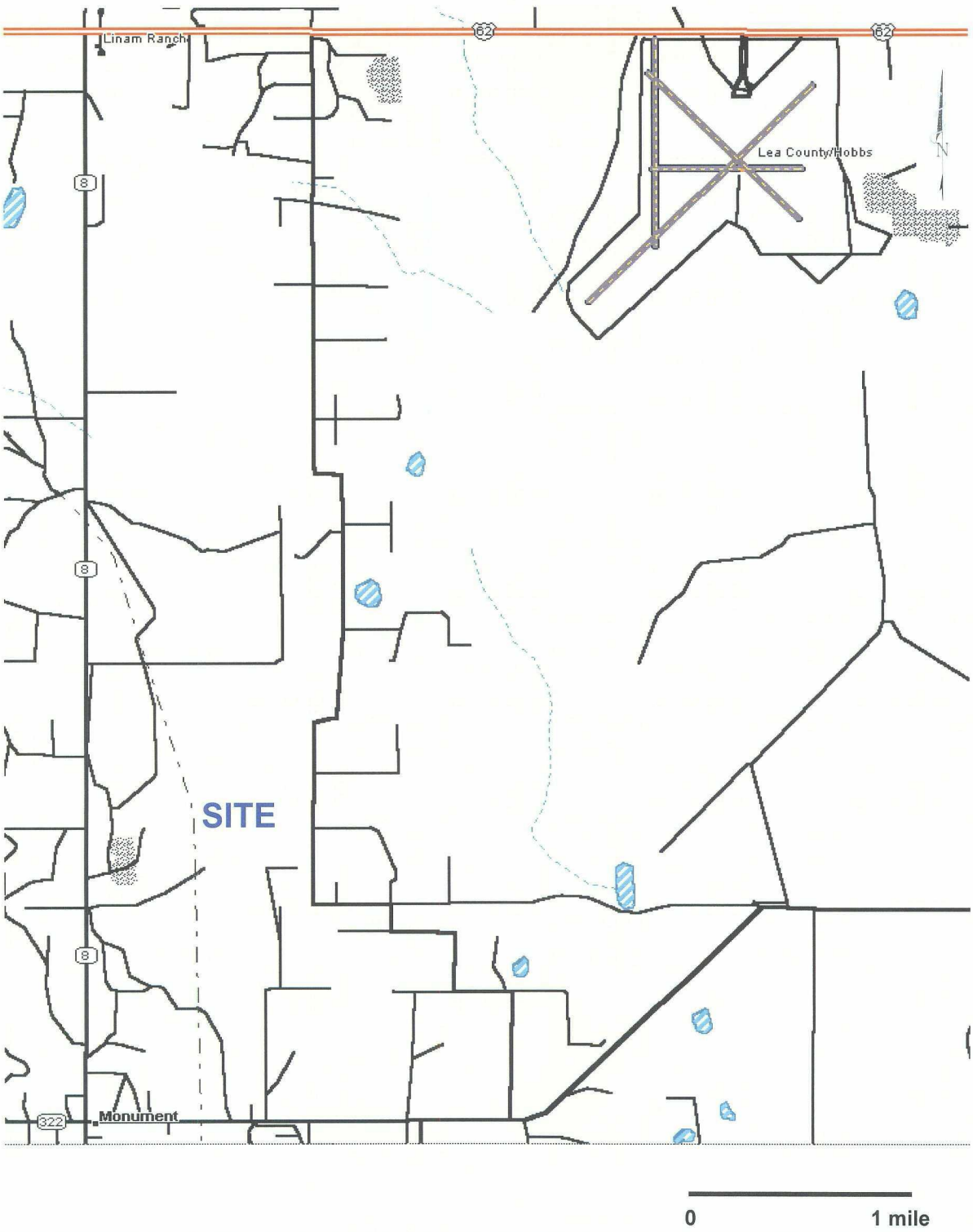


Figure 1 – Site Location Map
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services℠

DRAWN BY: MHS
REVISED:
DATE: 1/04

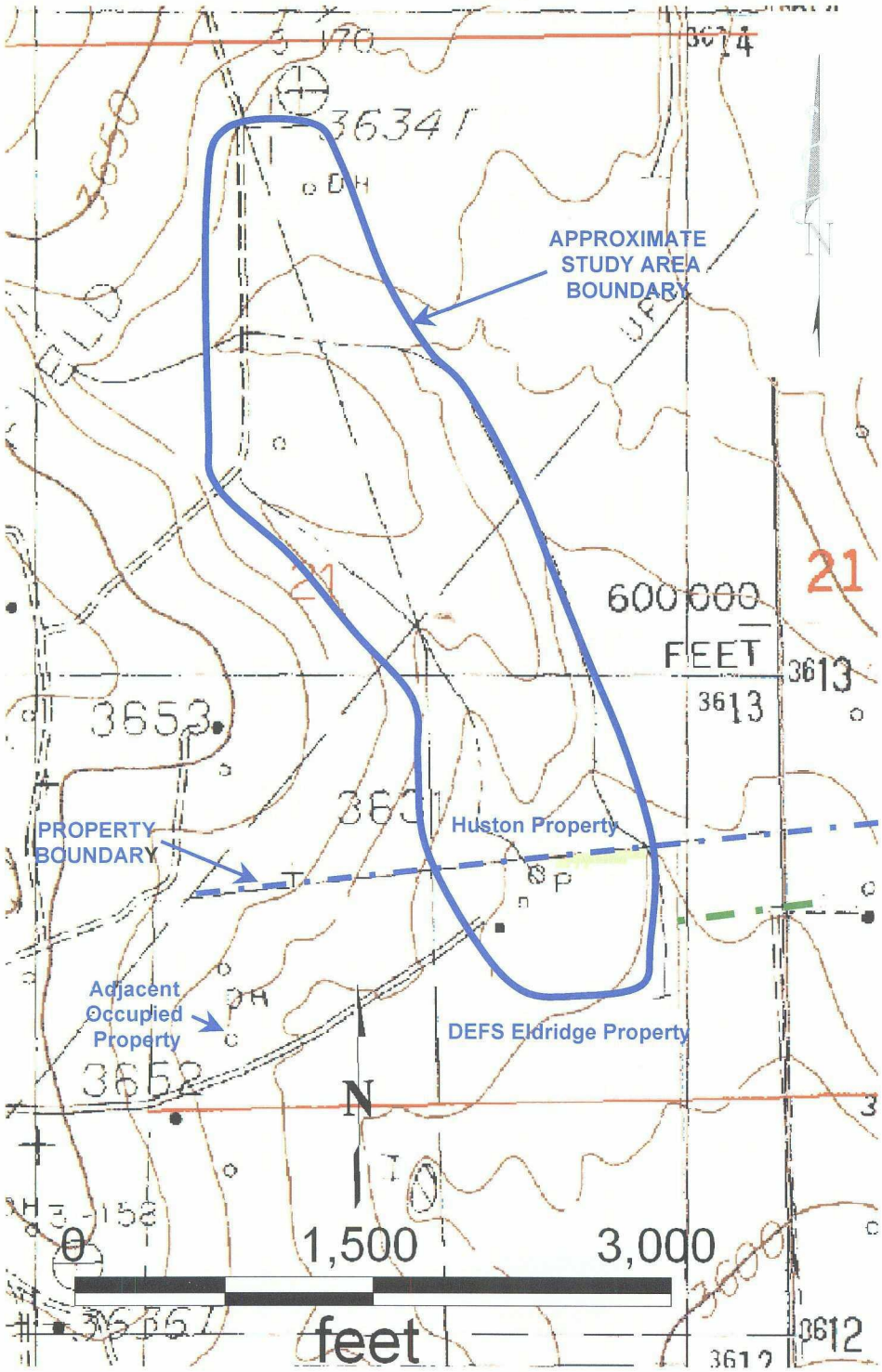


Figure 2 – Site Property Owners and Topography
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 1/04

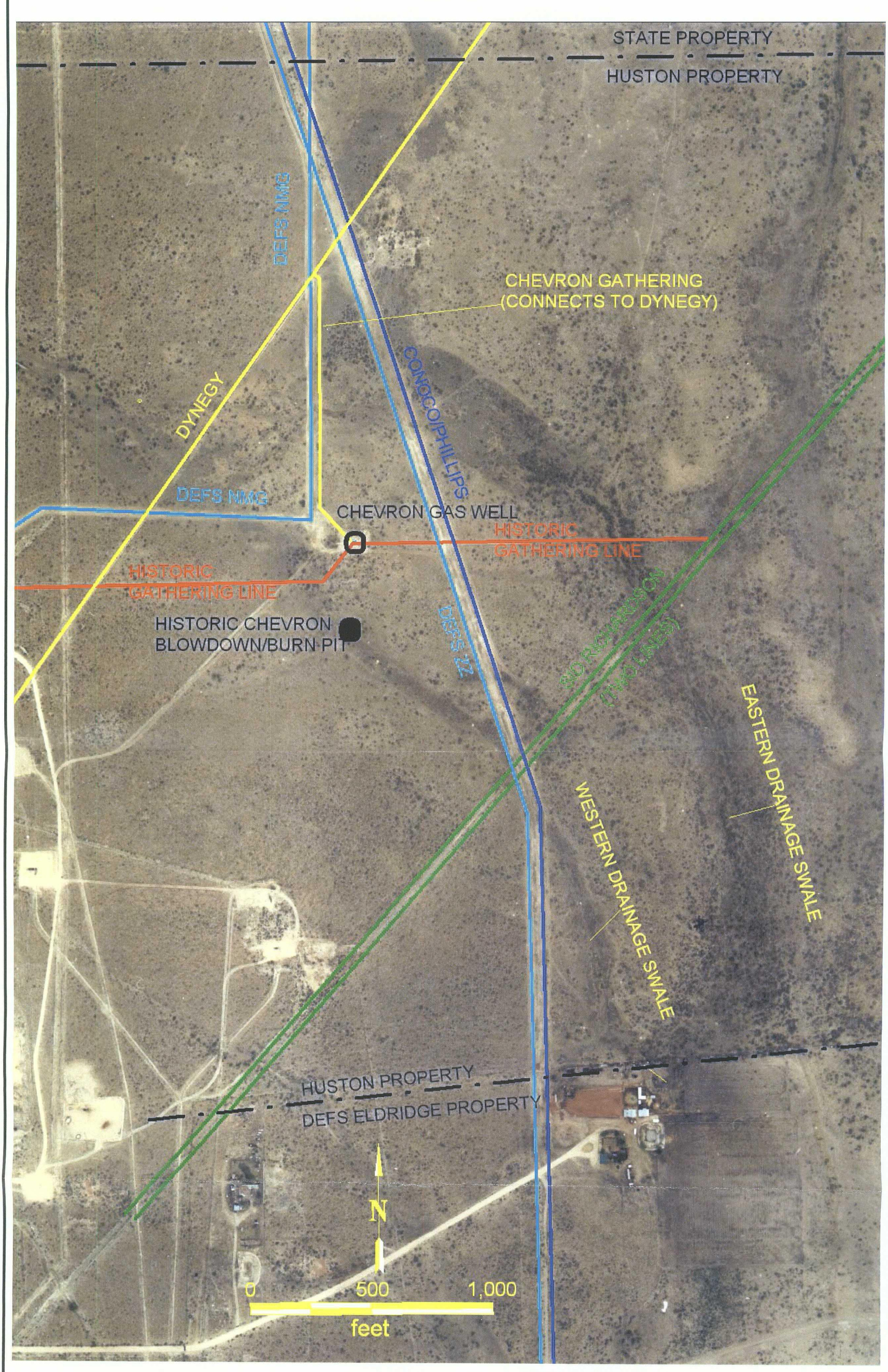


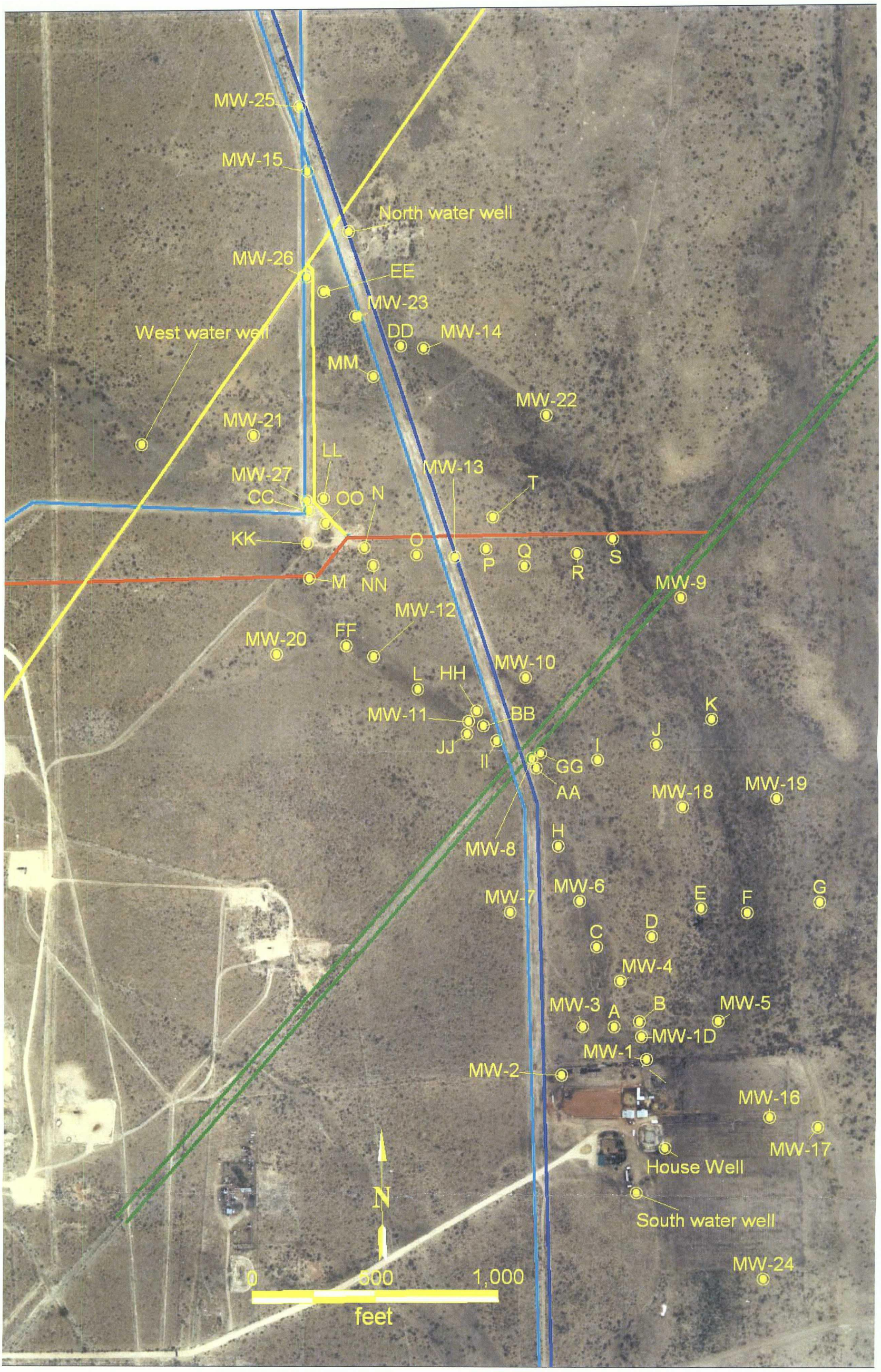
Figure 3 - Aerial Photograph with Pipeline Alignments and Swale Locations

DEFS Eldridge Ranch Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 1/04



See Figure 3 for Pipeline Names

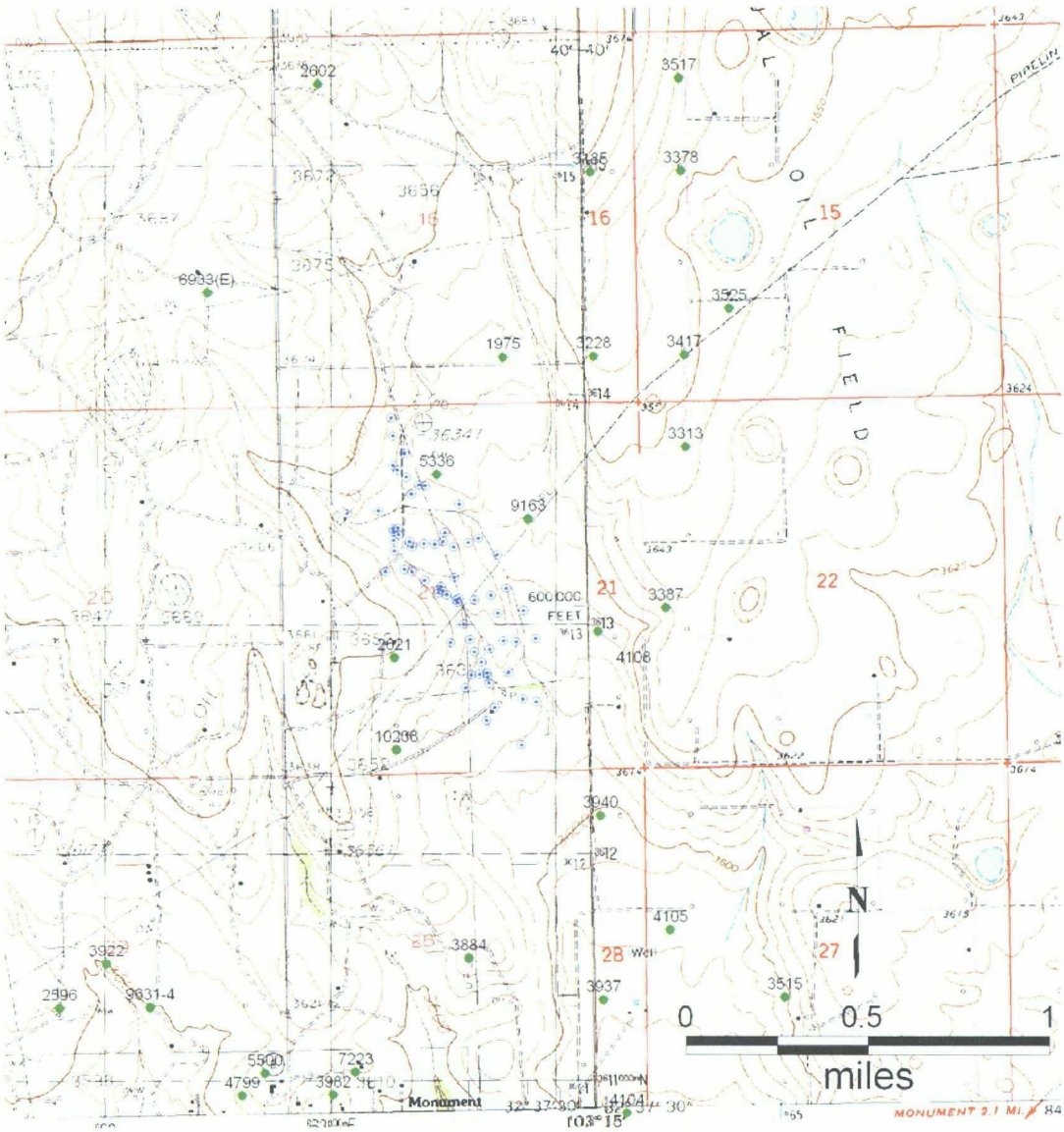
Figure 4 - Monitoring Well Locations

Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services SM

DRAWN BY: MHS

DATE: 1/04



Notes: - Blue marks are existing site monitoring wells (added for reference).
-The numbers above the permitted water well locations are the permit numbers that are cross referenced to the information in Table 1 of this report.

Figure 5 – Permitted Water Well Locations
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services SM

DRAWN BY: MHS
REVISED:
DATE:1/04

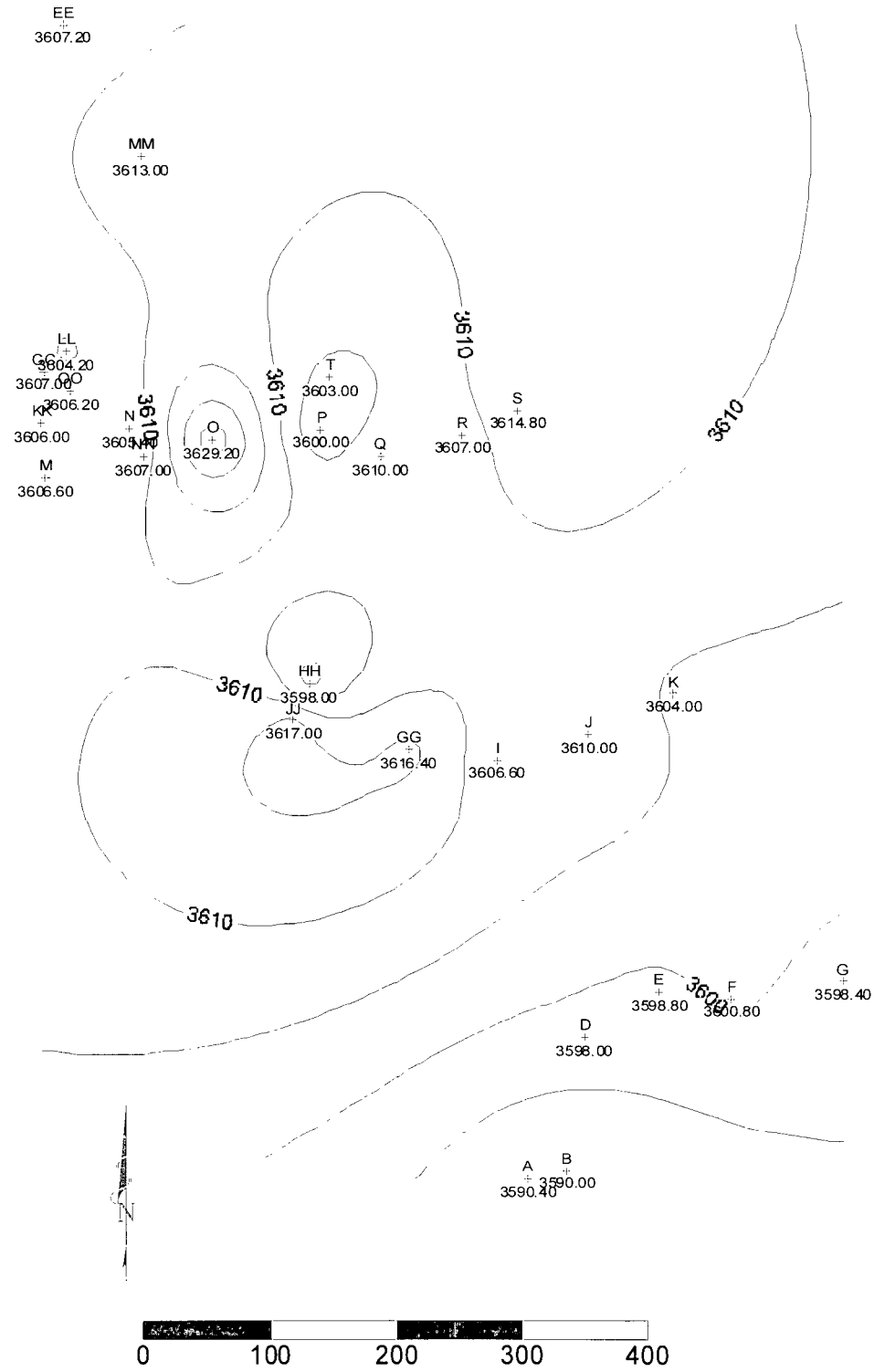


Figure 6 - Contour Map Of The Top Of The Hydrocarbon Affected Interval
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services℠

DRAWN BY: MHS
REVISED:
DATE:1/04

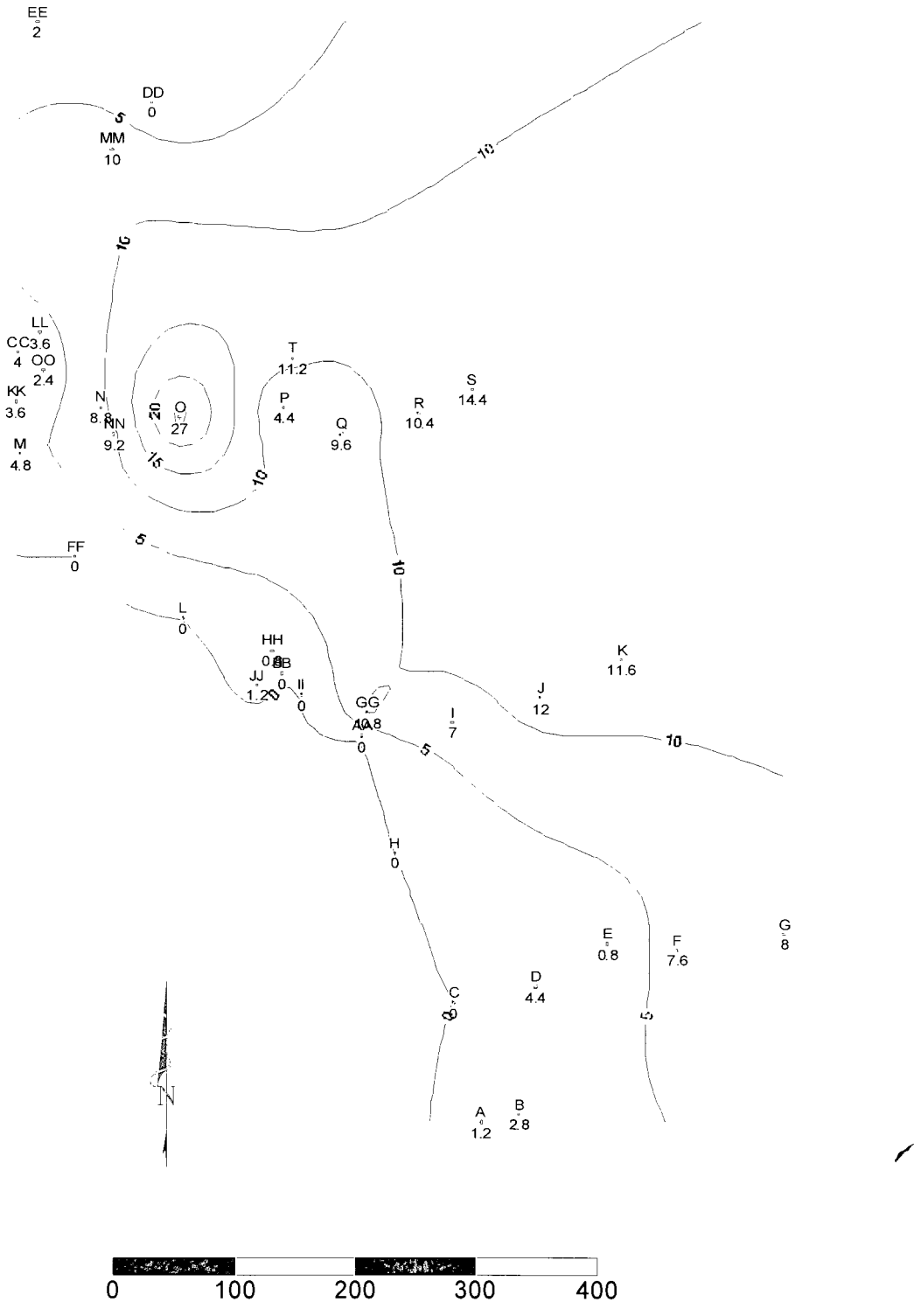


Figure 7- Hydrocarbon Affected Interval Thickness
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 1/04

Horizontal to vertical exaggeration is 25:1

Bottom mark indicates total depth of well

LITHOLOGIC ABBREVIATIONS
(mostly from Unified Soil Classification)

CAL: Caliche
MH: High plasticity SILT
ML: Low plasticity SILT
CL: Low plasticity CLAY
SW: Well graded (poorly sorted) SAND
SC: Clayey SAND
SM: Silty SAND

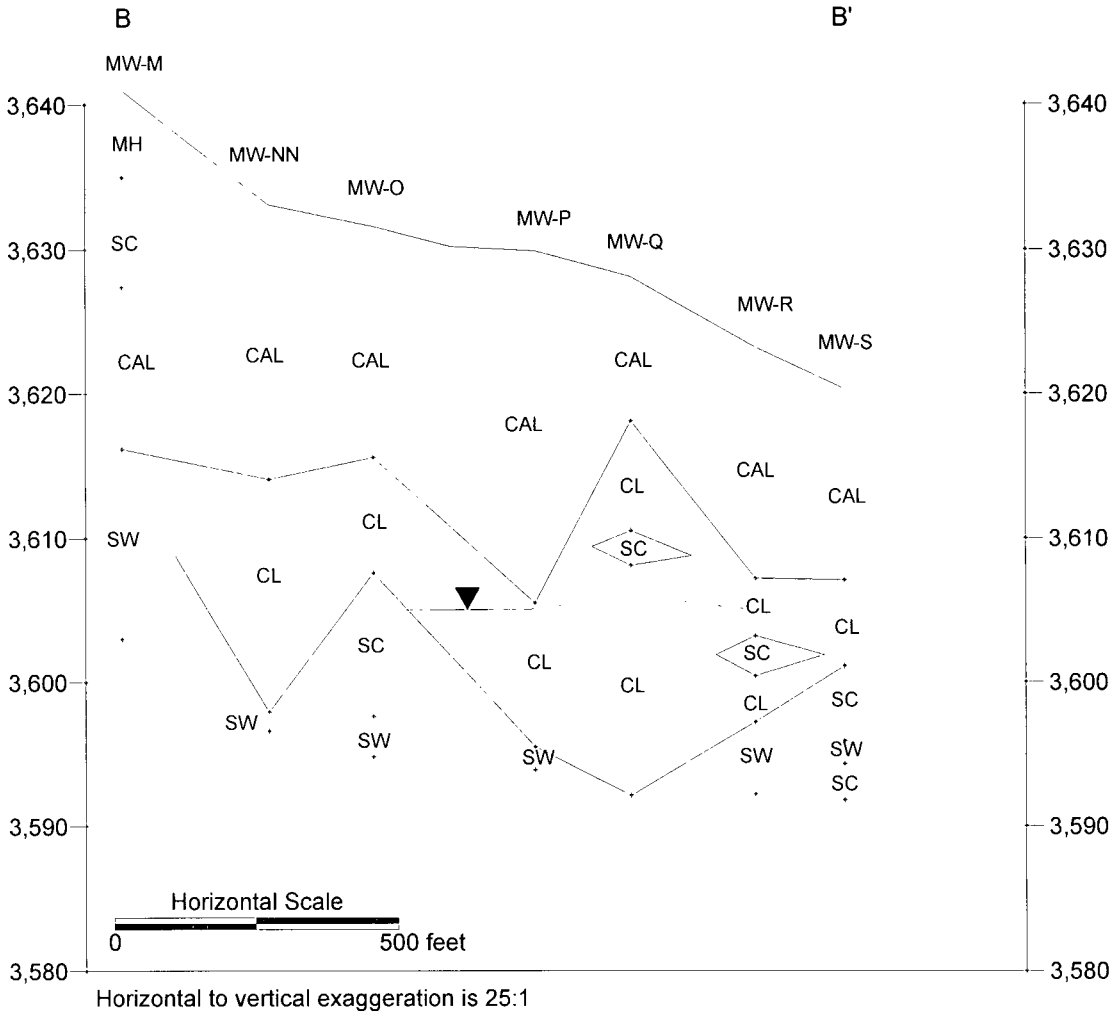
Figure 8 - North-South Cross Section A-A'

DESF Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 2/04



Horizontal to vertical exaggeration is 25:1

Bottom mark indicates total depth of well

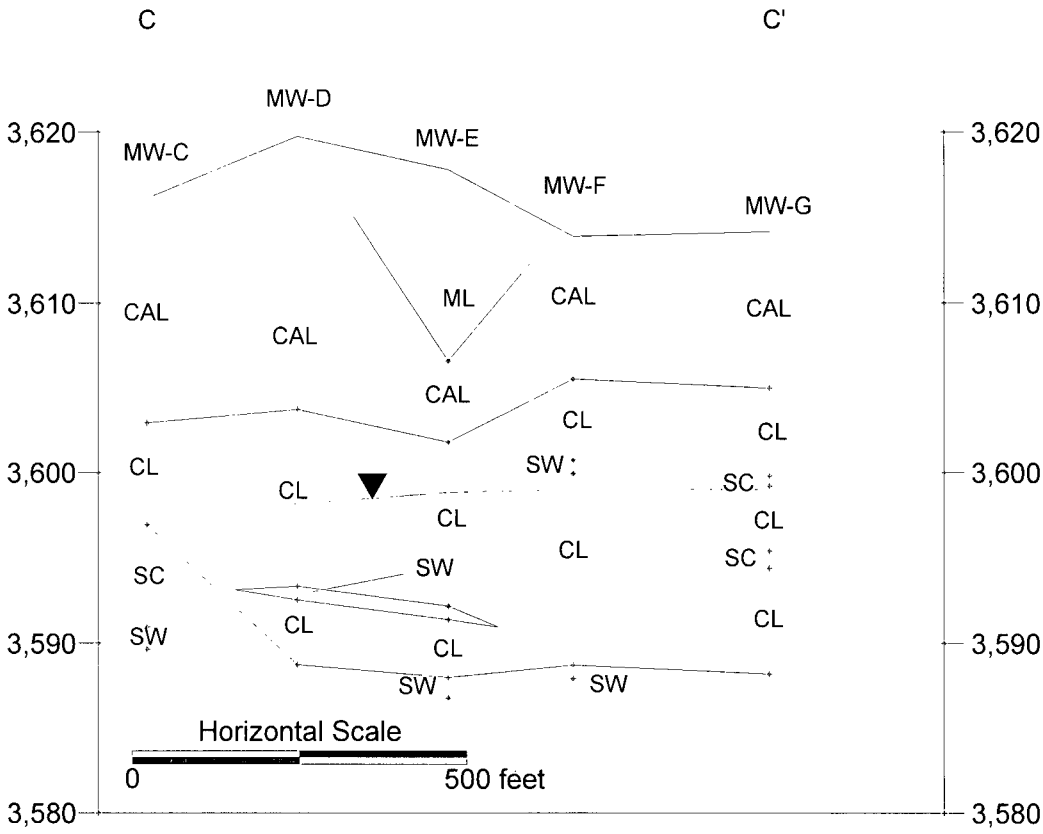
LITHOLOGIC ABBREVIATIONS
(mostly from Unified Soil Classification)

CAL:	Caliche
MH:	High plasticity SILT
ML:	Low plasticity SILT
CL:	Low plasticity CLAY
SW:	Well graded (poorly sorted) SAND
SC:	Clayey SAND
SM:	Silty SAND

Figure 9 - East-West Cross Section B-B'
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 1/04



Horizontal to vertical exaggeration is 25:1

Bottom mark indicates total depth of well

LITHOLOGIC ABBREVIATIONS
(mostly from Unified Soil Classification)

CAL:	Caliche
MH:	High plasticity SILT
ML:	Low plasticity SILT
CL:	Low plasticity CLAY
SW:	Well graded (poorly sorted) SAND
SC:	Clayey SAND
SM:	Silty SAND

Figure 10 - East-West Cross Section C-C'
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS
REVISED:
DATE: 1/04

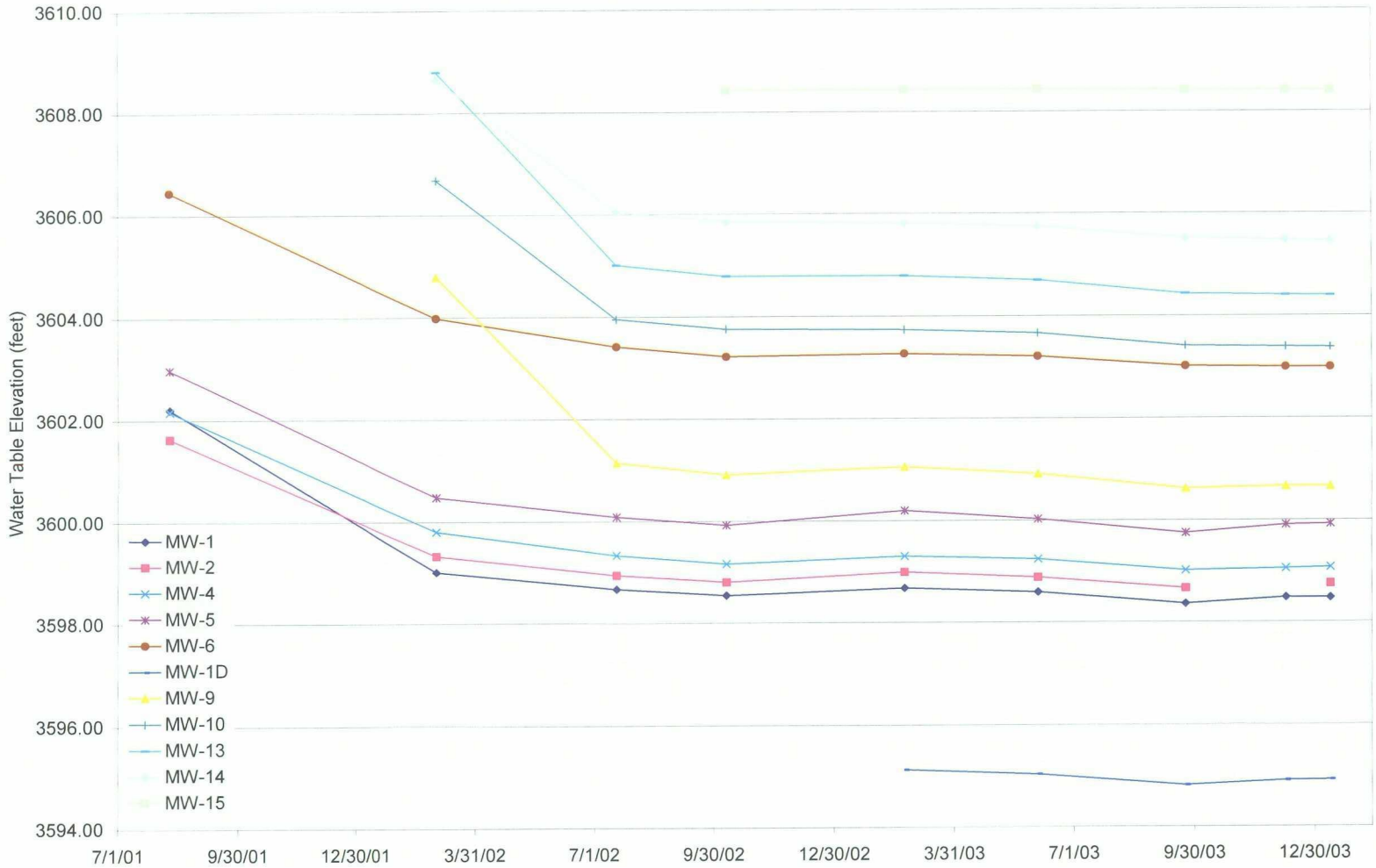


Figure 11 – Monitoring Well Hydrographs

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services℠

DRAWN BY: MHS

DATE: 1/04

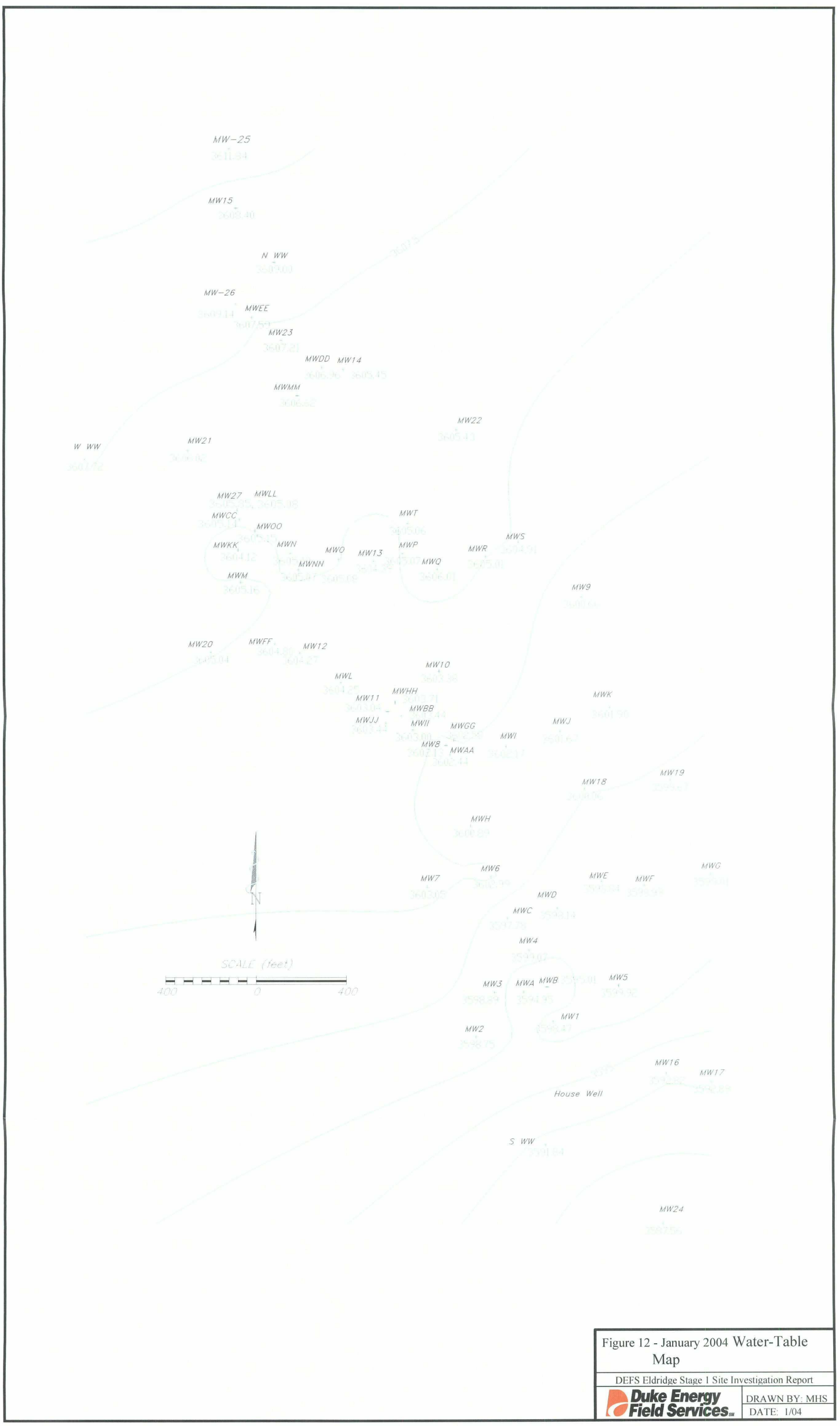


Figure 12 - January 2004 Water-Table Map

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services℠

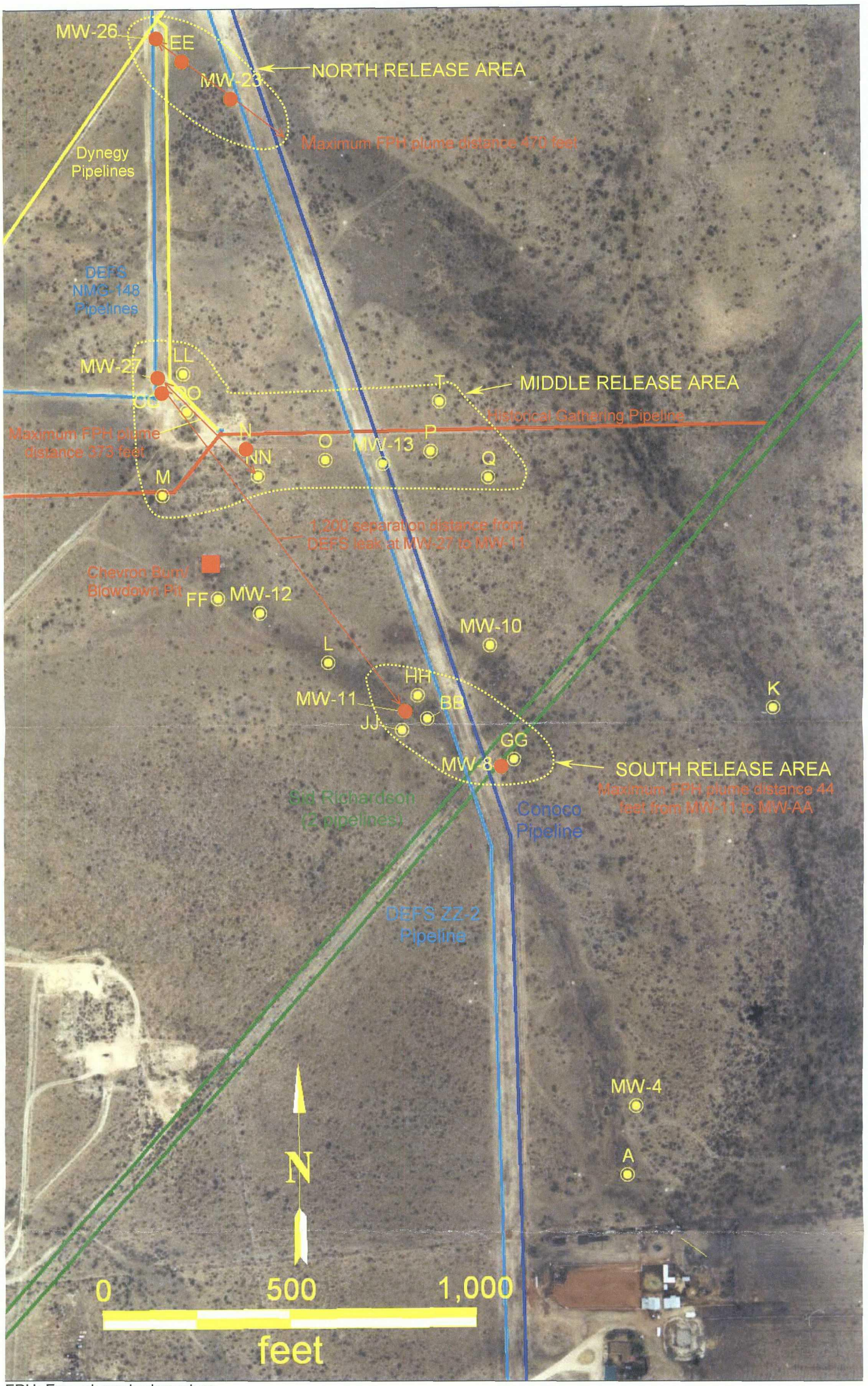
DRAWN BY: MHS

DATE: 1/04

Figure 13 - Depth to Top of Basal Sand Layer
DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services℠

DRAWN BY: MHS
REVISED:
DATE: 1/04



FPH: Free phase hydrocarbon
Red dots are wells containing FPH
Yellow dots are wells that contain greater than 1 mg/l benzene
Pipeline names are color coded to their respective pipelines

Figure 14 - Potential Hydrocarbon Source Locations

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS
DATE: 1/04

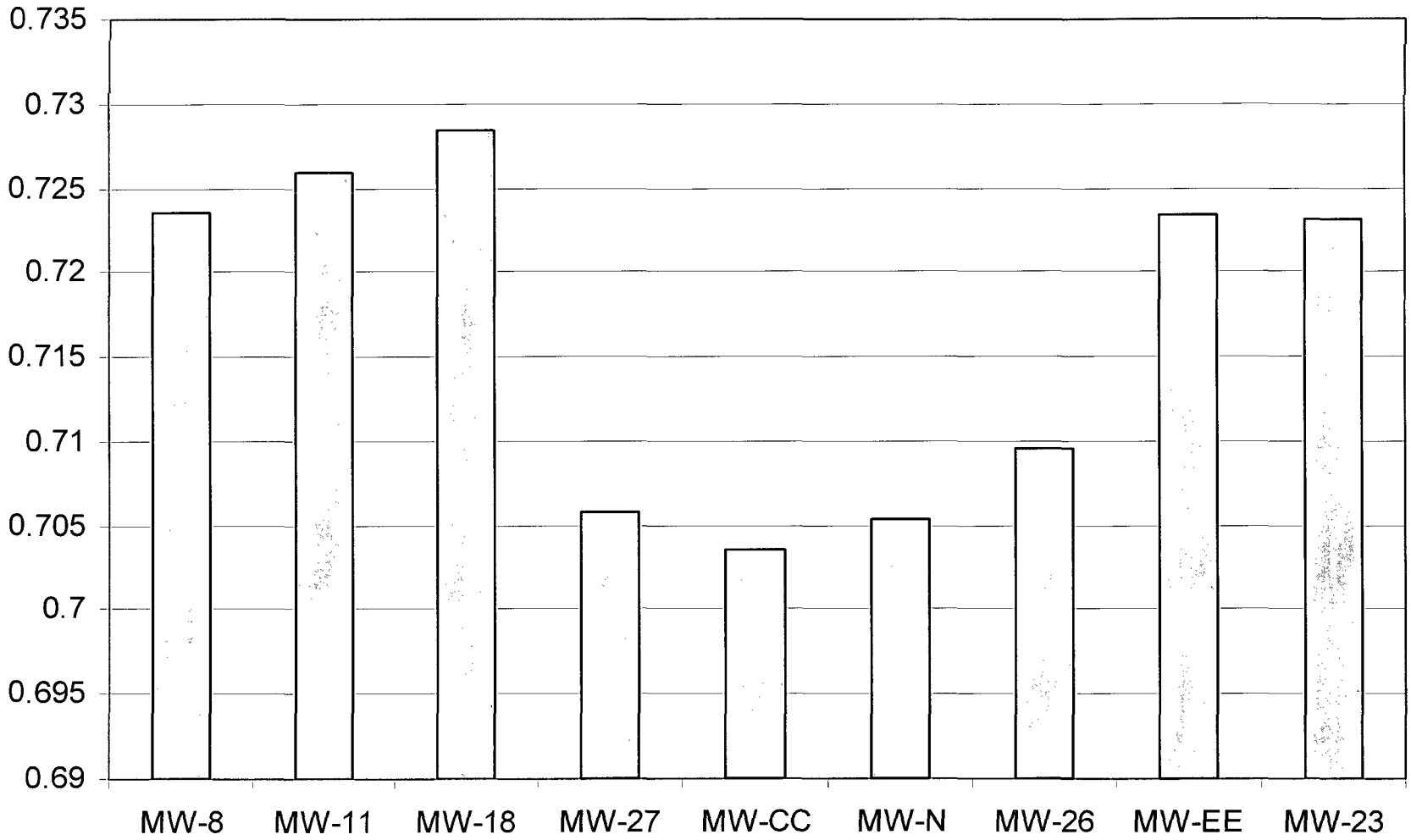


Figure 15 - Chart Showing Specific Gravity Analytical Resulys

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 1/04

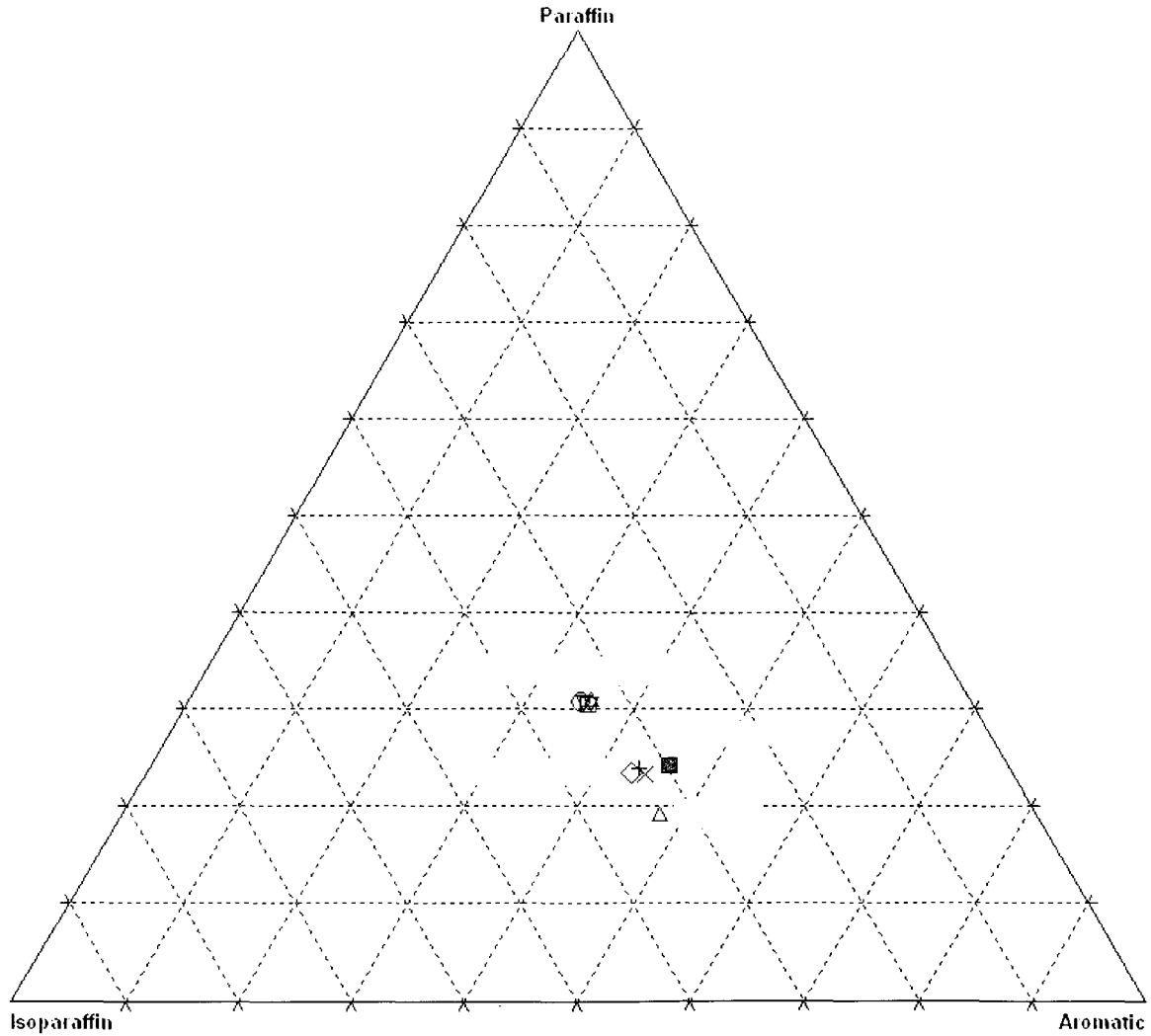


Figure 16 - Trilinear Diagram Of The Paraffin, Isoparaffin and Aromatic Phases

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 1/04

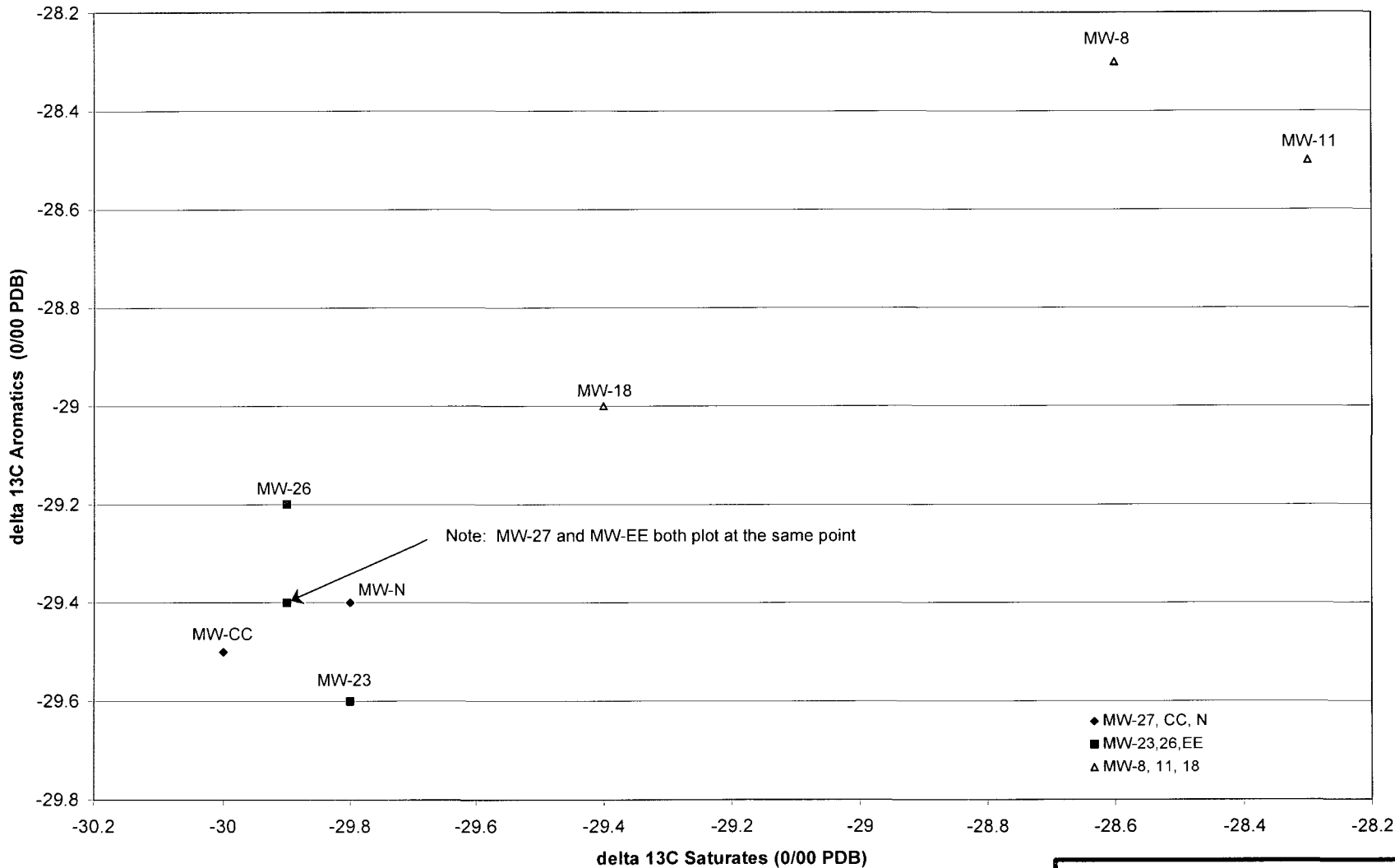


Figure 17 - Carbon Isotope Analytical Results
Aromatics Verses Saturates

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 1/04

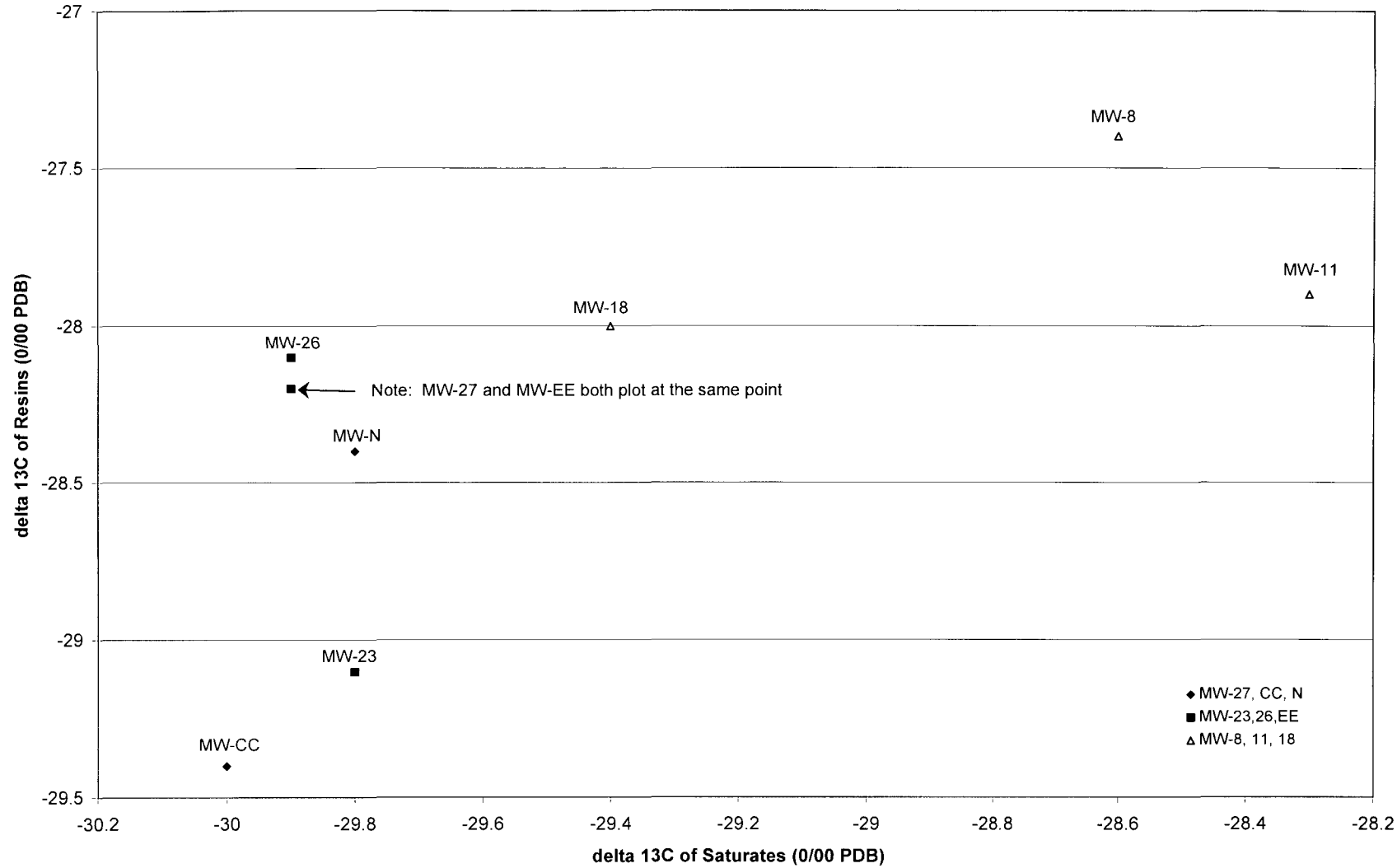


Figure 18 - Carbon Isotope Analytical Results
Resins Verses Saturates

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 1/04

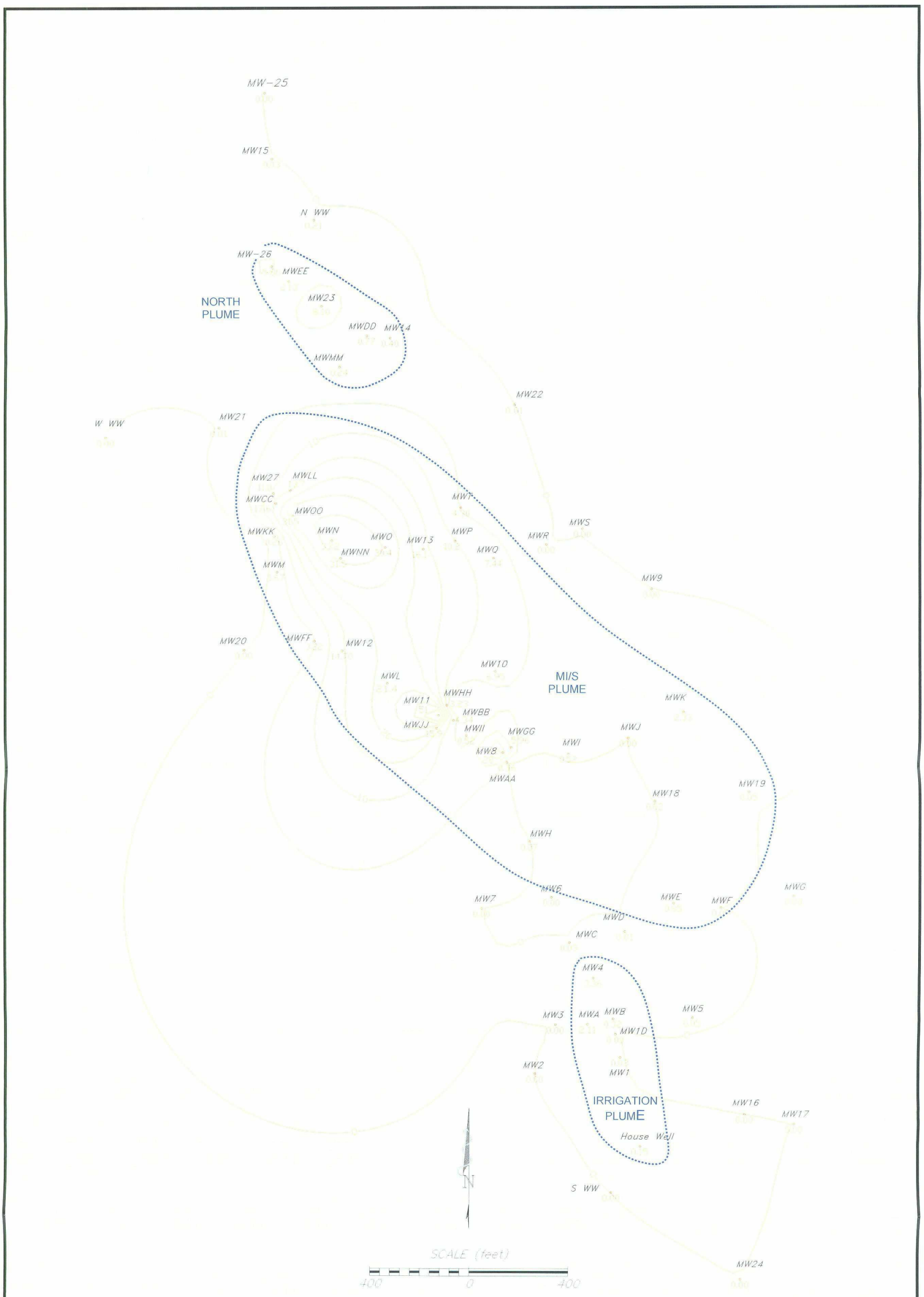


Figure 18 - Benzene Isopleth Based Upon the 12/03 and 1/04 Sampling Results

DEFS Eldridge Stage 1 Site Investigation Report

Duke Energy Field Services

DRAWN BY: MHS

DATE: 1/04

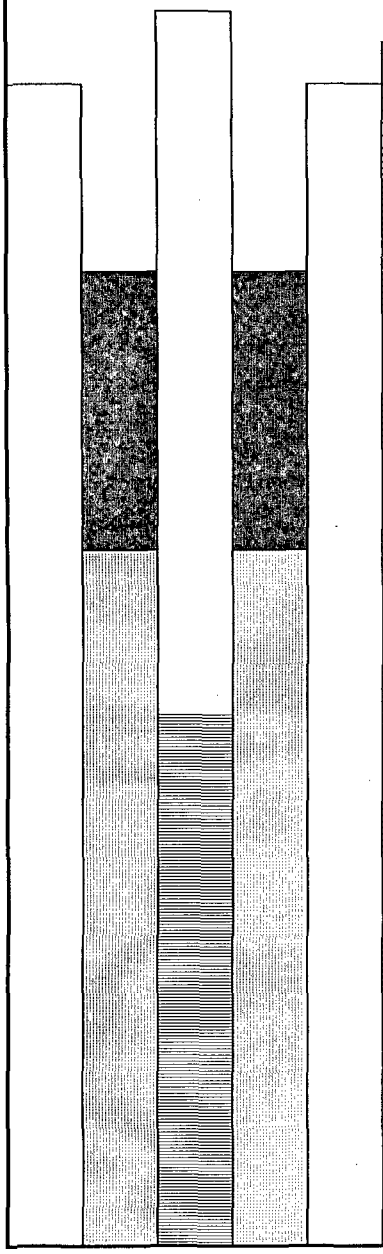
APPENDIX 1

Boring Logs and Completion Diagrams for November 2003 Wells

MONITORING WELL LITHOLOGIC LOG

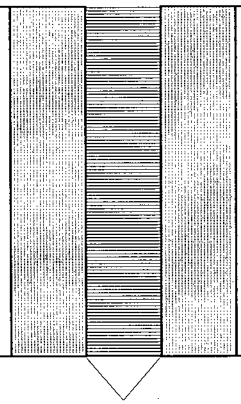
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-A	TOTAL DEPTH:	26 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3614	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/22/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/22/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3614	
	MH						Silty Clay (Top Soil). dk brown-black, w35% silt in matrix, no odor.
		0	1	Core	0 ppm		
		1	2	Core	0 ppm	2	Caliche, lt yellow tan-lt gray brown, dense-weathered, w/chert nods in matrix, no odor.
						3612	
	CALICHE						
		2	3	Core	0 ppm		
		3	4	Core	0 ppm	4	
						3610	Caliche, lt yellow tan-lt gray brown, dense-weathered, w/chert nods in matrix, no odor.
	CALICHE	4	5	Core	4 ppm		
		5	6	Core	3 ppm	6	
						3608	Caliche, lt yellow tan-tan-lt gray brown, weathered-dense, w/chert nods in matrix, no odor.
		6	7	Core	1 ppm		
	CALICHE	7	8	Core	1 ppm	8	
						3606	
		8	9	Core	1 ppm		
		9	10	Core	1 ppm	10	
						3604	Caliche, lt yellow tan-tan-lt gray brown, weathered-dense, w chert nods in matrix, no odor.
		10	11	Core	1 ppm		
	CALICHE	11	12	Core	4 ppm	12	
						3602	
		12	13	Core	9 ppm		
		13	14	Core	16 ppm	14	
						3600	Chert, white-lt yellow tan, dense, no odor.
	CHERT	14	15	Core	5 ppm		
		15	16	Core	10 ppm	16	Sandy Clay, orange brown, w/30% vf grain sand in matrix,
						3598	interbedded w/dense sandstone, moist, no odor.
	CL	16	17	Core	4 ppm		
		17	18	Core	83 ppm	18	
						3596	Encountered Groundwater!
							Clayey Sand, lt orange brown, vf grain, w/35% clay in matrix,
	SC	18	19	Core	136 ppm		interbedded w/dense sandstone, wet, mod HC odor.
		19	20	Core	151 ppm	20	

MONITORING WELL NO: MW-A TOTAL DEPTH: 26 Feet

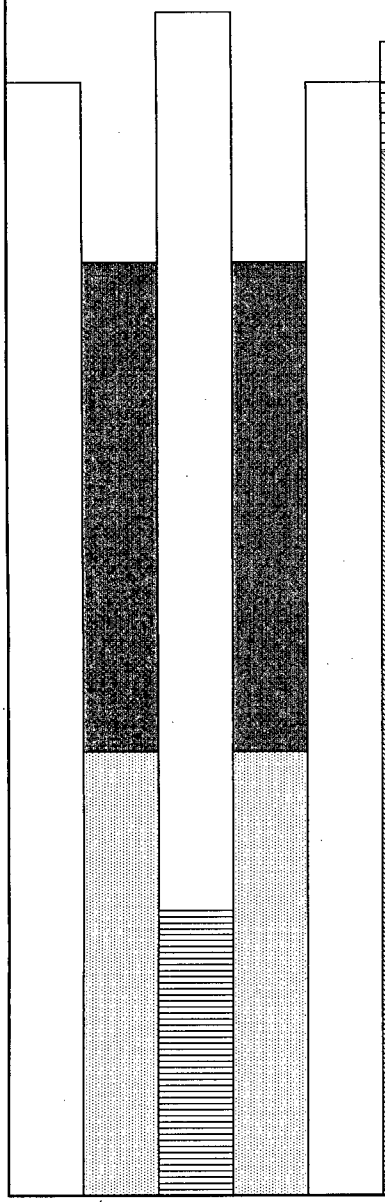


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3594	Clayey Sand, lt orange brown, vf grain, w/35% clay in matrix, interbedded w/dense sandstone, wet, mod HC odor.
		20	21	Core	168 ppm		
	SC						
		21	22	Core	135 ppm	22	
						3592	
		22	23	Core	145 ppm		
	SW						Sand, tan-lt gray orange brown, vf grain, interbedded
		23	24	Core	234 ppm	24	w/dense sandstone, wet, mod HC odor.
	SW					3590	Sand, gray-gray black, vf grain, interbedded w/dense
							sandstone & mod-well cmnted vf grain sand, wet, md-str HC odor
	SW	24	25	Core	225 ppm		Sand, tan-orange brown, vf grain, interbedded w/dense
							sandstone, wet, mod-str HC odor.
		25	26	Core	276 ppm	26	TD Boring at 26 Feet!
						3588	
						28	
						30	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

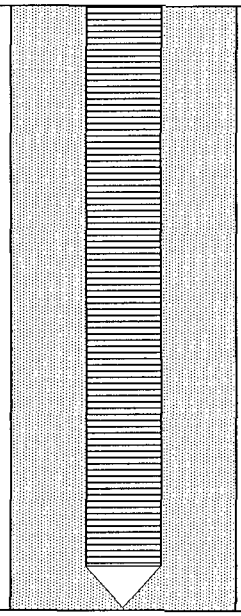
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-B	TOTAL DEPTH:	30.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3614	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/22/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/22/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3614	Silt (Top Soil), dk brown, w/15% clay in matrix, no odor.
		0	1	Core	7 ppm		
		1	2	Core	7 ppm	2	Caliche, lt yellow tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
						3612	
		2	3	Core	7 ppm		
	CALICHE	3	4	Core	7 ppm	4	
						3610	
		4	5	Core	10 ppm		
		5	6	Core	15 ppm	6	Caliche, lt yellow gray-lt gray, weathered-dense, w/chert nods in matrix, no odor.
						3608	
		6	7	Core	11 ppm		
	CALICHE	7	8	Core	11 ppm	8	
						3606	
		8	9	Core	15 ppm		
		9	10	Core	15 ppm	10	
						3604	Caliche, lt orange tan, weathered-dense, w/chert nods in matrix, no odor.
		10	11	Core	15 ppm		
	CALICHE	11	12	Core	10 ppm	12	
						3602	
		12	13	Core	19 ppm		
		13	14	Core	21 ppm	14	Caliche, tan-lt brown, weathered-dense, w/chert nods in matrix no odor.
	CALICHE					3600	
		14	15	Core	25 ppm		
		15	16	Core	64 ppm	16	
						3598	Caliche, lt yellow tan-lt gray brown, weathered-dense, w/chert nods in matrix, no odor.
	CALICHE	16	17	Core	145 ppm		
		17	18	Core	94 ppm	18	Caliche, lt yellow tan-tan, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, sl HC odor.
	CALICHE					3596	
		18	19	Core	52 ppm		Encountered Groundwater!
	CHERT	19	20	Core	174 ppm	20	Chert, white-lt yellow tan, dense, no odor.

MONITORING WELL NO: MW-B TOTAL DEPTH: 30.5 Feet

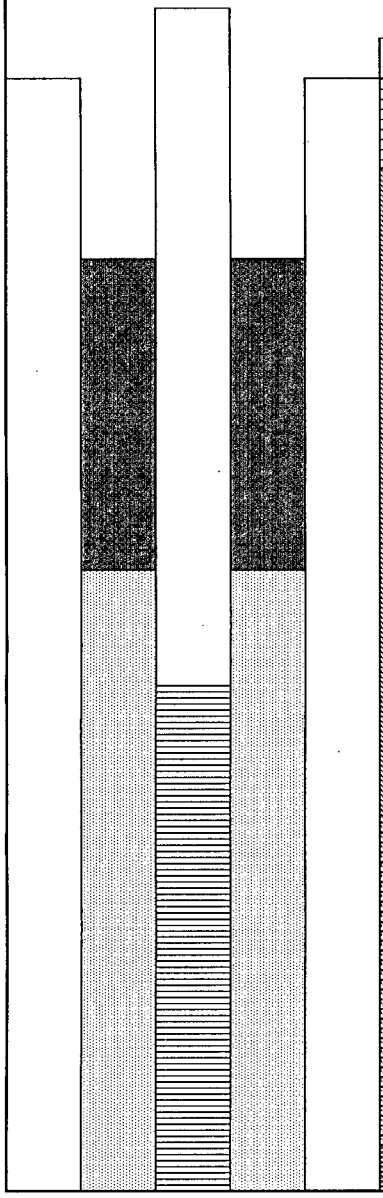


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3594	Clayey Sand, lt yellow tan-lt gray, w/45% clay in matrix, interbedded w/dense sandstone, wet, sl-mod HC odor.
		20	21	Core	201 ppm		
	SC	21	22	Core	168 ppm	22	
						3592	
		22	23	Core	215 ppm		
		23	24	Core	63 ppm	24	
						3590	*Sand, lt gray tan, w/20% clay in matrix, interbedded w/dense sandstone, wet, no odor.*
		24	25	Core	37 ppm		
	SW	25	26	Core	28 ppm	26	
						3588	
		26	27	Core	32 ppm		Sand, lt gray tan-orange brown, vf grain, w/10% clay in matrix, interbedded w/dense sandstone, wet no odor.
		27	28	Core	47 ppm	28	
						3586	
	SW	28	29	Core	34 ppm		
		29	30	Core	34 ppm	30	
						3584	
							TD Boring @ 30.5 Feet
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

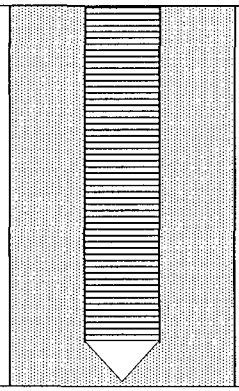
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-C	TOTAL DEPTH:	26. 5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3616	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/22/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/22/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3616	Silt (Top Soil), dk brown, w/10% clay in matrix, no odor.
	MH	0	1	Core	3 ppm		
		1	2	Core	16 ppm	2	Caliche, lt yellow tan, dense-weathered, w/chert nods in
	CALICHE					3614	matrix, interbedded w/dense sandstone, no odor.
		2	3	Core	16 ppm		
	CALICHE	3	4	Core	5 ppm	4	Caliche, lt yellow tan-gray, dense-weathered, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
						3612	
	CALICHE	4	5	Core	13 ppm		Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
		5	6	Core	17 ppm	6	
						3610	Caliche, lt yellow tan-gray, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
		6	7	Core	11 ppm		
	CALICHE	7	8	Core	60 ppm	8	
						3608	
		8	9	Core	32 ppm		
		9	10	Core	26 ppm	10	Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
	CALICHE					3606	
		10	11	Core	46 ppm		
		11	12	Core	20 ppm	12	Caliche, yellow tan, weathered, interbedded w/dense
	CALICHE					3604	sandstone, no odor.
		12	13	Core	15 ppm		
	CL	13	14	Core	15 ppm	14	Sandy Clay, lt yellow tan-lt gray, w/25% vf grain sand in matrix, interbedded w/dense sandstone, no odor.
						3602	
		14	15	Core	15 ppm		Sandy Clay, tan-red brown, w/35% vf grain sand in matrix, interbedded w/dense sandstone, moist, no odor
		15	16	Core	15 ppm	16	
						3600	
	CL	16	17	Core	145 ppm		
		17	18	Core	112 ppm	18	Encountered Groundwater!
						3598	
		18	19	Core	106 ppm		
	SC	19	20	Core	106 ppm	20	Clayey Sand, tan, w/35% clay in matrix, interbedded w/dense sandstone, wet, sl HC odor.

MONITORING WELL NO: MW-C TOTAL DEPTH: 26. 5 Feet

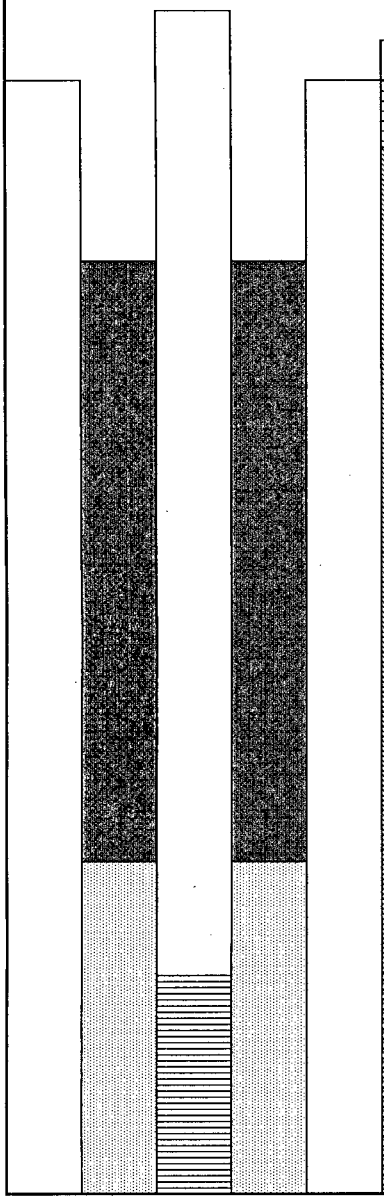


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3596	Clayey Sand, tan-brown, w/35% clay in matrix,
		20	21	Core	106 ppm		interbedded w/dense sandstone, wet, sl HC odor.
		21	22	Core	91 ppm	22	
						3594	
	SC	22	23	Core	77 ppm		
		23	24	Core	7 ppm	24	
						3592	
		24	25	Core	7 ppm		
	SW	25	26	Core	2 ppm		Sand, tan-red brown, vf grain, w/10% clay in matrix,
						26	interbedded w/dense sandstone, wet, no odor.
						3590	
							TD Boring @ 26.5 Feet!
						28	
						30	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

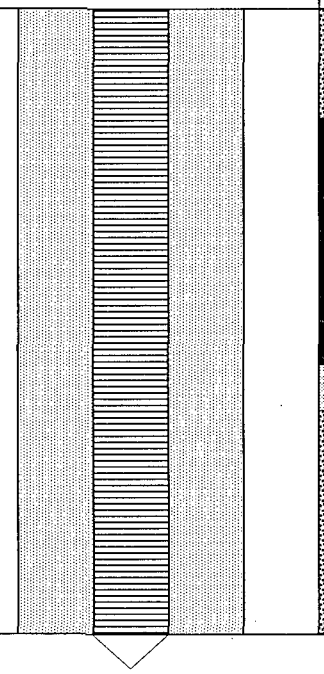
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-D	TOTAL DEPTH:	31 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3620	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/24/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/24/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3620	
	MH	0	1	Core	3 ppm		Silt (Top Soi), brown, w/5% clay in matrix, no odor.
		1	2	Core	3 ppm	2	Caliche, lt yellow tan-lt tan, dense-weathered, w/chert nods in matrix, no odor.
						3618	
		2	3	Core	7 ppm		
	CALICHE	3	4	Core	7 ppm	4	
						3616	
		4	5	Core	7 ppm		
		5	6	Core	12 ppm	6	
						3614	Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix no odor.
	CALICHE	6	7	Core	19 ppm		
		7	8	Core	33 ppm	8	
						3612	Caliche, white-lt gray, dense-weathered, w/chert nods in matrix no odor.
		8	9	Core	37 ppm		
		9	10	Core	15 ppm	10	
						3610	
		10	11	Core	30 ppm		
	CALICHE	11	12	Core	30 ppm	12	
						3608	
		12	13	Core	16 ppm		
		13	14	Core	24 ppm	14	
						3606	
		14	15	Core	24 ppm		
		15	16	Core	87 ppm	16	
						3604	Silty Clay, tan-lt brown, w/25% silt in matrix, interbedded w/mod-well cemented vf grain sand, moist, sl-mod HC odor.
		16	17	Core	44 ppm		
	CL	17	18	Core	99 ppm	18	
						3602	
		18	19	Core	319 ppm		
		19	20	Core	176 ppm	20	

MONITORING WELL NO: MW-D TOTAL DEPTH: 31 Feet

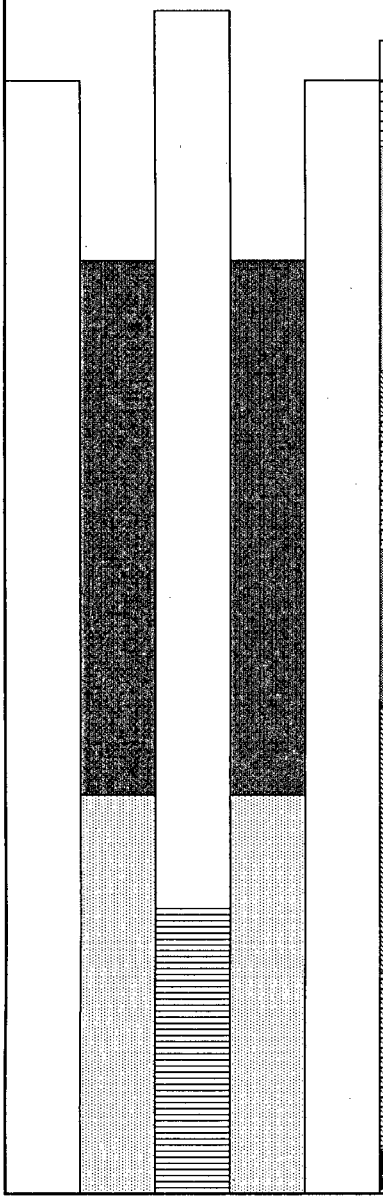


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3600	
	CL	20	21	Core	176 ppm		
		21	22	Core	396 ppm	22	Encountered Groundwater!
						3598	Clay, lt yellow tan-lt gray, w/10% silt in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod-str HC odor.
		22	23	Core	483 ppm		
	CL	23	24	Core	483 ppm	24	
						3596	
		24	25	Core	404 ppm		
		25	26	Core	444 ppm	26	
						3594	
	SW	26	27	Core	444 ppm		Sand, tan-dk orange brown, vf grain, w/5% clay in matrix, interbdded w/md-well cemnted vf grain sand, wet, md HC odor.
		27	28	Core	5 ppm	28	Clay, tan-lt orange brown, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
						3592	
	CL	28	29	Core	21 ppm		
		29	30	Core	17 ppm	30	
						3590	
		30	31	Core	17 ppm		*TD Boring @ 31 Feet!*
						32	
						3588	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

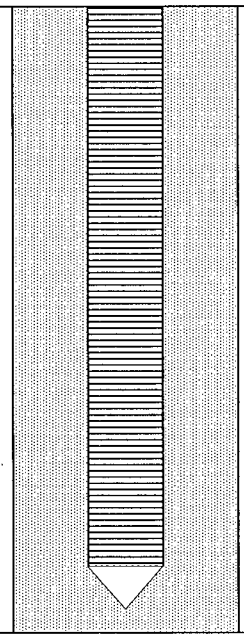
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-E	TOTAL DEPTH:	31 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3618	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/24/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/24/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH	0	1	Core	5 ppm	3618	Silt (Top Soil), brown-dk brown, w/15% clay in matrix, no odor.
	ML	1	2	Core	9 ppm	2	Silt, lt yellow tan-lt brown, w/10% clay in matrix, no odor.
						3616	
		2	3	Core	18 ppm		
		3	4	Core	18 ppm	4	
						3614	
		4	5	Core	18 ppm		
	CALICHE	5	6	Core	48 ppm	6	Caliche, lt gray brown, weathered, no odor.
	CL	6	7	Core	9 ppm	3612	Clay, lt tan-lt gray brown, w/20% silt in matrix, no odor.
	CL	7	8	Core	5 ppm	8	Silty Clay, lt gray brown-red brown, w/40% silt in matrix
						3610	no odor.
	ML	8	9	Core	7 ppm		Silt, tan-gray brown, w/20% clay in matrix, no odor.
		9	10	Core	9 ppm	10	
						3608	
		10	11	Core	32 ppm		
	CALICHE	11	12	Core	22 ppm	12	Caliche, lt yellow tan-lt gray, dense-weathered, w/chert nods in matrix, no odor.
						3606	
		12	13	Core	50 ppm		
		13	14	Core	39 ppm	14	
						3604	
		14	15	Core	17 ppm		
		15	16	Core	31 ppm	16	
	CL	16	17	Core	277 ppm	3602	Clay, lt gray tan, w/10% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, sl-mod HC odor.
		17	18	Core	356 ppm	18	
						3600	
		18	19	Core	356 ppm		Encountered Groundwater!
	CL	19	20	Core	410 ppm	20	Clay, lt gray brown, w/15% vf grain sand in matrix, wet interbedded w/mod-well cemented vf grain sand, mod HC odor.

MONITORING WELL NO: MW-E TOTAL DEPTH: 31 Feet

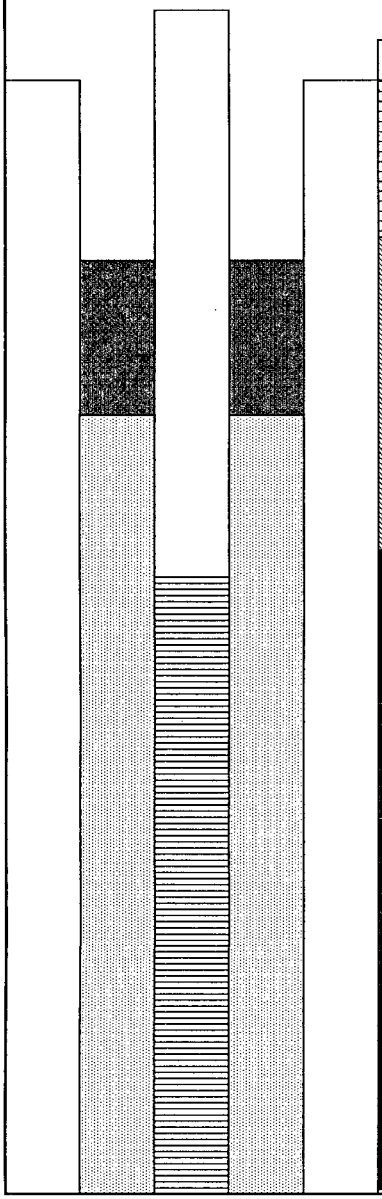


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3598	Clay, tan-lt orange brown, w/15% vf grain sand in matrix,
							interbedded w/mod-well cemented vf grain sand, wet, mod-
		20	21	Core	410 ppm		str HC odor.
	CL	21	22	Core	457 ppm	22	
						3596	
		22	23	Core	37 ppm		
		23	24	Core	23 ppm	24	
	CL					3594	Clay, lt tan, w/5% vf grain sand in matrix, interbedded w/mod-
							well cemented vf grain sand, wet, no odor.
	CL	24	25	Core	17 ppm		Sandy Clay, lt tan w/25% vf grain sain in matrix, interbedded
							w/mod-well cemented vf grain sand, wet, no odor.
	SW	25	26	Core	13 ppm	26	Sand, dk red brown, vf grain, w/10% clay in matrix, wet, no
						3592	odor.
							Clay, lt gray tan-tan, w/5% vf grain sand in matrix,
		26	27	Core	8 ppm		interbedded w/mod-well cemented vf grain sand, wet, no odor.
	CL	27	28	Core	22 ppm	28	
						3590	
		28	29	Core	28 ppm		
							Sand, tan-brown, vf grain, w/10% clay in matrix, interbedded
	SW	29	30	Core	32 ppm	30	w/mod-well cemented vf grain sand, wet, no odor.
						3588	
		30	31	Core	32 ppm		TD Boring @ 31 Feet!
						32	
						3586	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

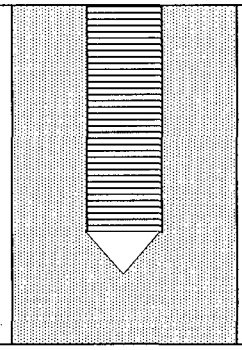
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-F	TOTAL DEPTH:	26 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3614	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/25/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/25/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3614	Clayey Silt (Top Soil), brown-dk brown, w/25% clay in matrix, no odor.
	MH	0	1	Core	10 ppm		
		1	2	Core	18 ppm	2	
						3612	
		2	3	Core	18 ppm		Caliche, lt yellow tan-lt gray white, weathered, no odor.
		3	4	Core	18 ppm	4	
	CALICHE					3610	
		4	5	Core	18 ppm		
		5	6	Core	18 ppm	6	
						3608	Caliche, lt yellow tan-gray, weathered-dense, w/chert nods in matrix, no odor.
	CALICHE	6	7	Core	4 ppm		
		7	8	Core	15 ppm	8	
						3606	
		8	9	Core	15 ppm		Clay, gray, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, no odor.
	CL	9	10	Core	20 ppm	10	
						3604	
		10	11	Core	7 ppm		
		11	12	Core	7 ppm	12	Clay, lt yellow tan-lt gray, w/5% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, no odor.
						3602	
	CL	12	13	Core	7 ppm		
		13	14	Core	5 ppm	14	Sand, gray-dk orange brown, w/15% clay in matrix, interbdded w/mod-well cemented vf grain sand, moist, no odor.
	SW					3600	
		14	15	Core	5 ppm		Encountered Groundwater!
	CL	15	16	Core	5 ppm	16	Sandy Clay, lt yellow tan-gray, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
						3598	
		16	17	Core	5 ppm		Clay, lt yellow tan-gray, w/5% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		17	18	Core	5 ppm	18	
	CL					3596	
		18	19	Core	12 ppm		
		19	20	Core	12 ppm	20	

MONITORING WELL NO: MW-F TOTAL DEPTH: 26 Feet

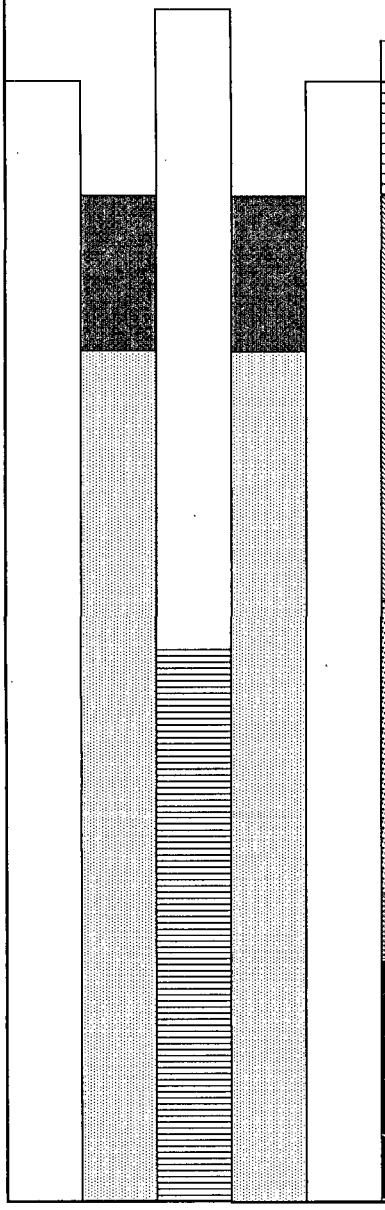


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	CL					3594	
		20	21	Core	12 ppm		Clay, orange tan-red brown, w/5% sand in matrix,
							interbedded w/mod-well cemented vf grain sand, wet, no odor.
		21	22	Core	12 ppm	22	
						3592	
	CL	22	23	Core	12 ppm		
		23	24	Core	12 ppm	24	
						3590	
		24	25	Core	12 ppm		
	SW						Sand, orange brown, vf grain, w/5% clay in matrix, interbedded
		25	26	Core	12 ppm	26	w/mod-well cemented vf grain sand, wet, no odor.
						3588	TD Boring @ 26 Feet!
						28	
						30	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

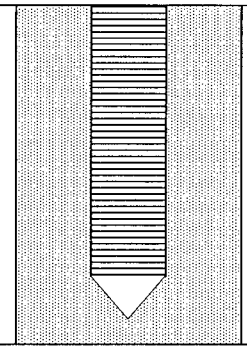
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-G	TOTAL DEPTH:	26 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3614	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/24/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/24/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3614	Silt (Top Soil), brown, w/10% clay in matrix, no odor.
	MH	0	1	Core	0 ppm		
		1	2	Core	1 ppm	2	
						3612	Caliche, lt yellow tan-lt gray, weathered-dense, w/chert in matrix, no odor.
		2	3	Core	1 ppm		
	CALICHE	3	4	Core	2 ppm	4	
						3610	
		4	5	Core	12 ppm		
		5	6	Core	9 ppm	6	Caliche, lt yellow tan-gray brown, dense-weathered, w/chert in matrix, interbedded w/dense sandstone, no odor.
						3608	
		6	7	Core	3 ppm		
	CALICHE	7	8	Core	8 ppm	8	
						3606	
		8	9	Core	14 ppm		
							Silty Clay, tan-lt brown, w/30% silt in matrix, moist, no odor.
	CL	9	10	Core	6 ppm	10	
						3604	
	CL	10	11	Core	8 ppm		Sandy Clay, tan-orange brown, w/35% vf grain sand in matrix, wet, no odor.
		11	12	Core	8 ppm	12	
						3602	Sandy Clay, tan-lt gray brown, w/35% vf grain sand in matrix, interbedded w/dense sandstone, wet, no odor.
	CL	12	13	Core	8 ppm		
		13	14	Core	8 ppm	14	
						3600	
	SC	14	15	Core	8 ppm		Clayey Sand, tan-orange brown, w/30% clay in matrix, interbedded w/dense sandstone, wet, no odor.
							Encountered Groundwater!
		15	16	Core	8 ppm	16	Sandy Clay, tan-lt gray brown, w/35% vf grain sand in matrix, interbedded w/dense sandstone, wet, no odor.
						3598	
	CL	16	17	Core	8 ppm		
		17	18	Core	11 ppm	18	
						3596	
	SC	18	19	Core	11 ppm		Clayey Sand, lt yellow tan-lt gray, w/30% clay in matrix, wet, no odor.
		19	20	Core	11 ppm	20	

MONITORING WELL NO: MW-G TOTAL DEPTH: 26 Feet

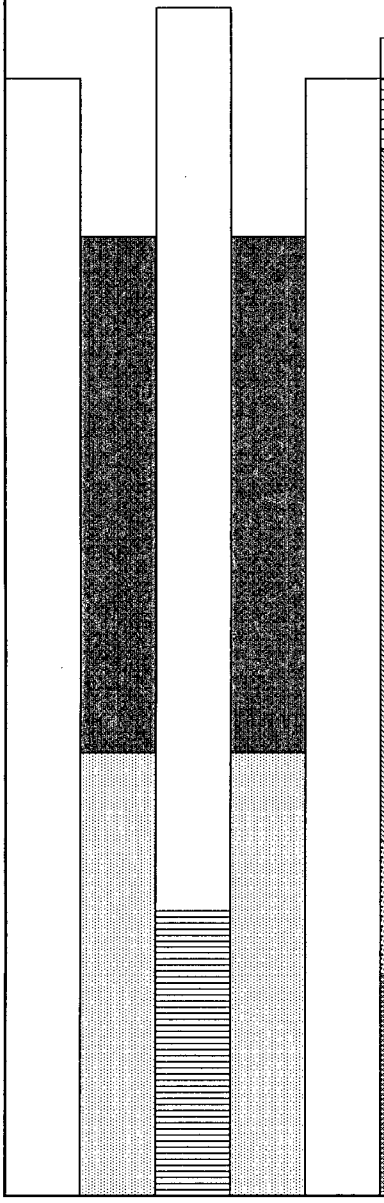


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	SC					3594	
		20	21	Core	15 ppm		Sandy Clay, lt yellow tan-lt gray, w/25% vf grain sand in matrix, wet, no odor.
	CL	21	22	Core	15 ppm	22	
						3592	
		22	23	Core	10 ppm		
		23	24	Core	10 ppm	24	Sandy Clay, tan-orange brown, w/40% vf grain sand in matrix
	CL					3590	wet, no odor.
		24	25	Core	10 ppm		
		25	26	Core	10 ppm	26	TD Boring at 26 Feet!
						3588	
						28	
						30	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

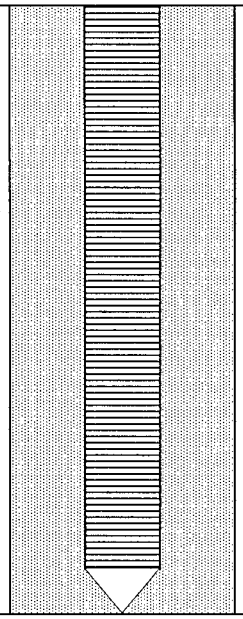
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-H	TOTAL DEPTH:	30.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3621	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/21/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/21/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH	0	1	Core	11 ppm	3621	Silt (Top Soil), dk grayish brown, w/15% clay in matrix, no odor.
	CALICHE	1	2	Core	11 ppm	2	Caliche, lt yellowish tan, dense-weathered, w/chert nods in matrix, no odor.
		2	3	Core	11 ppm	3619	
	CALICHE	3	4	Core	11 ppm	4	Caliche, lt yellowish tan-tan, weathered-dense, w/chert nods in matrix, no odor.
		4	5	Core	30 ppm	3617	
		5	6	Core	23 ppm	6	
	CALICHE	6	7	Core	6 ppm	3615	Caliche, lt yellowish tan-lt grayish brown, weathered-dense, w/chert nods in matrix, no odor.
		7	8	Core	21 ppm	8	
		8	9	Core	21 ppm	3613	
	CALICHE	9	10	Core	25 ppm	10	Caliche, lt yellowish tan, dense-weathered, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
		10	11	Core	10 ppm	3611	
		11	12	Core	26 ppm	12	
		12	13	Core	26 ppm	3609	
	CL	13	14	Core	15 ppm	14	Sandy Clay, yellow tan, w/25% vf grain sand in matrix, interbedded w/dense sandstone, no odor.
		14	15	Core	12 ppm	3607	
		15	16	Core	18 ppm	16	
	SC	16	17	Core	61 ppm	3605	Clayey Sand, tan-orange brown, vf grain, w/40% clay & chert nods in matrix, interbdded w/dense sandstone, moist, sl HC odor.
		17	18	Core	84 ppm	18	
		18	19	Core	38 ppm	3603	
		19	20	Core	38 ppm	20	Encountered Groundwater!

MONITORING WELL NO: MW-H TOTAL DEPTH: 30.5 Feet

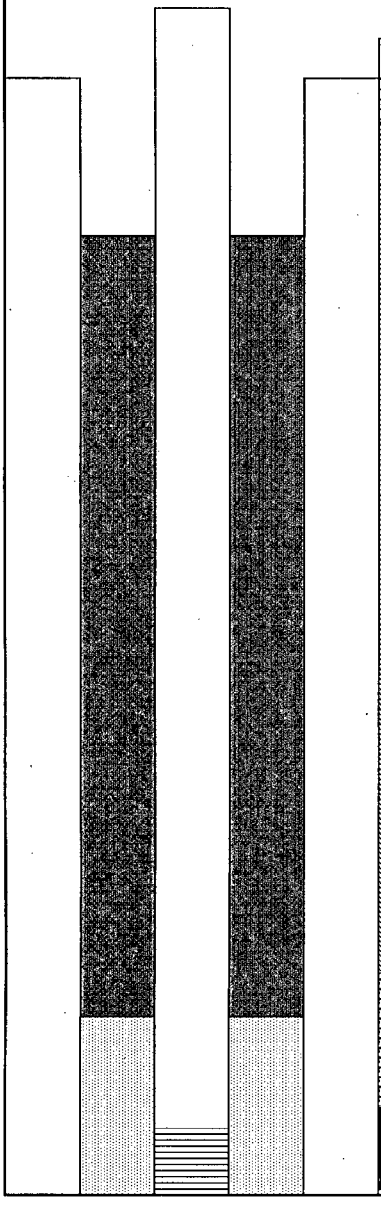


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID ,,	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3601	
	SC	20	21	Core	25 ppm		
		21	22	Core	25 ppm	22	Clayey Sand, tan-orange brown, vf grain, w/35% clay in matrix
						3599	interbedded w/dense sandstone, wet, no odor.
		22	23	Core	25 ppm		
		23	24	Core	15 ppm	24	
						3597	
	SC	24	25	Core	15 ppm		
		25	26	Core	6 ppm	26	
						3595	
		26	27	-			
		27	28	-		28	
						3593	
							Sand, orange brown, vf grain w/20% clay in matrix, interbdded
	SW	28	29	-			wet, no odor.
		29	30	-		30	
						3591	
							TD Boring @ 30.5 Feet
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

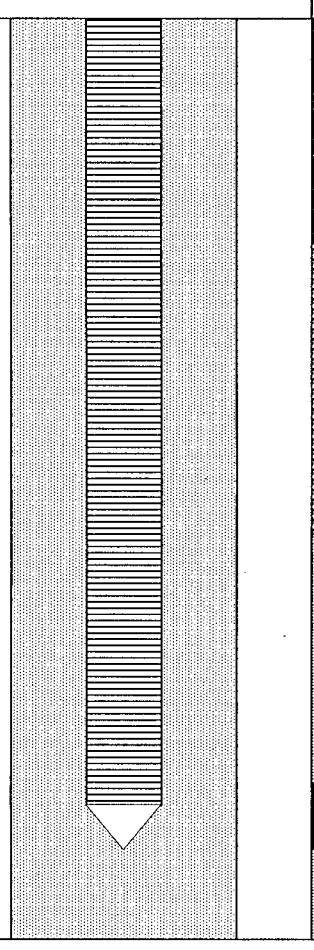
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-I	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3625	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/25/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/26/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3625	Silt (Top Soil), brown, w/15% clay in matrix, no odor.
	CALICHE	0	1	Core	5 ppm		Caliche, lt yellowish tan-tan, weathered-dense, w/chert nods in matrix, no odor.
		1	2	Core	5 ppm	2	
						3623	
		2	3	Core	15 ppm		
		3	4	Core	24 ppm	4	
						3621	
	CALICHE	4	5	Core	24 ppm		Caliche, tan-lt grayish brown, dense-weathered, w chert nods in matrix, no odor.
		5	6	Core	-	6	
						3619	Caliche, yellowish tan, weathered-dense, w/chert nods in matrix, no odor.
	CALICHE	6	7	Core	8 ppm		
		7	8	Core	8 ppm	8	
						3617	
	CALICHE	8	9	Core	8 ppm		Caliche, lt yellowish tan-tan-lt grayish brown, weathered-dense, w/chert nods in matrix, no odor.
		9	10	Core	8 ppm	10	
						3615	
		10	11	Core	8 ppm		
		11	12	Core	20 ppm	12	
						3613	
		12	13	Core	20 ppm		
		13	14	Core	20 ppm	14	
						3611	
		14	15	Core	10 ppm		
		15	16	Core	10 ppm	16	
	SC					3609	Silty Clay, tan-lt yellowish brown, w/35% silt and weathered caliche in matrix, mod sl HC odor.
		16	17	Core	271 ppm		
		17	18	Core	109 ppm	18	
						3607	
	SC	18	19	Core	413 ppm		Silty Clay, tan-lt grayish brown, w/35% silt in matrix, interbedded w/mod-well cemented vf grain sand, mod-str HC odor.
		19	20	Core	476 ppm	20	

MONITORING WELL NO: MW-I TOTAL DEPTH: 36.5 Feet

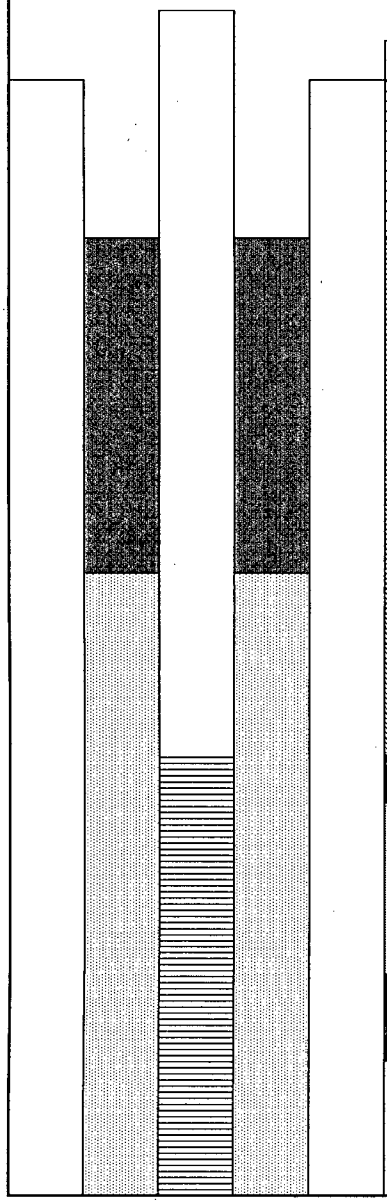


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3605	
	SC	20	21	Core	263 ppm		
		21	22	Core	346 ppm	22	
						3603	
							Encountered Groundwater!
	SC	22	23	Core	294 ppm		Silty Clay, lt yellowish white-lt gray, w/35% silt in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod-str
		23	24	Core	255 ppm	24	HC odor.
	SC	24	25	Core	204 ppm	3601	Silty Clay, lt yellowish tan-orange tan, w/35% silt in matrix, wet, mod HC odor.
		25	26	Core	16 ppm	26	
	SC	26	27	Core	0 ppm	3599	Silty Clay, lt yellowish tan, w/40% silt in matix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		27	28	Core	0 ppm	28	
		28	29	Core	0 ppm	3597	
	SW	29	30	Core	0 ppm		Sand, tan-orange brown, vf grain, w/20% silt in matrix,
						30	interbedded w/mod-well cemented vf grain sand, wet, no odor.
		30	31	Core	0 ppm	3595	
		31	32	Core	0 ppm	32	
	SW	32	33	Core	0 ppm	3593	Sand, lt yellow tan, vf grain, w/20% silt in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
	SW	33	34	Core	0 ppm	34	Sand, lt yellowish tan-lt gray, vf grain, w/chert in matrix,
						3591	interbedded w/mod-well cemented vf grain sand, wet, no odor.
	SW	34	35	Core	0 ppm		Sand, lt tan-lt orange brown, vf grain, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		35	36	Core	0 ppm	36	
						3589	TD Boring @ 36.5 Feet!
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-J	TOTAL DEPTH:	27 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3622	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/25/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/25/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3622	Silt (Top Soil), lt tan-dk brown, w/10% clay in matrix, no odor.
	MH	0	1	Core	0 ppm		
		1	2	Core	0 ppm	2	
						3620	
		2	3	Core	13 ppm		Caliche, lt yellow tan-lt gray, weathered-dnse, w/chert nods in matrix, interbedded w/tan-lt orange brown silty clays, no odor.
		3	4	Core	37 ppm	4	
	CALICHE					3618	
		4	5	Core	37 ppm		
		5	6	Core	74 ppm	6	
						3616	Caliche, white-lt yellow tan, dense-weathered, w/chert nods in matrix, interbdded w/tan-lt orange brown silty clays, no odor.
		6	7	Core	24 ppm		
		7	8	Core	15 ppm	8	
	CALICHE					3614	
		8	9	Core	9 ppm		
		9	10	Core	12 ppm	10	
						3612	
		10	11	Core	45 ppm		
		11	12	Core	17 ppm	12	
						3610	Clayey Silt, tan-orange-gray, w/30% clay , caliche, & chert nods in matrix, no odor.
		12	13	Core	7 ppm		
	ML	13	14	Core	12 ppm	14	
						3608	
		14	15	Core	12 ppm		
		15	16	Core	9 ppm	16	
	ML					3606	Clayey Silt, lt tan gray-dk orange brown, w/25% clay & chert nods in matrix, wet, no odor.
		16	17	Core	15 ppm		
		17	18	Core	16 ppm	18	
	Lost Core					3604	Lost Core Interval
		18	19	Core	-		
		19	20	Core	-	20	Encountered Groundwater!

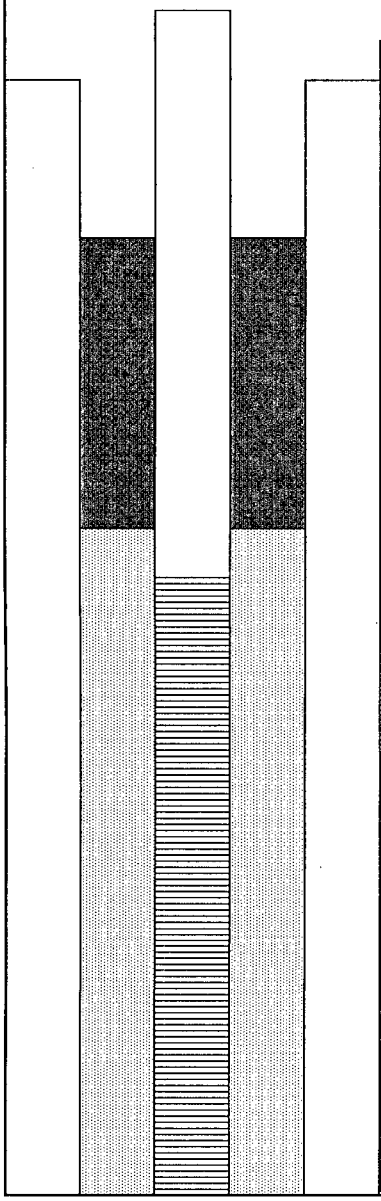
MONITORING WELL NO: MW-J TOTAL DEPTH: 27 Feet

	LITH.	SAMPLE					DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN
		Lost Core	20	21	Core	-	3602	Lost Core Interval
			21	22	Core	-	22	
							3600	
		SC	22	23	Core	-		Clay, gray-dk orange brown, w/15% silt in matrix, wet, no odor.
		SC	23	24	Core	10 ppm	24	Clay, tan-gray brown, w/20% silt in matrix, wet, no odor.
							3598	
		SC	24	25	Core	10 ppm		Clay, tan-gray-dk orange brown, w/15% silt in matrix, wet, no odor.
		SC	25	26	Core	8 ppm	26	Clay, lt tan-gray-lt orange brown, w/15% silt in matrix, wet, no odor.
							3596	
			26	27	Core	-		TD Boring @ 27 Feet!
							28	
							3594	
							30	
							32	
							34	
							36	
							38	
							40	
							42	
							44	

MONITORING WELL LITHOLOGIC LOG

TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-K	TOTAL DEPTH:	26 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3616	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/25/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/25/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3616	Silt (Top Soil), brown-dk brown, w/10% clay in matrix, no odor.
		0	1	Core	7 ppm		
	CALICHE	1	2	Core	21 ppm	2	Caliche, lt yellowish tan, weathered-dense, w/chert nods in matrix, no odor.
						3614	
		2	3	Core	35 ppm		
		3	4	Core	15 ppm	4	
						3612	
		4	5	Core	15 ppm		
		5	6	Core	21 ppm	6	
						3610	
	CALICHE	6	7	Core	10 ppm		Caliche, lt yellowish tan-lt gray, dense-weathered, w/chert nods in matrix, no odor.
		7	8	Core	26 ppm	8	
						3608	
		8	9	Core	26 ppm		
		9	10	Core	15 ppm	10	
	CALICHE	10	11	Core	29 ppm	3606	Caliche, tan-lt grayish brown, dense-weathered, w/chert nods in matrix, no odor.
		11	12	Core	18 ppm	12	
	CALICHE	12	13	Core	27 ppm	3604	Caliche, lt yellowish tan-lt gray, dense-weathered, w/chert nods in matrix, no odor.
	CL	13	14	Core	19 ppm	14	Clay, lt tan-lt gray, w/15% silt in matrix, interbedded w/mod-well cemented vf grain sand; moist, no odor
						3602	Encountered Groundwater!
		14	15	Core	40 ppm		
		15	16	Core	40 ppm	16	
	CL	16	17	Core	11 ppm	3600	Clay, lt gray, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
	CL	17	18	Core	11 ppm	18	Sandy Clay, gray, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet no odor.
						3598	
		18	19	Core	20 ppm		
		19	20	Core	20 ppm	20	

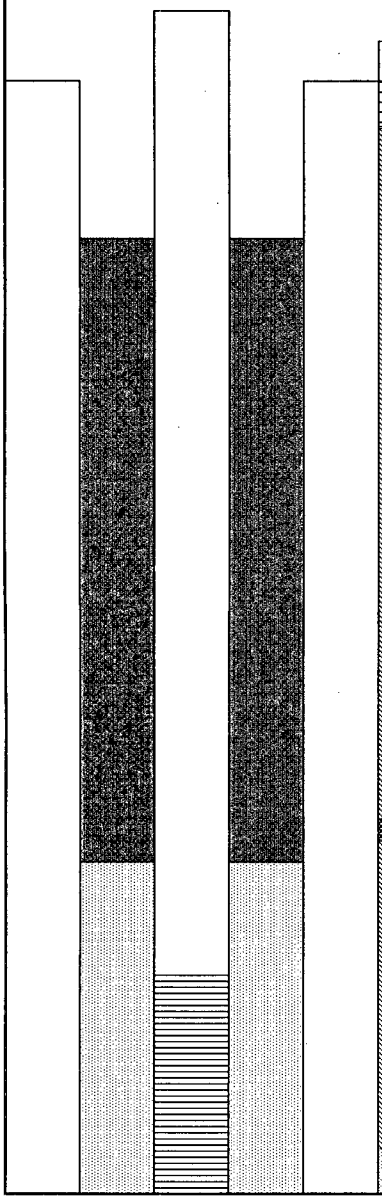
MONITORING WELL NO: MW-K TOTAL DEPTH: 26 Feet

LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3596	Clay, gray, w/15% vf grain sand in matrix, interbedded w/mod well cemented vf grain sand, wet, no odor.
		20	21	Core	20 ppm		
	CL	21	22	Core	32 ppm	22	
						3594	
		22	23	Core	12 ppm		
		23	24	Core	40 ppm	24	Clay, lt gray-brown, w/20% vf grain sand in matrix, interbedded
						3592	w/mod-well cemented vf grain sand, wet, no odor.
	CL						
		24	25	Core	33 ppm		
		25	26	Core	-	26	TD Boring @ 26 Feet!
						3590	
						28	
						30	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

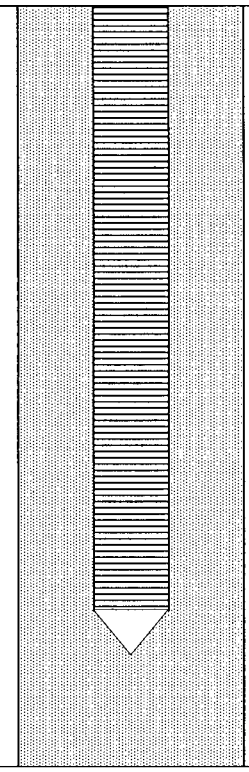
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-L	TOTAL DEPTH:	33.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3628	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/20/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/20/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3628	Silty Clay, dk brown, w/25% silt in matrix, no odor.
		0	1	Core	14 ppm		Caliche, tan-lt brown, dense-weathered, w/chert nods in matrix, no odor.
	CALICHE	1	2	Core	19 ppm	2	
						3626	
		2	3	Core	14 ppm		
		3	4	Core	14 ppm	4	Caliche, tan-lt yellow brown, weathered-dense, w/chert nods in matrix, no odor.
						3624	
		4	5	Core	39 ppm		
		5	6	Core	26 ppm	6	
						3622	
		6	7	Core	6 ppm		
	CALICHE	7	8	Core	7 ppm	8	
						3620	
		8	9	Core	13 ppm		
		9	10	Core	10 ppm	10	
						3618	
		10	11	Core	1 ppm		
		11	12	Core	1 ppm	12	
						3616	
		12	13	Core	9 ppm		
	CHERT						Chert, tan-lt brown, dense, no odor.
		13	14	Core	5 ppm	14	Caliche, tan-lt yellow brown, weathered-dense, w/chert nods in matrix, no odor.
	CALICHE					3614	
		14	15	Core	23 ppm		
	CALICHE	15	16	Core	11 ppm		Caliche, tan-lt brown, weathered-dense, w/chert nods in matrix, no odor.
						16	
						3612	Caliche, tan-lt brown, weathered, w/chert nods in matrix, interbedded w/mod-dense vf grain sand, no odor.
		16	17	Core	14 ppm		
	CALICHE	17	18	Core	80 ppm	18	
						3610	
		18	19	Core	74 ppm		
	SW	19	20	Core	66 ppm	20	Sand, tan-lt brown, vf grain, interbedded w/dense sandstone, moist, no odor.

MONITORING WELL NO: MW-L TOTAL DEPTH: 33.5 Feet

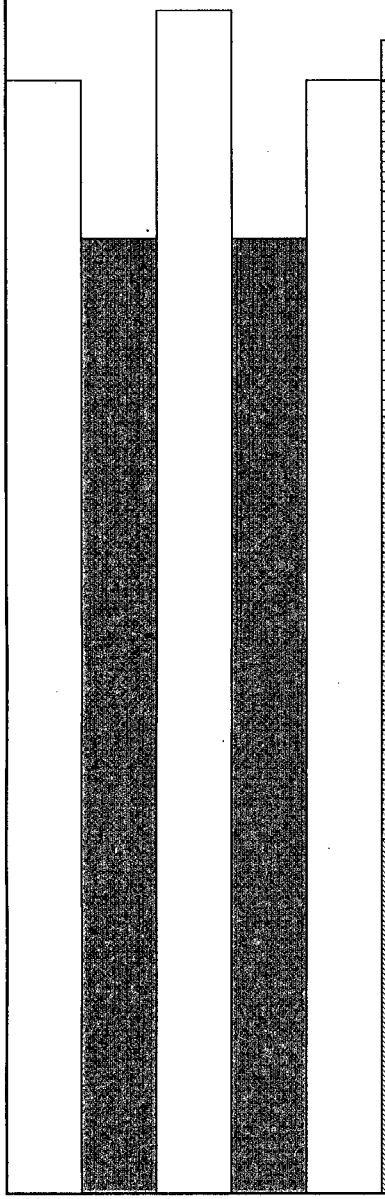


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3608	Sand, tan-brown, vf grain, wet, no odor.
	SW	20	21	Core	-		
		21	22	Core	63 ppm	22	
						3606	Clayey Sand, lt brown vf grain, w/25% clay in matrix,
	SC						interbedded w/dense sandstone, wet, no odor.
		22	23	Core	56 ppm		
							Encountered Groundwater,
		23	24	Core	77 ppm	24	Sand, tan-brown, vf grain, wet, no odor.
						3604	
		24	25	Core	67 ppm		
	SW	25	26	Core	76 ppm	26	
						3602	
		26	27	Core	31 ppm		
		27	28	Core	67 ppm	28	
						3600	
							Clayey Sand, tan-lt brown, vf grain, w/25% clay in matrix,
		28	29	Core	48 ppm		interbedded w/dense sandstone, wet, no odor.
	SC	29	30	Core	42 ppm	30	
						3598	
		30	31	Core	34 ppm		
							Sand, tan-brown, vf grain, interbedded, w/dense sandstone,
		31	32	Core	56 ppm	32	wet, no odor.
	SW					3696	
		32	33	Core	14 ppm		
							TD Boring @ 33.5 Feet!
						34	
						3694	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

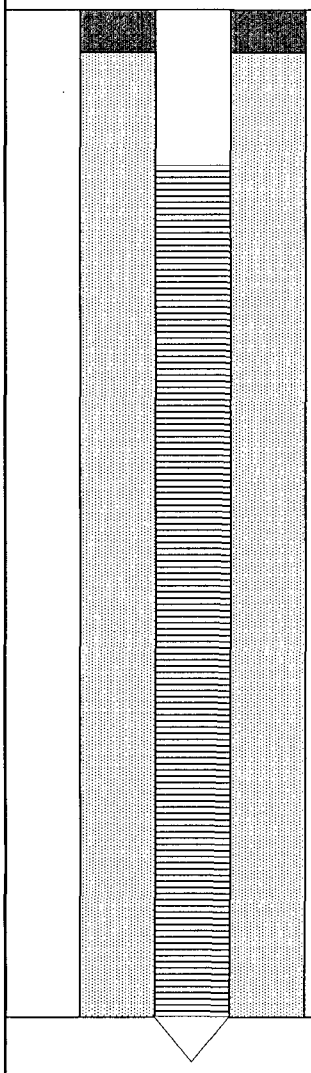
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-M	TOTAL DEPTH:	38 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3631	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/20/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/20/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3631	Silt (Top Soil), brown, w/15% clay in matrix, no odor.
	MH	0	1	Core	6 ppm		
		1	2	Core	1 ppm	2	
						3629	Silty Clay, brown, w/30% silt in matrix, no odor.
		2	3	Core	0 ppm		
	MH	3	4	Core	0 ppm	4	
						3627	
		4	5	Core	0 ppm		
	MH						Clay, tan-brown, w/20% silt in matrix, no odor.
		5	6	Core	0 ppm	6	
						3625	Sandy Clay, orange brown-black, w/40% vf grain sand in martrix, no odor.
	SC	6	7	Core	0 ppm		
		7	8	Core	0 ppm	8	
						3623	Sandy Clay, lt tan-brown, w/25% vf grain sand & weathered caliche in matrix, no odor.
	SC	8	9	Core	0 pmm		
		9	10	Core	0 ppm	10	
						3621	Sandy Clay, lt tan-brown, w/45% vf grain sand & weathered caliche in matrix, no odor.
		10	11	Core	0 ppm		
	SC	11	12	Core	0 ppm	12	
						3619	
		12	13	Core	0 ppm		
		13	14	Core	0 ppm	14	Caliche, lt yellow tan, weathered, no odor.
						3617	
	CALICHE	14	15	Core	0 ppm		
		15	16	Core	0 ppm	16	
						3615	Caliche, lt yellow tan-lt brown, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, sl HC odor.
		16	17	Core	184 ppm		
	CALICHE	17	18	Core	307 ppm	18	
						3613	
		18	19	Core	116 ppm		
		19	20	Core	103 ppm	20	

MONITORING WELL NO: MW-M TOTAL DEPTH: 38 Feet

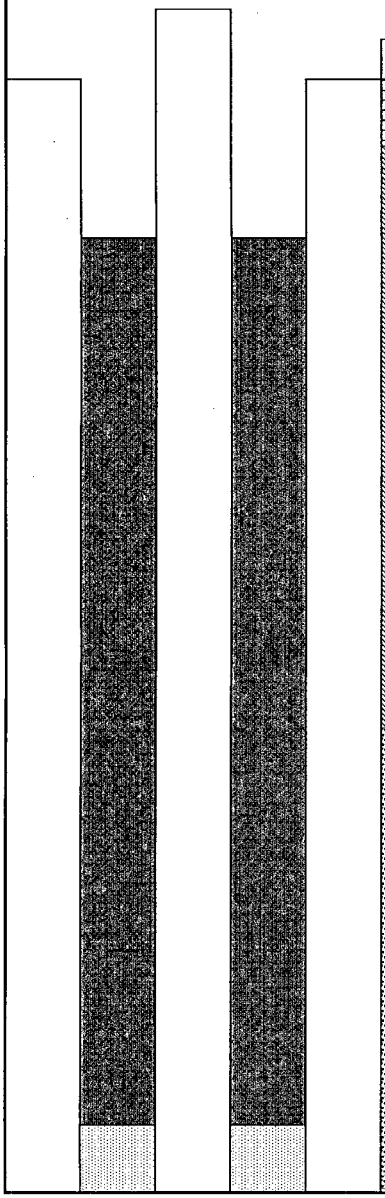


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3611	
		20	21	Core	297 ppm		
	CALICHE						
		21	22	Core	250 ppm	22	
						3609	
		22	23	Core	151 ppm		
	SW						Sand, tan-lt brown, vf grain, w/5% clay in matrix, sl-mod HC
		23	24	Core	257 ppm	24	odor.
	CALICHE					3607	Caliche, white-lt tan brown, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, mod HC odor.
		24	25	Core	309 ppm		Caliche, lt gray -lt tan brown, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, mod-str HC odor.
		25	26	Core	337 ppm	26	
						3605	
		26	27	Core	316 ppm		
		27	28	Core	321 ppm	28	
						3603	
		28	29	Core	201 ppm		
	SW						Sand, lt yellow tan-brown, vf grain, w/5% clay in matrix,
		29	30	Core	149 ppm	30	interbedded w/dense sandstone, wet, sl HC odor.
						3601	
	SW	30	31	Core	54 ppm		Sand, lt tan-lt brown, vf grain, w/5% clay in matrix, interbedded w/dense sandstone, wet, no odor.
		31	32	Core	20 ppm	32	
						3599	
		32	33	Core	17 ppm		Sand, orange brown, vf grain, w/5% clay in matrix, interbedded w/dense sandstone, wet, no odor.
		33	34	Core	17 ppm	34	
						3597	
	SW	34	35	Core	18 ppm		
		35	36	Core	18 ppm	36	
						3595	
		36	37	Core	-		
						38	TD Boring @ 38 Feet!
						3593	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

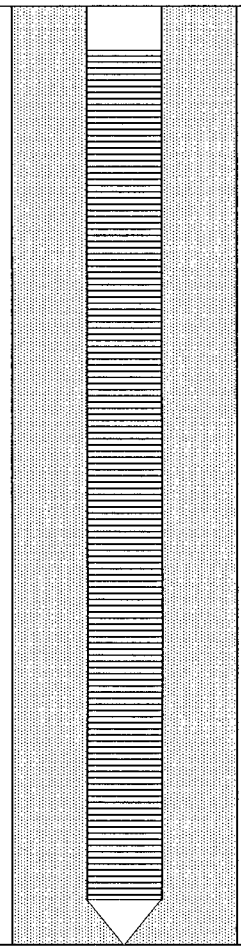
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-N	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3633	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/3/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/3/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3633	Silt (Top Soil), brown, w/10% clay in matrix, no odor.
		0	1	Core	10 ppm		
		1	2	Core	9 ppm	2	Caliche, lt yellowish tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
						3631	
		2	3	Core	11 ppm		
		3	4	Core	11 ppm	4	
						3629	
		4	5	Core	9 ppm		
		5	6	Core	13 ppm	6	
						3627	
		6	7	Core	6 ppm		
		7	8	Core	2 ppm	8	
						3625	
		8	9	Core	5 ppm		
		9	10	Core	14 ppm	10	
						3623	
		10	11	Core	8 ppm		
		11	12	Core	2 ppm	12	Clay, lt yellowish tan-lt gray, w/20% sand, & chert nods in matrix interbedded w/mod-well cemented vf grain sand, sl HC odor.
						3621	
		12	13	Core	7 ppm		
		13	14	Core	13 ppm	14	
						3619	
		14	15	Core	5 ppm		
		15	16	Core	8 ppm	16	
						3617	
		16	17	Core	91 ppm		
		17	18	Core	120 ppm	18	
						3615	
		18	19	Core	116 ppm		Sandy Clay, orange brown, w/40% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, sl HC odor.
		19	20	Core	184 ppm	20	

MONITORING WELL NO: MW-N TOTAL DEPTH: 36.5 Feet

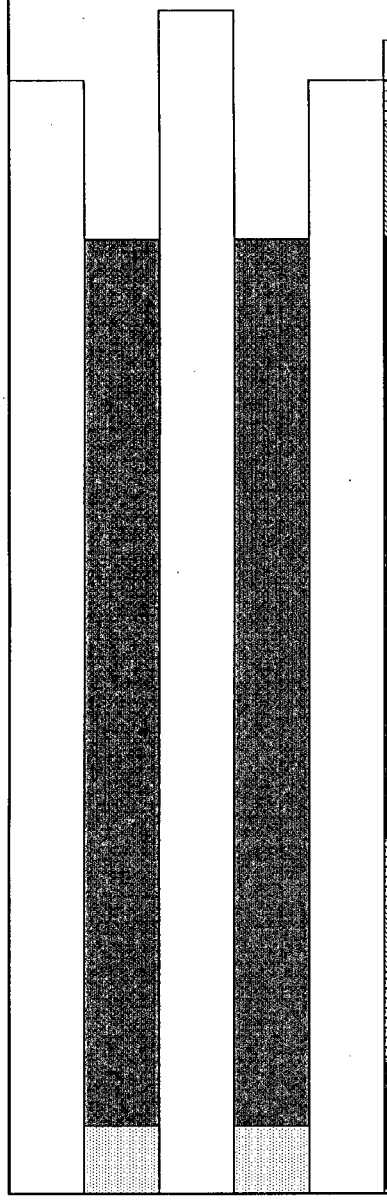


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3613	Sandy Clay, lt orange brown, w/30% vf grain sand in matrix, sl HC odor.
		20	21	Core	253 ppm		
		21	22	Core	246 ppm	22	
						3611	Clay, lt gray-lt tan, w/20% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, sl-mod HC odor.
		22	23	Core	299 ppm		
		23	24	Core	304 ppm	24	
						3609	
		24	25	Core	295 ppm		Clayey Sand, tan-orange brown, vf grain, w/40% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
		25	26	Core	305 ppm	26	
						3607	Sand, tan-orange brown, vf grain, w/10% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
		26	27	Core	125 ppm		
							Encountered Groundwater!
		27	28	Core	138 ppm	28	Clayey Sand, tan-lt gray, vf grain, w/40% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod-str HC odor.
						3605	
		28	29	Core	200 ppm		
		29	30	Core	460 ppm	30	
						3603	
		30	31	Core	390 ppm		Clayey Sand, gray-dk gray, vf grain, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod-str HC odor.
		31	32	Core	319 ppm	32	
						3601	
		32	33	Core	475 ppm		
		33	34	Core	716 ppm	34	
						3599	
		34	35	Core	711 ppm		Sand, tan-orange brown, vf grain, w/20% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, str HC odor.
		35	36	Core	685 ppm	36	
						3597	
							TD Boring @ 36.5 Feet!
						38	
						3595	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

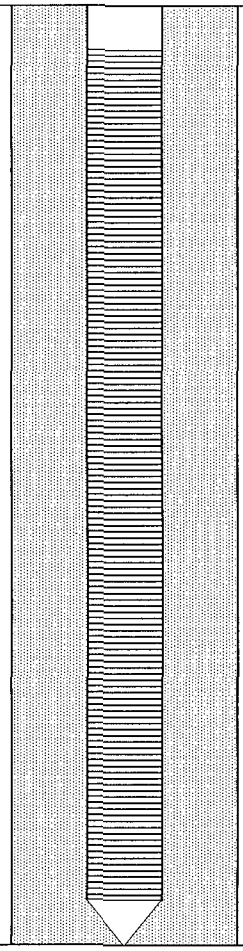
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-O	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3632	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/3/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/3/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3632	Silt (Top Soil), brown, w/5% clay in matrix, no odor.
	CALICHE	0	1	Core	8 ppm		Caliche; lt yellowish tan-lt grayish brown, dense-weathered, w/chert nods in matrix, sl HC odor.
		1	2	Core	60 ppm	2	
						3630	
		2	3	Core	162 ppm		
		3	4	Core	86 ppm	4	
						3628	Caliche, yellow tan, weathered-dense, w/chert nods in matrix, sl HC odor.
		4	5	Core	126 ppm		
		5	6	Core	63 ppm	6	
						3626	
		6	7	Core	174 ppm		
		7	8	Core	178 ppm	8	
						3624	
	CALICHE	8	9	Core	72 ppm		Caliche, lt grayish yellow, weathered-dense, w/chert nods in matrix, sl HC odor.
		9	10	Core	78 ppm	10	
						3622	Caliche, lt yellowish tan-lt gray, weathered-dense, w/chert nods in matrix, sl HC odor.
	CALICHE	10	11	Core	122 ppm		
		11	12	Core	143 ppm	12	
						3620	
	CALICHE	12	13	Core	110 ppm		Caliche, lt yellowish gray, dense, w/chert nods in matrix, sl HC odor.
	CL	13	14	Core	102 ppm	14	Silty Clay, tan-lt brown, w/30% silt in matrix, sl HC odor.
						3618	
	CALICHE	14	15	Core	101 ppm		Caliche, lt yellowish tan-lt gray, weathered-dense, w/chert in nods in matrix, sl odor.
		15	16	Core	62 ppm	16	
	CL					3616	Sandy Clay, tan-lt brown, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, sl-mod HC odor.
		16	17	Core	142 ppm		
	CL	17	18	Core	253 ppm	18	Sandy Clay, lt tan-lt gray brown, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, sl-mod HC odor.
						3614	
		18	19	Core	231 ppm		
		19	20	Core	306 ppm	20	

MONITORING WELL NO: MW-O TOTAL DEPTH: 36.5 Feet

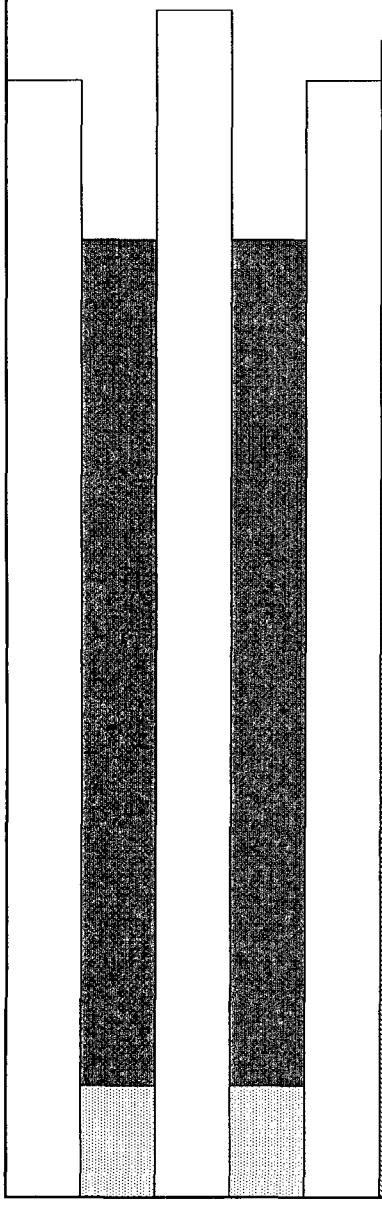


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3612	Sandy Clay, tan-lt orange brown, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, str HC odor.
		20	21	Core	422 ppm		
	CL	21	22	Core	355 ppm	22	
						3610	
		22	23	Core	256 ppm		
		23	24	Core	321 ppm	24	
	SC					3608	Clayey Sand, lt tan-lt grayish brown, vf grain, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand, mod-str HC odor.
		24	25	Core	212 ppm		
	SC	25	26	Core	230 ppm	26	Clayey Sand, lt yellowish gray, vf grain, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand, moist, mod-mod-str HC odor. Encountered Groundwater!
						3606	
		26	27	Core	245 ppm		Clayey Sand, lt yellowish tan-lt gray, vf grain, w25% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet mod-str HC odor.
		27	28	Core	246 ppm	28	
						3604	
	SC	28	29	Core	222 ppm		
		29	30	Core	298 ppm	30	
						3602	
		30	31	Core	347 ppm		
		31	32	Core	272 ppm	32	
						3600	
	SC	32	33	Core	256 ppm		Clayey Sand, lt yellowish tan-lt gray, vf grain, w/25% clay in matrix, interbedded w/dense sandstone, wet, mod HC odor.
		33	34	Core	121 ppm	34	
	SW					3598	Sand, lt grayish tan-gray, vf grain w/15% clay in matrix, wet, sl-mod HC odor.
		34	35	Core	176 ppm		Sand, tan-lt grayish brown, w/20% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl-mod HC odor.
	SW	35	36	Core	191 ppm	36	
						3596	
						38	
						3694	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

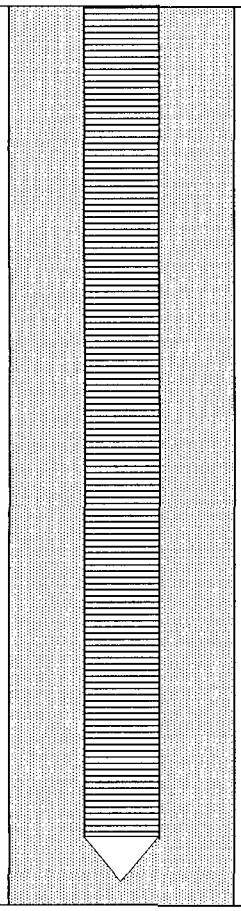
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-P	TOTAL DEPTH:	36 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3630	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/3/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/3/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3630	Silt (Top Soil), brown, w/5% clay in matrix, no odor.
	MH	0	1	Core	48 ppm		
	CALICHE	1	2	Core	88 ppm	2	Caliche, lt tan, dense-weathered, w/chert nods in matrix, no odor.
						3628	
		2	3	Core	120 ppm		Caliche, lt yellow tan-lt brown, dense-weathered, w/chert nods in matrix, interbedded w/mod-well cemented vf grain sand, sl-mod odor.
	CALICHE	3	4	Core	204 ppm	4	
						3626	
		4	5	Core	153 ppm		
		5	6	Core	71 ppm	6	
						3624	Caliche, lt yellow tan-lt brown, weathered-dense, w/chert nods & vf grain sand in matrix, sl HC odor.
		6	7	Core	29 ppm		
		7	8	Core	38 ppm	8	
	CALICHE					3622	
		8	9	Core	90 ppm		
		9	10	Core	56 ppm	10	
						3620	
	CALICHE	10	11	Core	50 ppm		Caliche, white-lt yellow, dense, w/chert nods in matrix, sl HC odor.
		11	12	Core	58 ppm	12	
	CALICHE					3618	Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix interbedded w/mod-well cemented vf grain sand, sl HC odor.
		12	13	Core	110 ppm		
	CL						*Clay, lt tan, w/10% vf grain sand in matrix, sl HC odor.*
		13	14	Core	83 ppm	14	
						3616	Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix, interbedded w/mod-well cemented vf grain sand, mod HC odor.
		14	15	Core	206 ppm		
		15	16	Core	226 ppm	16	
						3614	
	CALICHE	16	17	Core	245 ppm		
		17	18	Core	287 ppm	18	
						3612	
		18	19	Core	140 ppm		
		19	20	Core	131 ppm	20	

MONITORING WELL NO: MW-P TOTAL DEPTH: 36 Feet

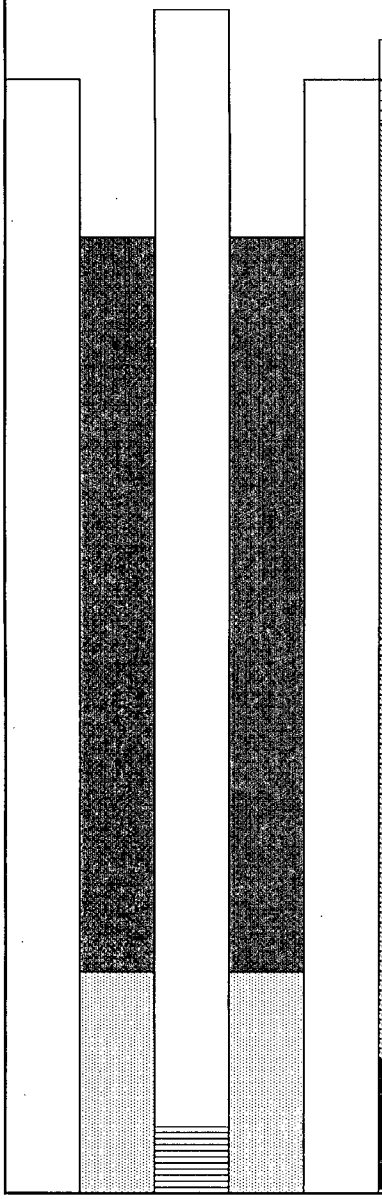


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3610	
		20	21	Core	76 ppm		
		21	22	Core	102 ppm	22	
	CALICHE					3608	
		22	23	Core	266 ppm		
		23	24	Core	97 ppm	24	
						3606	Encountered Groundwater!
							Sandy Clay, tan-brown, w/35% vf grain sand in matrix,
	CL	24	25	Core	712 ppm		interbedded w/mod-well cemented vf grain sand, wet, str HC
							odor.
		25	26	Core	505 ppm	26	
						3604	Sandy Clay, tan, w/35% vf grain sand in matrix, interbedded
							w/mod-well cemented vf grain sand, wet, sl-mod HC odor.
		26	27	Core	165 ppm		
	CL	27	28	Core	143 ppm	28	
						3602	
		28	29	Core	198 ppm		
		29	30	Core	374 ppm	30	Sandy Clay, lt gray tan, w/35% vf grain sand in matrix,
						3600	interbedded w/mod-well cemented vf grain sand, wet, mod-
							str HC odor.
		30	31	Core	307 ppm		
	CL	31	32	Core	372 ppm	32	
						3598	
		32	33	Core	255 ppm		
		33	34	Core	102 ppm	34	
						3596	
							Sand, lt yellow tan-lt brown, vf grain, w/15% clay & chert in
	SW	34	35	Core	331 ppm		matrix, interbedded w/dense sandstone, wet, mod HC odor.
		25	36	Core	91 ppm	36	TD Boring @ 36 Feet!
						3594	
						38	
						3592	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

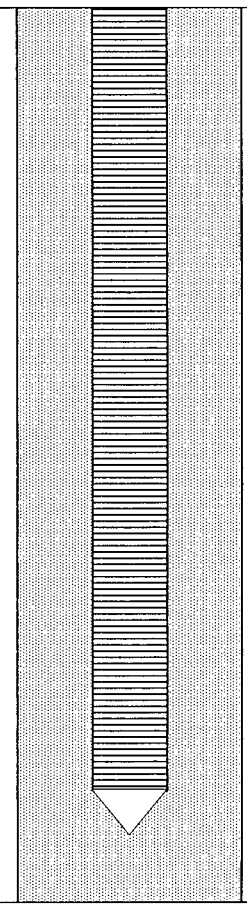
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-Q	TOTAL DEPTH:	36 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3628	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/1/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/1/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3628	Silt (Top Soil), brown, w/20% clay in matrix, no odor.
	CALICHE	0	1	Core	2 ppm		Caliche, lt yellowish tan-lt gray, dense-weathered, w/chert nods in matrix, no odor.
		1	2	Core	8 ppm	2	
						3626	
		2	3	Core	89 ppm		
		3	4	Core	251 ppm	4	
						3624	
	CALICHE	4	5	Core	162 ppm		Caliche, lt yellowish tan, dense-weathered, w/chert nods in matrix, mod HC odor.
		5	6	Core	281 ppm	6	
						3622	Caliche, lt tan-lt grayish brown, dense-weathered, w/chert nods in matrix, sl-mod odor.
		6	7	Core	281 ppm		
	CALICHE	7	8	Core	35 ppm	8	
						3620	
		8	9	Core	70 ppm		
		9	10	Core	70 ppm	10	
						3618	Clay, tan-orange brown, w/15% silt in matrix, interbedded w/mod-well cemented vf grain sand, moist, sl HC odor.
	CL	10	11	Core	70 ppm		
		11	12	Core	38 ppm	12	
						3616	
		12	13	Core	78 ppm		Clay, lt yellowish tan-lt grayish brown, w/15% silt in matrix, interbedded w/mod-well cemented vf grain sand, sl HC odor.
		13	14	Core	127 ppm	14	
						3614	
	CL	14	15	Core	194 ppm		
		15	16	Core	216 ppm	16	
						3612	
		16	17	Core	98 ppm		
		17	18	Core	162 ppm	18	Clayey Sand, lt gray-gray, vf grain, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand, moist, sl-mod HC odor.
						3610	
	SC	18	19	Core	170 ppm		
		19	20	Core	170 ppm	20	

MONITORING WELL NO: MW-Q TOTAL DEPTH: 36 Feet

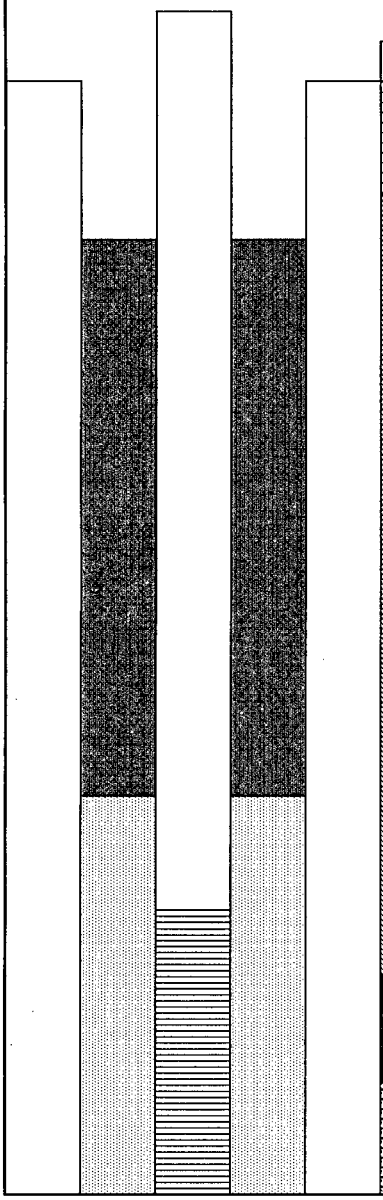


LITH.	USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3608	
		20	21	Core	170 ppm		Sandy Clay, wht-lt gray, w/35% vf grain sand in matrix, moist, sl-mod HC odor.
	CL	21	22	Core	170 ppm	22	Encountered Groundwater!
						3606	
		22	23	Core	170 ppm		
		23	24	Core	80 ppm	24	Clay, lt yellowish tan-lt gray, w/20% silt in matrix, interbedded mod-well cemented vf grain sand, moist, sl-mod HC odor.
	CL					3604	
		24	25	Core	80 ppm		
		25	26	Core	138 ppm	26	
						3602	Clay, lt tan-lt orange brown, w/10% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
		26	27	Core	50 ppm		
	CL	27	28	Core	50 ppm	28	
						3600	
		28	29	Core	50 ppm		
		29	30	Core	50 ppm	30	
						3598	Clay, tan-orange brown, w/10 vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
		30	31	Core	13 ppm		
	CL	31	32	Core	60 ppm	32	
						3596	
		32	33	Core	60 ppm		
		33	34	Core	60 ppm	34	Sandy Clay, lt tan-lt grayish brown, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
						3594	
	CL	34	35	Core	74 ppm		
		35	36	Core	95 ppm	36	TD Boring @ 36 Feet!
						3592	
						38	
						3590	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

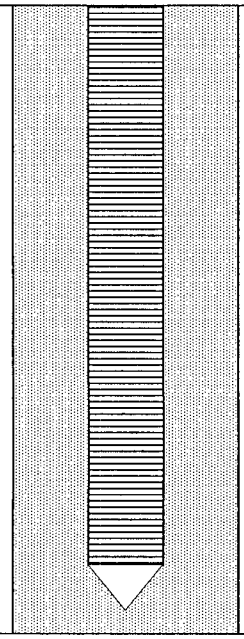
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-R	TOTAL DEPTH:	31 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3623	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/1/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/1/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3623	Silt (Top Soil), lt brown-brown, w/10% clay in matrix, no odor.
	MH	0	1	Core	5 ppm		
		1	2	Core	5 ppm	2	
						3621	Caliche, lt yellow tan, weathered, no odor.
		2	3	Core	5 ppm		
	CALICHE	3	4	Core	15 ppm	4	
						3619	
		4	5	Core	15 ppm		
		5	6	Core	15 ppm	6	
						3617	Caliche, lt yellow tan-lt brown, weathered-dense, w/chert nods in matrix, no odor.
		6	7	Core	51 ppm		
		7	8	Core	30 ppm	8	
						3615	
		8	9	Core	30 ppm		
		9	10	Core	30 ppm	10	
						3613	
	CALICHE						
		10	11	Core	21 ppm		
		11	12	Core	8 ppm	12	
						3611	
		12	13	Core	8 ppm		
		13	14	Core	8 ppm	14	
						3609	
		14	15	Core	27 ppm		
	CALICHE						Caliche, lt yellow tan-lt gray, weathered, no odor.
		15	16	Core	64 ppm	16	
						3607	Clay, tan-lt gray, w/35% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, sl HC odor.
	CL	16	17	Core	126 ppm		
		17	18	Core	94 ppm	18	Encountered Groundwater!
						3605	Sandy Clay, lt gray tan-lt brown, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, sl HC odor.
	CL	18	19	Core	71 ppm		
		19	20	Core	59 ppm	20	

MONITORING WELL NO: MW-R TOTAL DEPTH: 31 Feet

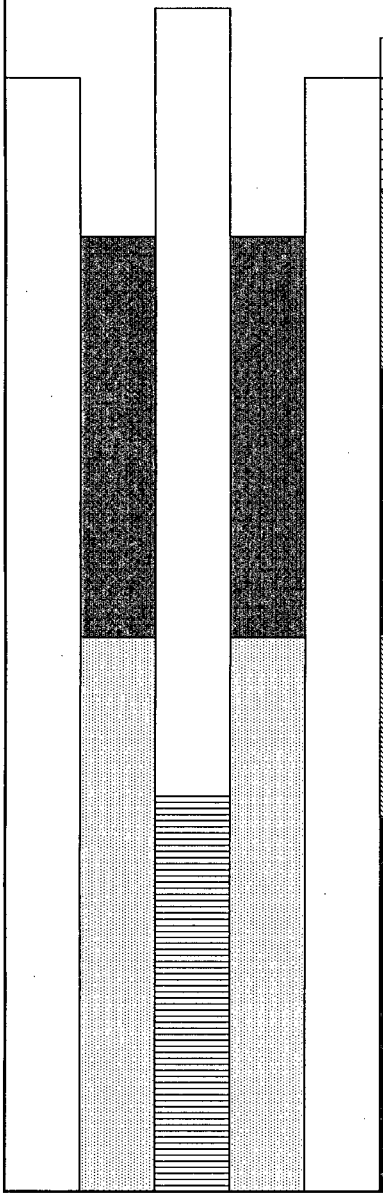


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3603	Clayey Sand, tan-lt orange brown, vf grain, w/35% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet,
	SC	20	21	Core	17 ppm		no odor.
		21	22	Core	5 ppm	22	
						3601	
		22	23	Core	5 ppm		Sandy Clay, lt gray tan, w/35% vf grain sand in matrix,
	CL	23	24	Core	5 ppm	24	interbedded w/mod-well cemented vf grain sand, wet, no odor.
						3599	
		24	25	Core	5 ppm		
	CL						Sandy Clay, lt gray tan w/25% vf grain sand in matrix,
		25	26	Core	5 ppm	26	interbedded w/mod-well cemented vf grain sand, wet, no odor.
						3597	Sand, white-lt gray tan, w/20% clay in matrix, interbedded
		26	27	Core	20 ppm		w/mod-well cemented vf grain sand, wet, no odor.
		27	28	Core	20 ppm	28	
	SW					3595	
		28	29	Core	5 ppm		
		29	30	Core	5 ppm	30	
						3593	
		30	31	Core	5 ppm		TD Boring @ 31 Feet
						32	
						3591	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

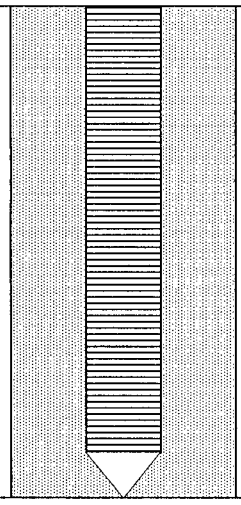
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-S	TOTAL DEPTH:	28.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3620	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/1/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/1/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3620	Silt (Top Soil), dk brown, w/10% clay in matrix, no odor.
	MH	0	1	Core	0 ppm		
		1	2	Core	-	2	
						3618	Caliche, lt yellowish tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
	CALICHE	2	3	Core	2 ppm		
		3	4	Core	5 ppm	4	
						3616	
		4	5	Core	-		Caliche, lt yellow tan, dense-weathered, w/chert nods in matrix, no odor.
	CALICHE	5	6	Core	-	6	
						3614	
		6	7	Core	2 ppm		
		7	8	Core	0 ppm	8	Caliche, lt yellowish tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
						3612	
		8	9	Core	4 ppm		
		9	10	Core	3 ppm	10	
	CALICHE					3610	
		10	11	Core	8 ppm		
		11	12	Core	-	12	
						3608	
		12	13	Core	3 ppm		
		13	14	Core	75 ppm	14	Sandy Clay, lt tan-lt gray, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, no odor.
	CL					3606	
		14	15	Core	93 ppm		Encountered Groundwater!
		15	16	Core	78 ppm	16	
						3604	Clay, lt grayish tan, w/10% vf grain sand in matrix, interbedded w/mod-welll cemented vf grain sand, wet, no odor.
		16	17	Core	51 ppm		
	CL	17	18	Core	28 ppm	18	
						3602	
		18	19	Core	14 ppm		
	SC						Clayey Sand, grayish tan, w/40% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		19	20	Core	11 ppm	20	

MONITORING WELL NO: MW-S TOTAL DEPTH: 28.5 Feet

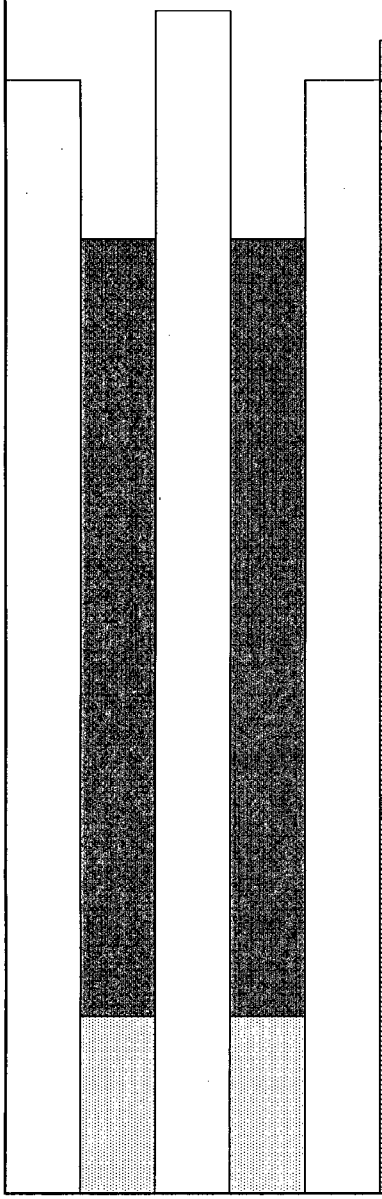


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3600	
	SC	20	21	Core	10 ppm		
		21	22	Core	6 ppm	22	
						3598	Clayey Sand, tan-reddish brown, vf grain, w/40% clay in matrix interbedded w/mod-well cemented vf grain sand, wet, no odor.
	SC	22	23	Core	-		
		23	24	Core	3 ppm	24	
						3596	
	SW	24	25	Core	-		Sand, tan-brown, vf grain, w/15% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		25	26	Core	-	26	
						3594	Clayey Sand, lt grayish tan, vf grain, w/30% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
	SC	26	27	Core	1 ppm		
		27	28	Core	0 ppm	28	
						3592	
							TD Boring @ 28.5 Feet!
						30	
						3690	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

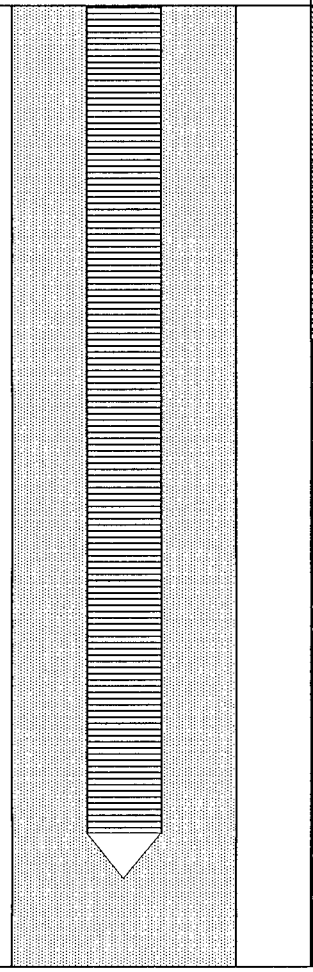
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-T	TOTAL DEPTH:	37 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3629	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12//2/03	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/2/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3629	
	MH						Silt (Top Soil), brown w/10% clay in matrix, no odor
		0	1	Core	28 ppm		
							Caliche, lt yellow tan, dense-weathered, w/chert nods in
		1	2	Core	49 ppm	2	matrix, no odor.
						3627	
	CALICHE						
		2	3	Core	45 ppm		
		3	4	Core	86 ppm	4	
						3625	Caliche, lt yellow tan-lt brown, dense-weathered, w/chert in
							matrix, no odor.
		4	5	Core	39 ppm		
		5	6	Core	7 ppm	6	
						3623	
		6	7	Core	10 ppm		
		7	8	Core	30 ppm	8	
	CALICHE					3621	
		8	9	Core	136 ppm		
		9	10	Core	57 ppm	10	
						3619	
		10	11	Core	49 ppm		
		11	12	Core	167 ppm	12	
						3617	
	CHERT	12	13	Core	202 ppm		Chert, wht-lt tan brown, dense, no odor.
							Caliche, lt yellow tan, weathered-dense, w/chert in matrix, sl
		13	14	Core	177 ppm	14	HC odor.
						3615	
	CALICHE						
		14	15	Core	152 ppm		
		15	16	Core	90 ppm	16	
						3613	Caliche, lt yellow tan-lt brown, weathered-dense, w/chert in
							matrix, sl HC odor.
		16	17	Core	82 ppm		
	CALICHE	17	18	Core	169 ppm	18	
						3611	
		18	19	Core	119 ppm		
							Caliche, lt tan-lt gray brown,dense-weathered, w/chert in
	CALICHE	19	20	Core	183 ppm	20	matrix, interbedded w/mod-well cemented vf grain sand, sl-

MONITORING WELL NO: MW-T TOTAL DEPTH: 37 Feet

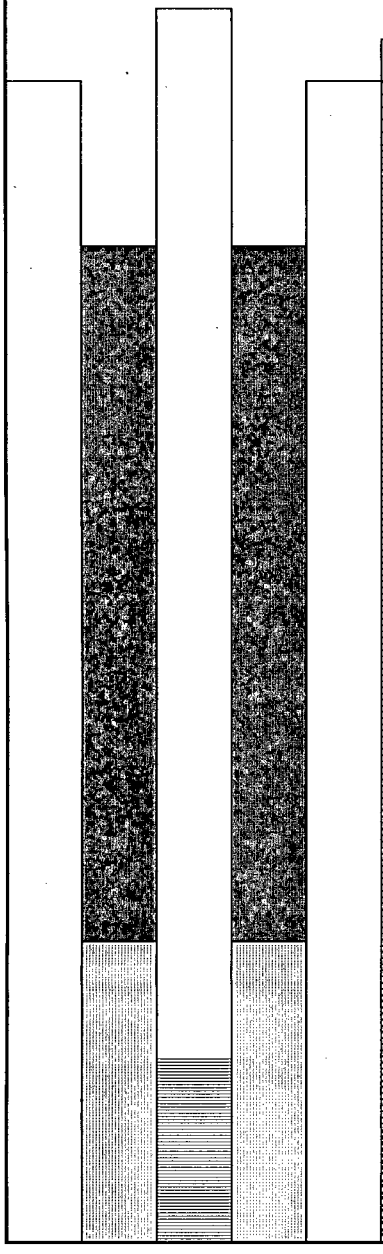


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3609	mod HC odor.
	CALICHE	20	21	Core	273 ppm		
		21	22	Core	99 ppm	22	
						3607	
	SC	22	23	Core	229 ppm		Clayey Sand, tan-lt brown, vf grain, w/30% in matrix, interbedded w/mod-well cemented vf grain sand, moist, mod
		23	24	Core	283 ppm	24	HC odor.
						3605	
							Encountered Groundwater!
	CL	24	25	Core	136 ppm		Sandy Clay, lt yellow-lt tan brown, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, no
		25	26	Core	27 ppm	26	odor.
						3603	
		26	27	Core	33 ppm		
		27	28	Core	8 ppm	28	
						3601	
	CL	28	29	Core	17 ppm		Clay, wht-lt gray, w/5% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		29	30	Core	14 ppm	30	
						3599	
		30	31	Core	16 ppm		
	CL	31	32	Core	104 ppm	32	Clay, lt yellow gray, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand & dense sandstone, wet,
						3597	sl HC odor.
		32	33	Core	110 ppm		
	SW	33	34	Core	102 ppm	34	Sand, lt gray-gray, vf grain, w/20% clay in matrix, interbedded
						3595	w/mod-well cemented vf grain sand & dense sandstone, wet,
		34	35	Core	160 ppm		no odor.
		35	36	Core	114 ppm	36	
						3593	
		36	37	Core	-		TD Boring @ 37 Feet!
						38	
						3591	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

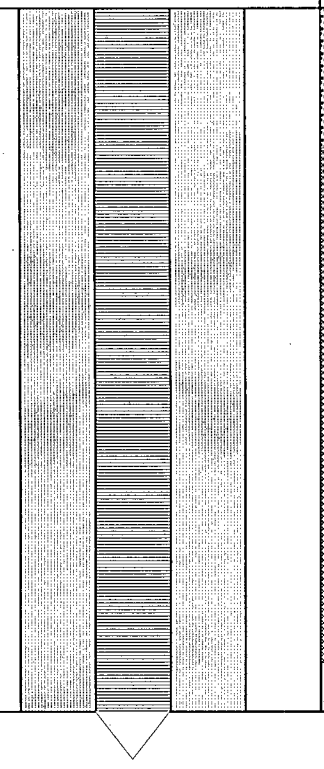
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-AA	TOTAL DEPTH:	32 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3624	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/21/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/21/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3624	
	MH						Silt (Top Soil), brown-dk brown, w/15% clay in matrix, no odor.
		0	1	Core	22 ppm		
	CALICHE	1	2	Core	31 ppm	2	Caliche, lt yellow tan-tan, dense-weathered, w/chert nods in matrix, no odor.
						3622	
		2	3	Core	98 ppm		
		3	4	Core	88 ppm	4	Caliche, lt yelllow tan-tan, weathered-dense, w.chert nods in matrix, no odor.
						3620	
	CALICHE						
		4	5	Core	83 ppm		
		5	6	Core	75 ppm	6	
						3618	Caliche, yellow tan, weathered-dense, w chert nods in matrix, sl HC odor.
		6	7	Core	91 ppm		
	CALICHE						
		7	8	Core	119 ppm	8	
						3616	
		8	9	Core	106 ppm		
							Caliche, lt yellow tan-lt gray, weathered-dense, w/chert nods in matrix, sl HC odor.
		9	10	Core	97 ppm	10	
						3614	
		10	11	Core	69 ppm		
		11	12	Core	36 ppm	12	
						3612	
		12	13	Core	76 ppm		
	CALICHE						
		13	14	Core	4 ppm	14	
						3610	
		14	15	Core	17 ppm		
		15	16	Core	9 ppm	16	
						3608	
		16	17	Core	244 ppm		
		17	18	Core	84 ppm	18	
						3606	
	CHERT						Chert, white-lt yellow tan, dense, no odor.
		18	19	Core	281 ppm		
	CL						Sandy Clay, lt yellow tan-lt gray tan, w/25% vf grain sand in matrix, moist, mod-HC odor.
		19	20	Core	198 ppm	20	

MONITORING WELL NO: MW-AA TOTAL DEPTH: 32 Feet

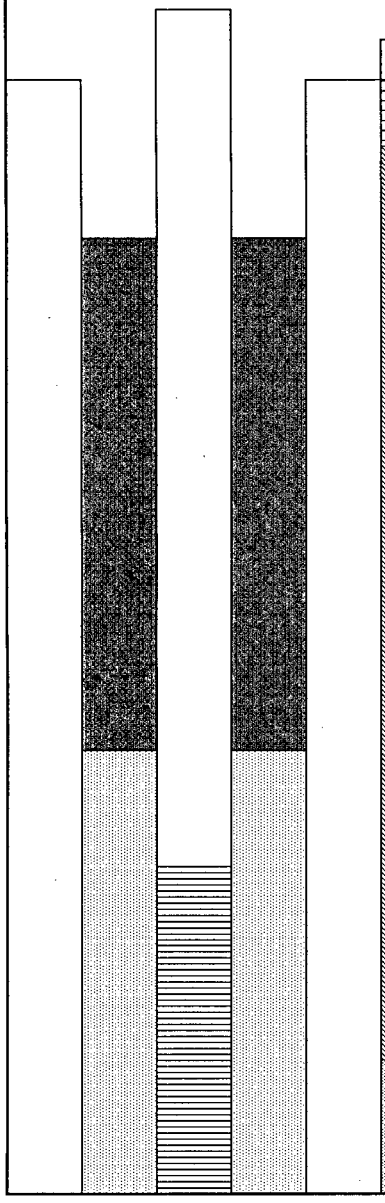


LITH.	SAMPLE					DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	USCS	FROM	TO	TYPE	PID		
						3604	
	CL	20	21	Core	228 ppm		Encountered Groundwater!
		21	22	Core	174 ppm	22	
						3602	
							Sandy Clay, lt gray tan, w/40% vf grain sand in matrix,
		22	23	Core	107 ppm		interbedded w/dense sandstone, wet, sl HC odor.
	SC						
		23	24	Core	85 ppm	24	
						3600	
							Clayey Sand, yellow tan-lt brown, vf grain, w/30% clay in
		24	25	Core	85 ppm		matrix, interbedded w/dense sandstone, wet, sl HC odor.
		25	26	Core	63 ppm	26	
						3598	
		26	27	Core	65 ppm		
	SC	27	28	Core	48 ppm	28	
						3596	
		28	29	Core	48 ppm		
		29	30	Core	21 ppm	30	
						3594	
		30	31	Core	14 ppm		
	SW						Sand, orange-red brown, vf grain, wet, no odor.
		31	32	Core	7 ppm	32	TD Boring @ 32 Feet!
						3592	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

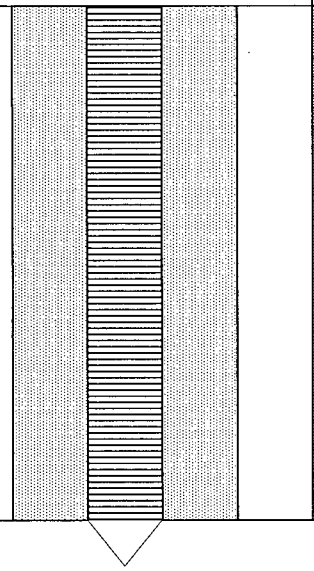
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-BB	TOTAL DEPTH:	29 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3625	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/21/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/21/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH	0	1	Core	8 ppm	3625	Clay (Top Soil), dk brown-black, w/5% silt in matrix, no odor.
	CALICHE	1	2	Core	35 ppm	2	Caliche, tan-lt brown, dense-weathered, w/chert nods in matrix no odor.
						3623	
		2	3	Core	69 ppm		
		3	4	Core	53 ppm	4	
						3621	
	CALICHE	4	5	Core	59 ppm		Caliche, yellow tan, weathered-dense, w/chert nods in matrix, no odor.
		5	6	Core	52 ppm	6	
	CALICHE					3619	Caliche, tan-lt brown, weathered-dense, w/chert nods in matrix interbedded w/dense sandstone, no odor.
		6	7	Core	7 ppm		
		7	8	Core	11 ppm	8	
						3617	
		8	9	Core	42 ppm		
	CALICHE	9	10	Core	44 ppm	10	Caliche, tan-lt brown, weathered, w/chert nods in matrix, interbedded w/dense sandstone, sl HC odor.
						3615	
		10	11	Core	50 ppm		
		11	12	Core	74 ppm	12	
						3613	
		12	13	Core	155 ppm		
		13	14	Core	106 ppm	14	
						3611	
		14	15	Core	106 ppm		
		15	16	Core	181 ppm	16	
	CALICHE					3609	Caliche, tan-brown, weathered, w/vf grain sand in matrix, interbedded w/dense sandstone, moist, sl-mod HC odor.
		16	17	Core	181 ppm		
	SW	17	18	Core	247 ppm	18	Sand, tan-gray brown, vf grain, w/10% clay in matrix, interbedded w/dense sandstone, moist, mod HC odor.
						3607	
		18	19	Core	297 ppm		
	SW	19	20	Core	364 ppm	20	Sand, tan-brown, vf grain, w/15% clay & chert nods in matrix, interbedded w/dense sandstone, wet, str HC odor.

MONITORING WELL NO: MW-BB TOTAL DEPTH: 29 Feet

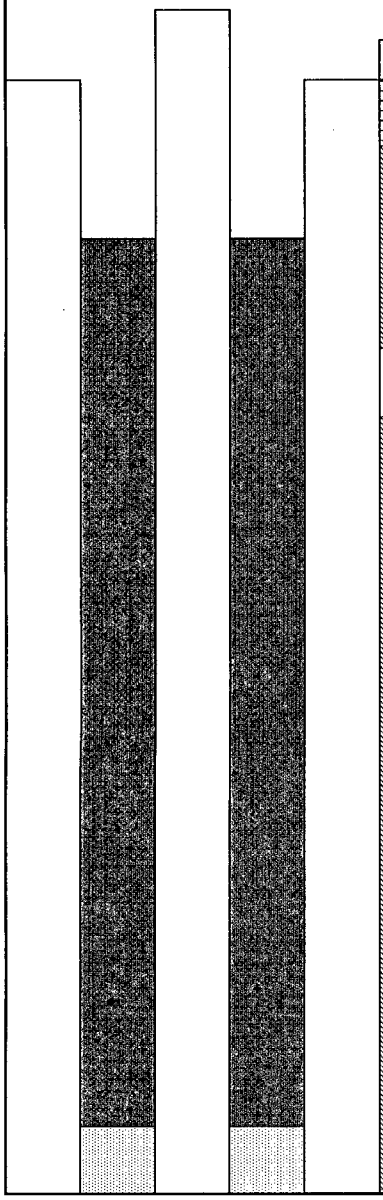


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3605	
	SW						
		20	21	Core	340 ppm		Encountered Groundwater!
							Sand, tan-lt gray brown, vf grain, w/10% clay in matrix,
		21	22	Core	401 ppm	22	interbedded w/dense sandstone, wet, mod-str HC odor.
						3603	
		22	23	Core	478 ppm		
	SW						
		23	24	Core	247 ppm	24	
						3601	
		24	25	Core	207 ppm		
		25	26	Core	340 ppm	26	Sand, tan-lt brown, vf grain, wet, mod HC odor.
						3599	
		26	27	Core	21 ppm		
	SW						
		27	28	Core	165 ppm	28	
						3597	
		28	29	Core	-		TD Boring @ 29 Feet
						3595	
						32	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

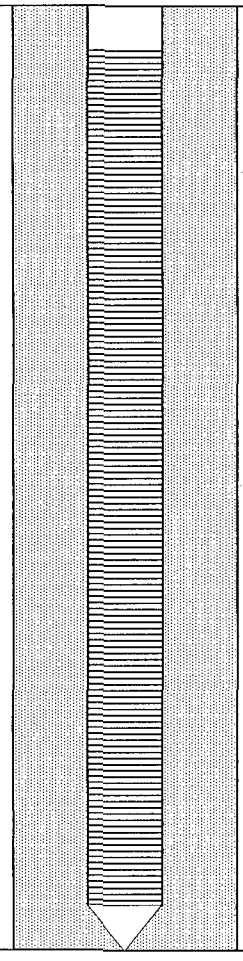
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-CC	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3633	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/19/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/19/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH	0	1	Core	0 ppm	3633	Silt (Top Soil), gray-lt brown, w/30% clay in matrix, no odor.
	CALICHE	1	2	Core	0 ppm	2	Caliche, lt yellowish tan-tan, dense-weathered, w/chert nods in matrix, no odor.
						3631	
		2	3	Core	2 ppm		
		3	4	Core	0 ppm	4	
						3629	
	LOST CORE	4	5	Core	0 ppm		Lost Core Interval!
		5	6	Core	0 ppm	6	
	CALICHE					3627	Caliche, lt yellow tan-gray, weathered-dense, w/chert nods in matrix, no odor.
		6	7	Core	2 ppm		Caliche, lt yellow tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
		7	8	Core	2 ppm	8	
						3625	
		8	9	Core	2 ppm		
		9	10	Core	4 ppm	10	
						3623	
		10	11	Core	4 ppm		
		11	12	Core	4 ppm	12	
						3621	
		12	13	Core	2 ppm		
		13	14	Core	9 ppm	14	
						3619	
	CALICHE	14	15	Core	18 ppm		Caliche, tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
		15	16	Core	12 ppm	16	
						3617	Caliche, lt gray, weathered-dense, w/chert nods in matrix, no odor.
	CALICHE	16	17	Core	135 ppm		
		17	18	Core	500 ppm	18	
						3615	
		18	19	Core	379 ppm		
		19	20	Core	189 ppm	20	

MONITORING WELL NO: MW-CC TOTAL DEPTH: 36.5 Feet

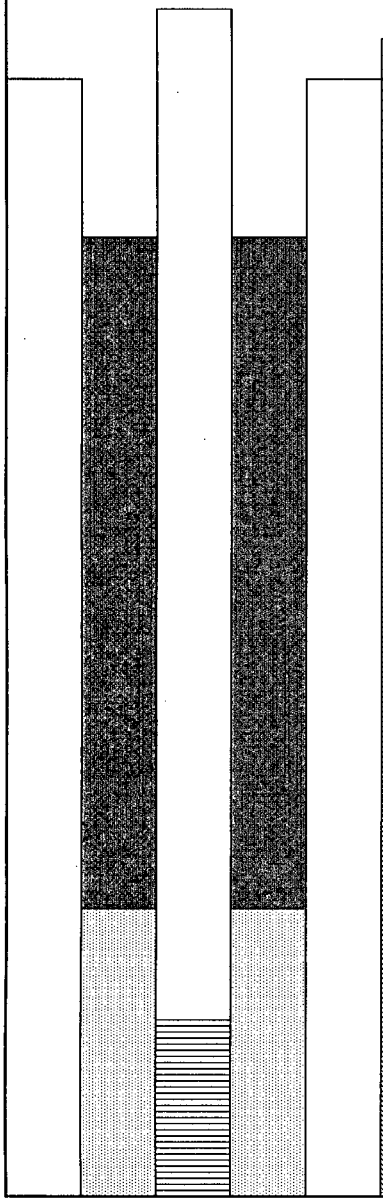


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	CALICHE					3613	
		20	21	Core	-		Caliche, lt yellowish tan-lt grayish brown, weathered-dense, w/chert nods in matrix, strong HC odor.
		21	22	Core	-	22	
						3611	
		22	23	Core	-		
	CALICHE						
		23	24	Core	299 ppm	24	
						3609	
		24	25	Core	195 ppm		
		25	26	Core	216 ppm	26	Encountered Groundwater!
						3607	Clay, gray-dk gray, w/20% silt in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
	CL	26	27	Core	200 ppm		
		27	28	Core	200 ppm	28	
						3605	Clay, lt gray-gray, w/10% silt in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
	CL	28	29	Core	200 ppm		
		29	30	Core	200 ppm	30	
	CL					3603	Clay, orange brown-gray, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl-mod HC odor.
		30	31	Core	158 ppm		
		31	32	Core	108 ppm	32	Sandy Clay, tan-dk orange brown, w/40% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
	CL					3601	
		32	33	Core	65 ppm		
		33	34	Core	65 ppm	34	
						3599	Sandy Clay, tan-lt brown, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
		34	35	Core	65 ppm		
	CL						
		35	36	Core	14 ppm	36	
						3597	TD Boring @ 36.5 Feet!
						38	
						3595	
						40	
						3593	
						42	
						3591	
						44	

MONITORING WELL LITHOLOGIC LOG

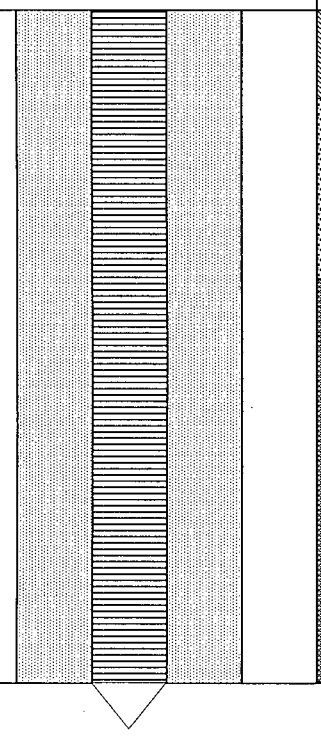
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-DD	TOTAL DEPTH:	32 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3629	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/23/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/23/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH	0	1	Core	0 ppm	3629	Silt (Top Soil), dk gray brown, w15% clay in matrix, no odor
	CL	1	2	Core	0 ppm	2	Clay, dk brown, w/20% silt in matrix, no odor.
						3627	
	ML	2	3	Core	0 ppm		Silt, tan-lt brown, w/5% clay in matrix, no odor.
	CL	3	4	Core	0 ppm	4	Silty Clay, tan-lt orange brown, w/30% silt in matrix, no odor.
						3625	
		4	5	Core	4 ppm		
	CALICHE	5	6	Core	6 ppm	6	Caliche, tan-brown, dense-weathered, w/chert nods in matrix,
						3623	no odor.
	CALICHE	6	7	Core	20 ppm		Caliche, lt yellow tan-lt brown, weathered, no odor.
		7	8	Core	28 ppm	8	
	CALICHE	8	9	Core	36 ppm	3621	Caliche, tan-brown, dense-weathered, w/chert nods in matrix, no odor.
		9	10	Core	63 ppm	10	
	CALICHE	10	11	Core	70 ppm	3619	Caliche, lt yellow tan-lt brown, dense, w/chert nods in matrix, no odor.
	CALICHE	11	12	Core	86 ppm	12	Caliche, lt yellow tan, weathered, sl HC odor.
						3617	
	CHERT	12	13	Core	341 ppm		Chert, lt brown, dense, no odor.
	CALICHE	13	14	Core	342 ppm	14	Caliche, yellow tan, weathered, mod-HC odor.
						3615	
	CALICHE	14	15	Core	343 ppm		Caliche, lt yellow tan-lt brown, weathered-dense, w/chert nods in matrix, interbedded w/mod-well cemented vf grain sand, mod HC odor.
		15	16	Core	365 ppm	16	
						3613	
	CALICHE	16	17	Core	382 ppm		Caliche, lt yellow tan-lt grayish brown, weathered-dense, interbedded w/mod-well cemented vf grain sand, mod-str HC odor.
		17	18	Core	307 ppm	18	
						3611	
		18	19	Core	381 ppm		
		19	20	Core	426 ppm	20	

MONITORING WELL NO: MW-DD TOTAL DEPTH: 32 Feet

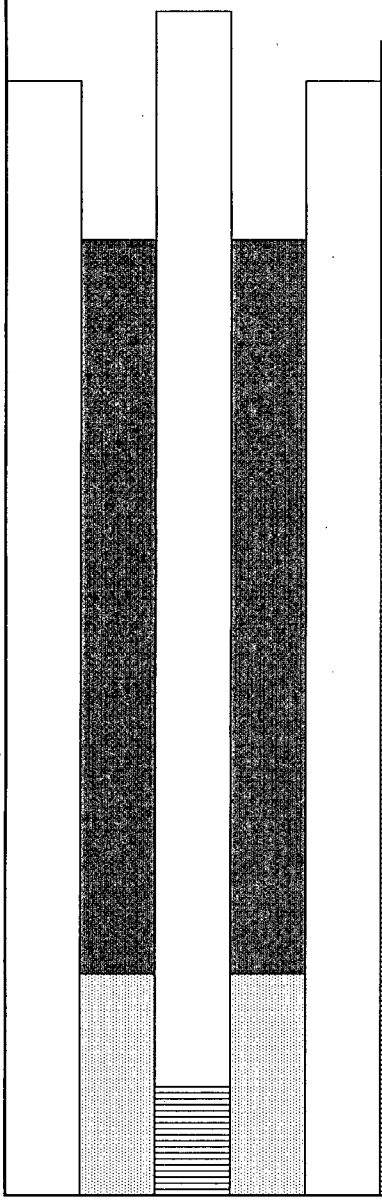


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3609	
	CALICHE	20	21	Core	428 ppm		
		21	22	Core	58 ppm	22	Sandy Clay, tan-lt brown, w/25% vf grain sand in matrix,
						3607	interbedded w/mod-well cemented vf grain sand, sl HC odor,
	CL						Encountered Groundwater!
		22	23	Core	42 ppm		
		23	24	Core	65 pm	24	Sandy Clay, wht-lt yellow tan, w/25% vf grain sand & chert
	CL					3605	nods in matrix, wet, sl HC odor.
		24	25	Core	66 ppm		Clayey Sand, tan-dk orange brown, vf grain, w/25% clay in
	SC						matrix, interbedded w/mod-well cemented vf grain sand, wet,
		25	26	Core	142 ppm	26	sl HC odor.
						3603	Clayey Sand, tan-lt brown, vf grain, w/25% silt in matrix,
	SC						interbedded w/mod-well cemented vf grain sand, wet, sl HC
		26	27	Core	62 ppm		odor.
		27	28	Core	23 ppm	28	
						3601	Clayey Sand, lt tan-lt brown, vf grain, w/25% clay in matrix,
	SC						interbedded w/mod-well cemented vf grain sand, wet,
		28	29	Core	11 ppm		no odor.
							Clayey Sand, tan-orange brown, vf grain, w/35% clay in matrix,
		29	30	Core	40 ppm	30	interbedded w/mod-well cemented vf grain sand, wet, no odor.
	SC					3599	
		30	31	Core	31 ppm		
		31	32	Core	67 ppm	32	TD Boring @ 32 Feet!
						3597	
						34	
						3595	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

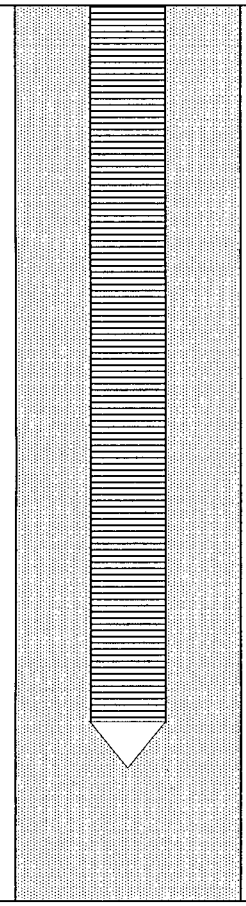
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-EE	TOTAL DEPTH:	36 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3630	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/23/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/23/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3630	Clayey Silt (Top Soil), dk brown, w/40% clay in matrix, no odor.
		0	1	Core	39 ppm		Caliche, tan-lt brown, dense-weathered, w/chert nods in matrix sl HC odor.
	CALICHE	1	2	Core	123 ppm	2	
						3628	
		2	3	Core	220 ppm		
		3	4	Core	313 ppm	4	Caliche, tan-yellow brown, weathered-dense, w/chert nods in matrix, sl-mod HC odor.
						3626	
		4	5	Core	198 ppm		
	CALICHE	5	6	Core	308 ppm	6	
						3624	
		6	7	Core	319 ppm		
		7	8	Core	324 ppm	8	
						3622	Caliche, yellow tan-lt brown, weathered-dense, w/chert nods in matrix, mod-str HC odor.
		8	9	Core	370 ppm		
	CALICHE	9	10	Core	697 ppm	10	
						3620	
		10	11	Core	1014 ppm		
							Caliche, tan-lt brown, weathered, w/dense sandstone in matrix
		11	12	Core	694 ppm	12	str HC odor.
						3618	
		12	13	Core	401 ppm		
		13	14	Core	400 ppm	14	
						3616	
		14	15	Core	417 ppm		
	CALICHE	15	16	Core	806 ppm	16	
						3614	
		16	17	Core	661 ppm		
		17	18	Core	565 ppm	18	
						3612	
		18	19	Core	397 ppm		
		19	20	Core	537 ppm	20	

MONITORING WELL NO: MW-EE TOTAL DEPTH: 36 Feet

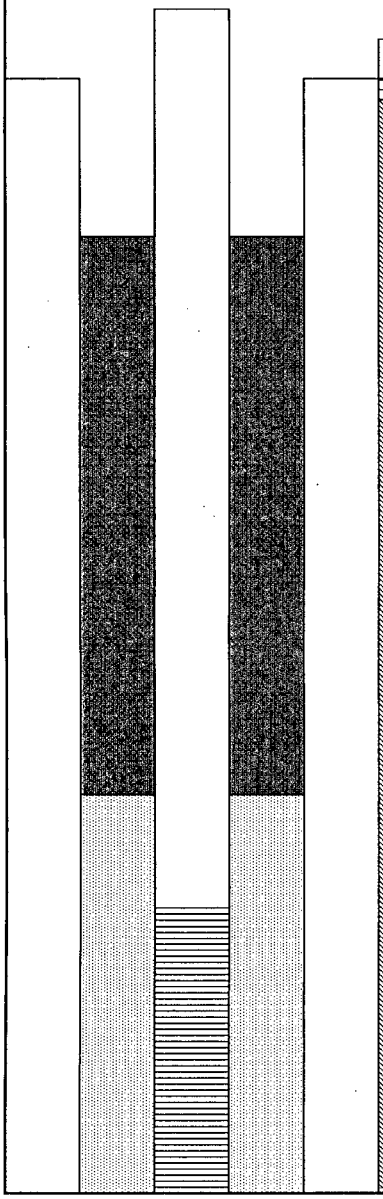


LITH.	USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	CALICHE					3610	
	CALICHE	20	21	Core	674 ppm		Caliche, tan-lt brown, weathered, str HC odor.
		21	22	Core	457 ppm	22	
	CALICHE					3608	Caliche, tan-lt brown, weathered, w/vf grain sand in matrix, str HC odor.
		22	23	Core	826 ppm		Encountered Groundwater!
	CALICHE	23	24	Core	497 ppm	24	Caliche, tan-gray, weathered, w/vf grain sand in matrix, interbedded w/dense sandstone, wet, mod-str HC odor.
						3606	
	SC	24	25	Core	302 ppm		Clayey Sand, tan-lt brown, vf grain, w/30% clay in matrix, interbedded w/dense sandstone, wet, mod HC odor.
		25	26	Core	105 ppm	26	Sand, tan-orange brown, vf grain, w/15% clay in matrix, interbedded w/dense sandstone, wet, sl HC odor.
						3604	
		26	27	Core	10 ppm		
		27	28	Core	18 ppm	28	
						3602	
		28	29	Core	10 ppm		
		29	30	Core	15 ppm	30	
						3600	
	SW	30	31	Core	22 ppm		
		31	32	Core	12 ppm	32	
						3598	
		32	33	Core	12 ppm		
		33	34	Core	12 ppm	34	
						3596	
		34	35	Core	12 ppm		
		35	36	Core	12 ppm	36	TD Boring @ 36 Feet!
						3594	
						38	
						3590	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

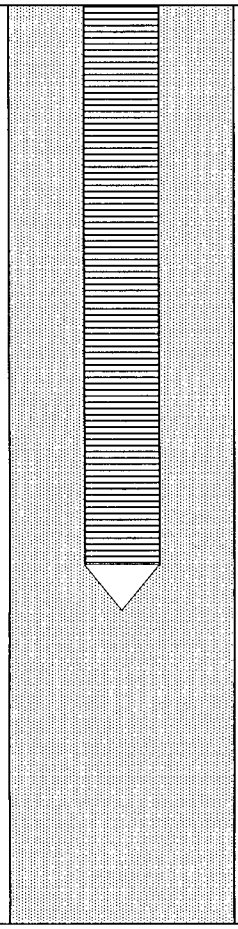
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-FF	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3630	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	11/19/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	11/20/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3630	Clayey Silt (Top Soil), dk brown, w/30% clay in matrix, no odor
	CALICHE	0	1	Core	7 ppm		Caliche, tan-lt gray brown, weathered-dense, no odor.
	CALICHE	1	2	Core	26 ppm	2	Caliche, tan-lt yellow brown, weathered-dense, no odor.
						3628	
		2	3	Core	26 ppm		
	CALICHE	3	4	Core	55 ppm	4	Caliche, tan-lt brown, weathered, w/chert nods in matrix, no odor.
						3626	
		4	5	Core	16 ppm		
		5	6	Core	23 ppm	6	
						3624	
	CALICHE	6	7	Core	0 ppm		Caliche, tan-lt yellow brown, weathered, w/chert nods in matrix, no odor.
		7	8	Core	0 ppm	8	
						3622	
	CALICHE	8	9	Core	6 ppm		Caliche, tan-lt yellow brown, weathered-dense, w/chert nods in matrix, no odor.
		9	10	Core	21 ppm	10	
						3620	
		10	11	Core	16 ppm		
		11	12	Core	11 ppm	12	
						3618	
	CALICHE	12	13	Core	8 ppm		Caliche, tan-lt yellow brown, weathered-dense, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
		13	14	Core	8 ppm	14	
						3616	
		14	15	Core	8 ppm		
		15	16	Core	8 ppm	16	
						3614	Caliche, tan-gray brown, weathered, w/chert nods in matrix, interbedded w/dense sandstone, no odor.
	CALICHE	16	17	Core	31 ppm		
		17	18	Core	5 ppm	18	
						3612	
		18	19	Core	5 ppm		
		19	20	Core	38 ppm	20	Caliche, tan-lt brown, weathered-dense, interbedded w/dense

MONITORING WELL NO: MW-FF TOTAL DEPTH: 36.5 Feet

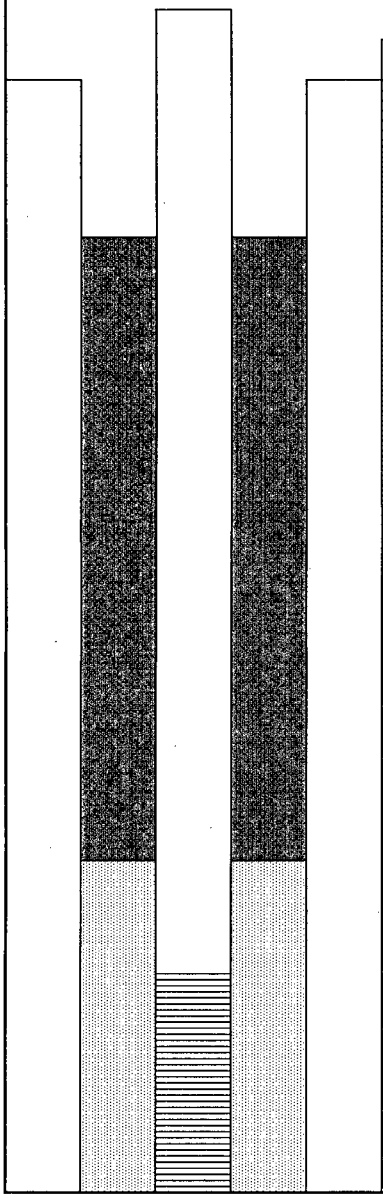


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3610	sandstone, no odor.
	CALICHE	20	21	Core	53 ppm		
		21	22	Core	142 ppm	22	
						3608	
	CL	22	23	Core	142 ppm		Sandy Clay, lt tan-lt brown, vf grain, w/30% vf grain sand & weathered caliche in matrix, interbedded w/dense sandstone, moist, sl HC odor.
		23	24	Core	356 ppm	24	Clayey Sand, lt tan-lt brown, vf grain, w/25% clay in matrix,
	SC					3606	interbedded w/dense sandstone, moist, sl-mod HC odor.
		24	25	Core	356 ppm		Encountered Groundwater!
		25	26	Core	49 ppm	26	
	SW					3604	Sand, lt tan-lt brown, vf grain, w/15% clay in matrix, interbedded w/dense sandstone, wet, sl HC odor.
		26	27	Core	65 ppm		
		27	28	Core	260 ppm	28	Sand, lt tan-brown, vf grain, w/20% clay in matrix, interbedded
	SW					3602	w/dense sandstone, wet, sl-mod HC odor.
		28	29	Core	100 ppm		
		29	30	Core	51 ppm	30	
						3600	Sand, tan-brown, vf grain, w/20% clay in matrix, interbedded w/dense sandstone, wet, no odor.
		30	31	Core	39 ppm		
	SW	31	32	Core	19 ppm	32	
						3598	
		32	33	Core	9 ppm		
		33	34	Core	21 ppm	34	
						3596	Sand, tan-orange brown, vf grain, w/5% clay in matrix, wet, no odor.
	SW	34	35	Core	17 ppm		
		35	36	Core	6 ppm	36	
						3594	TD Boring @ 36.5 Feet!
						38	
						3592	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

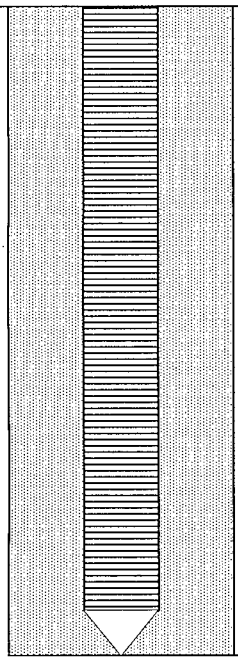
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-GG	TOTAL DEPTH:	31.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3624	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/5/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/5/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH	0	1	Core	2 ppm	3624	Silt (Top Soil), dk brown-blk, w/10% clay in matrix, no odor.
	CALICHE	1	2	Core	39 ppm	2	Caliche, lt yellowish tan-gray, dense-weathered, w/chert nods in matrix, no odor.
						3622	
		2	3	Core	71 ppm		
	CALICHE	3	4	Core	114 ppm	4	Caliche, tan-lt gray, weathered-dense, w/chert nods in matrix, sl HC odor.
						3620	
		4	5	Core	224 ppm		
		5	6	Core	197 ppm	6	
						3618	Caliche, tan-gray, weathered-dense, w/chert nods in matrix, mod HC odor.
		6	7	Core	50 ppm		
	CALICHE	7	8	Core	211 ppm	8	
						3616	
		8	9	Core	170 ppm		
		9	10	Core	176 ppm	10	
						3614	
		10	11	Core	278 ppm		
		11	12	Core	98 ppm	12	Caliche, lt yellowish tan-lt gray, weathered-dense, w/chert nods in matrix, sl HC odor.
						3612	
		12	13	Core	42 ppm		
	CALICHE	13	14	Core	80 ppm	14	
						3610	
		14	15	Core	152 ppm		
		15	16	Core	159 ppm	16	
						3608	Sandy Clay, grayish brown, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, str HC odor.
	CL	16	17	Core	527 ppm		
		17	18	Core	488 ppm	18	
						3606	Sandy Clay, dk grayish brown, w/35% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, str HC odor.
	CL	18	19	Core	484 ppm		
	CL	19	20	Core	599 ppm	20	Sandy Clay, gray-white, w/35% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, str

MONITORING WELL NO: MW-GG TOTAL DEPTH: 31.5 Feet

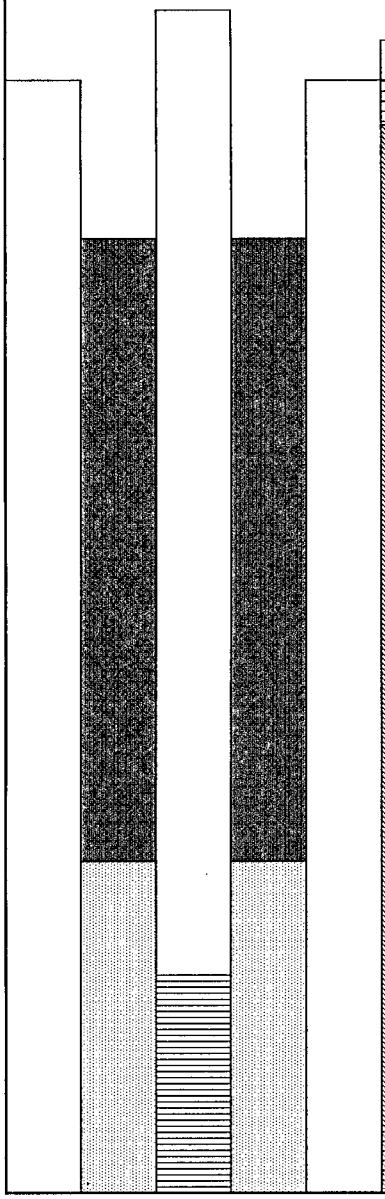


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3604	HC odor, wet.
	CL	20	21	Core	585 ppm		Encountered Groundwater!
	CL	21	22	Core	497 ppm	22	Sandy Clay, lt tan-gray brown, w/40% vf grain sand in matrix interbdded w/md-well cemnted vf grain sand, wet, md HC odor.
						3602	Sandy Clay, lt grayish tan-lt brown, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet,
		22	23	Core	65 ppm		sl-mod HC odor.
		23	24	Core	57 ppm	24	
						3600	
	CL	24	25	Core	55 ppm		
		25	26	Core	56 ppm	26	
						3598	
		26	27	Core	57 ppm		
		27	28	Core	107 ppm	28	
						3596	Sand, lt gray, w/20% clay & chert in matrix, interbedded
	SW	28	29	Core	152 ppm		w/mod-well cemented vf grain sand, wet, sl -mod HC odor.
		29	30	Core	105 ppm	30	
						3594	Sandy Clay, grayish tan, w/25% vf grain sand & chert in matrix
	CL	30	31	Core	141 ppm		interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
							TD Boring @ 31.5 Feet!
						32	
						3592	
						34	
						3590	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

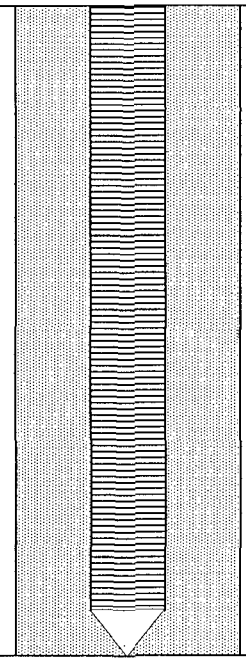
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-HH	TOTAL DEPTH:	31.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3626	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/4/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/4/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3626	Silt (Top Soil), dk brown, w/10% clay in matrix, no odor.
	CALICHE	0	1	Core	6 ppm		Caliche, lt yellow tan-lt gray, weathered-dense, w/chert nods in matrix, no odor.
		1	2	Core	11 ppm	2	
						3624	
		2	3	Core	96 ppm		
		3	4	Core	134 ppm	4	
	CALICHE					3622	Caliche, lt yellow tan-white, dense-weathered, w/chert nods in matrix, no odor.
		4	5	Core	85 ppm		
		5	6	Core	57 ppm	6	
	CALICHE					3620	Caliche, lt yellow tan-tan, dense-weathered, w/chert nods in matrix, sl HC odor.
		6	7	Core	23 ppm		
		7	8	Core	33 ppm	8	
						3618	
		8	9	Core	71 ppm		
	CALICHE	9	10	Core	60 ppm	10	Caliche, lt yellow tan-tan-lt gray, weathered-dense, w/chert nods in matrix, sl-mod HC odor.
						3616	
		10	11	Core	156 ppm		
		11	12	Core	123 ppm	12	
						3614	
		12	13	Core	91 ppm		
		13	14	Core	82 ppm	14	
						3612	
		14	15	Core	254 ppm		
		15	16	Core	239 ppm	16	
						3610	
		16	17	Core	422 ppm		
		17	18	Core	341 ppm	18	
						3608	
	CL	18	19	Core	268 ppm		Sandy Clay, tan-orange brown, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, mod-str HC odor.
		19	20	Core	466 ppm	20	

MONITORING WELL NO: MW-HH TOTAL DEPTH: 31.5 Feet

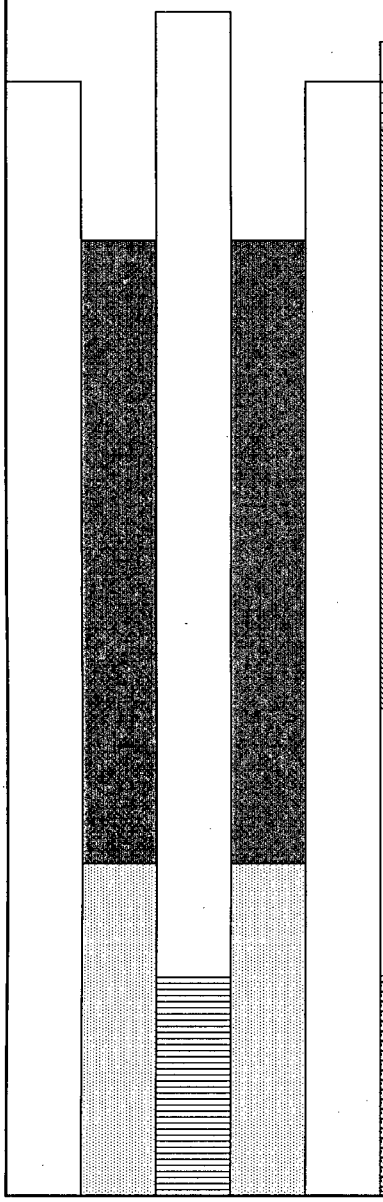


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3606	
	CL	20	21	Core	330 ppm		Encountered Groundwater!
	SW	21	22	Core	143 ppm	22	Sand, gray-orange brown, vf grain, w/15% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
						3604	
	SW	22	23	Core	127 ppm		Sand, lt tan-lt gray, vf grain, w/15% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl-mod HC, odor.
		23	24	Core	299 ppm	24	
	SC	24	25	Core	319 ppm	3602	Clayey Sand, lt tan gray-orange brown, vf grain, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl-mod HC odor.
		25	26	Core	318 ppm	26	
	SW	26	27	Core	70 ppm	3600	Sand, orange brown, vf grain, w/5% clay in matrix, wet, sl-mod HC odor.
		27	28	Core	129 ppm	28	
	SW					3598	Sand, lt yellow tan-lt gray, w/20% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
	SW	28	29	Core	53 ppm		Sand, yellow tan, w/20% clay in matrix, interbedded w/mod-well cemented vf grain sand, no odor
		29	30	Core	35 ppm	30	
						3596	
		30	31	Core	38 ppm		TD Boring @ 31.5 Feet
						32	
						3594	
						34	
						3592	
						36	
						3590	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

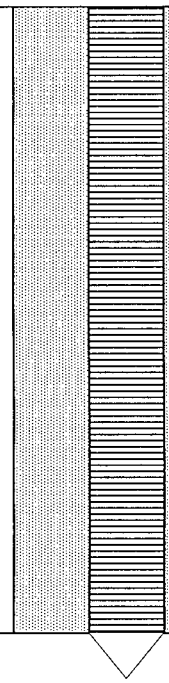
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-II	TOTAL DEPTH:	31 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3625	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/4/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/4/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3625	Silt, dk brown-black, w/5% clay in matrix, no odor.
	CALICHE	0	1	Core	15 ppm		Caliche, tan-lt brown, dense-weathered, w/chert nods in matrix sl HC odor.
		1	2	Core	75 ppm	2	
						3623	
		2	3	Core	171 ppm		
		3	4	Core	277 ppm	4	
						3621	
	CALICHE	4	5	Core	270 ppm		Caliche, yellow tan, weathered-dense, w/chert nods in matrix, sl-mod HC odor.
		5	6	Core	65 ppm	6	
						3619	Caliche, tan-lt brown, weathered-dense, w/chert nods in matrix interbedded w/dense sandstone, sl-mod HC odor.
	CALICHE	6	7	Core	96 ppm		
		7	8	Core	63 ppm	8	
						3617	
		8	9	Core	165 ppm		
	CALICHE	9	10	Core	89 ppm	10	Caliche, tan-lt brown, weathered, w/chert nods in matrix, interbedded w/dense sandstone, sl-mod HC odor.
						3615	
		10	11	Core	146 ppm		
		11	12	Core	149 ppm	12	
						3613	
	LOST CORE	12	13	Core	-		LOST CORE INTERVAL
		13	14	Core	-	14	
						3611	
		14	15	Core	-		
		15	16	Core	-	16	
						3609	Sandy Clay, lt tan-orange brown, w/40% vf grain sand in matrix interbedded w/dense sandstone, moist, sl-mod HC odor.
	CL	16	17	Core	223 ppm		
		17	18	Core	244 ppm	18	
						3607	
		18	19	Core	316 ppm		
	CL	19	20	Core	578 ppm	20	Clay, dk brown, w/15% vf grain sand in matrix, mod-str HC odor.

MONITORING WELL NO: MW-II TOTAL DEPTH: 31 Feet

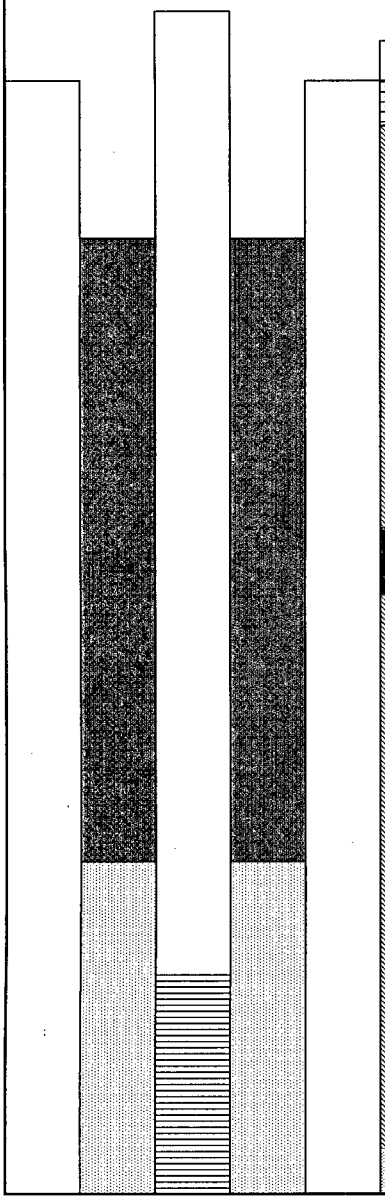


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	CL					3605	
	CL	20	21	Core	636 ppm		Sandy Clay, lt tan-lt gray, w/20% vf grain sand in matrix, interbedded w/dense sandstone, wet, mod-str HC odor. Encountered Groundwater!
		21	22	Core	722 ppm	22	Sand, lt-lt gray brown, w/20% clay in matrix, interbedded w/dense sandstone, wet, mod HC odor.
	SW	22	23	Core	392 ppm	3603	
		23	24	Core	333 ppm	24	
						3601	
		24	25	Core	415 ppm		Sand, tan-orange brown, vf grain, w/10% clay in matrix, interbedded w/dense sandstone, wet, mod HC odor.
	SW	25	26	Core	279 ppm	26	
						3599	
		26	27	Core	20 ppm		
	SW	27	28	Core	7 ppm	28	Sand, white, vf grain, w/20% clay & chert nods in matrix, wet, no odor.
						3597	
		28	29	Core	8 ppm		Sand, tan-lt brown, vf grain, w/20 clay in matrix, interbedded w/dense sandstone, wet, no odor.
	SW	29	30	Core	13 ppm	30	
						3595	
		30	31	Core	13 ppm		TD Boring @ 31 Feet!
						32	
						3593	
						34	
						36	
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

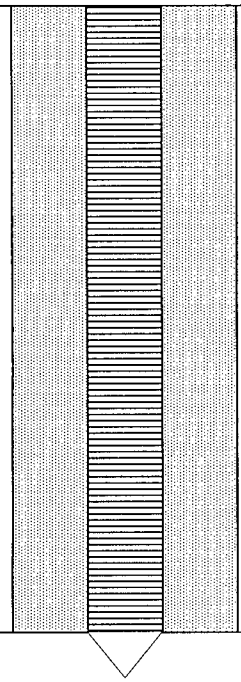
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-JJ	TOTAL DEPTH:	31 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3625	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/4/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/4/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3625	Silt, dk brown, w/5% clay in matrix, no odor.
		0	1	Core	5 ppm		Caliche, tan-lt brown, dense-weathered, w/chert nods in matrix no odor.
		1	2	Core	12 ppm	2	
						3623	
		2	3	Core	126 ppm		
	CALICHE	3	4	Core	246 ppm	4	
						3621	
		4	5	Core	71 ppm		
		5	6	Core	101 ppm	6	
						3619	Caliche, tan-lt brown, weathered-dense, w/chert nods in matrix interbedded w/dense sandstone, sl HC odor.
		6	7	Core	79 ppm		
	CALICHE	7	8	Core	46 ppm	8	
						3617	
		8	9	Core	240 ppm		
		9	10	Core	334 ppm	10	Caliche, tan-lt brown, weathered, w/chert nods in matrix, interbedded w/dense sandstone, mod HC odor.
						3615	
		10	11	Core	108 ppm		
		11	12	Core	93 ppm	12	
						3613	
		12	13	Core	77 ppm		
	CALICHE	13	14	Core	62 ppm	14	
						3611	
		14	15	Core	90 ppm		
		15	16	Core	181 ppm	16	
						3609	
		16	17	Core	394 ppm		
		17	18	Core	445 ppm	18	
						3607	
		18	19	Core	423 ppm		
	SW	19	20	Core	441 ppm	20	Sand, tan-brown, vf grain, w/5% clay & chert nods in matrix, moist, mod-str HC odor.

MONITORING WELL NO: MW-JJ TOTAL DEPTH: 31 Feet

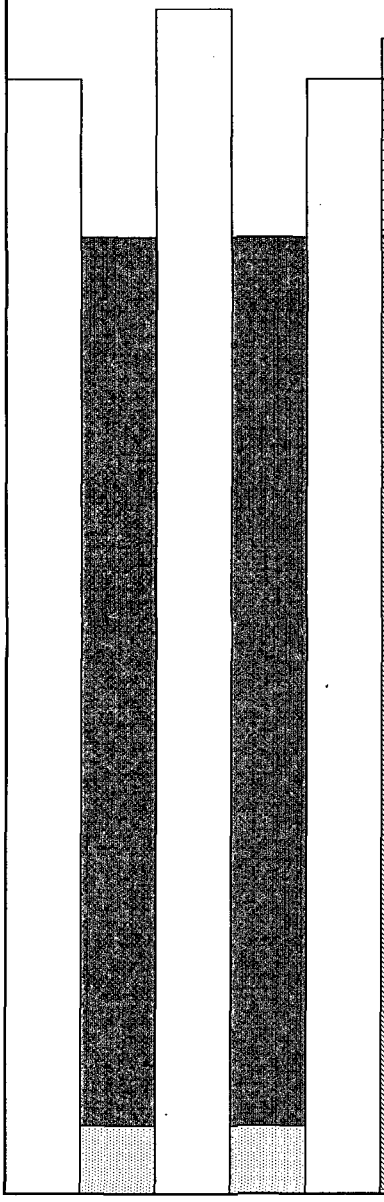


LITH. USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
					3605	
SW						
	20	21	Core	659 ppm		Encountered Groundwater!
						Sand, lt tan-lt gray brown, vf grain, w/5% clay in matrix,
	21	22	Core	828 ppm	22	interbedded w/dense sandstone, wet, mod-str HC odor.
					3603	
	22	23	Core	745 ppm		
SW						
	23	24	Core	376 ppm	24	
					3601	
	24	25	Core	538 ppm		
	25	26	Core	597 ppm	26	Sand, brown, vf grain, wet, mod HC odor.
					3599	
	26	27	Core	-		
	27	28	Core	382 ppm	28	
SW					3597	
	28	29	Core	443 ppm		
	29	30	Core	532 ppm	30	
					3595	
	30	31	Core	279 ppm		TD Boring @ 31 Feet!
					32	
					34	
					36	
					38	
					40	
					42	
					44	

MONITORING WELL LITHOLOGIC LOG

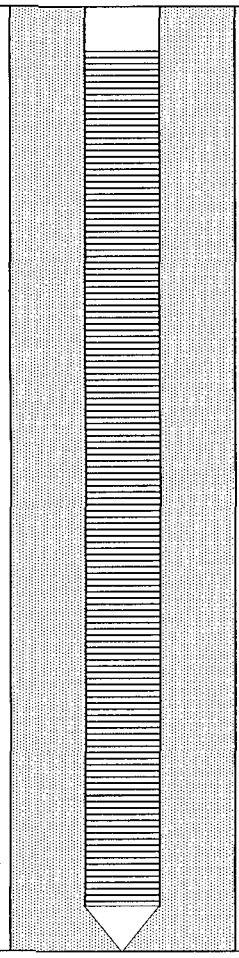
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-KK	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3632	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/3/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/4/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3632	Silt (Top Soil), brown-dk brown, w/20% clay in matrix, no odor
	MH	0	1	Core	8 ppm		
		1	2	Core	11 ppm	2	
						3630	
		2	3	Core	28 ppm		Caliche, lt yellow tan-tan, weathered-dense, w/chert nods in matrix, no odor.
		3	4	Core	18 ppm	4	
	CALICHE					3628	
		4	5	Core	12 ppm		
		5	6	Core	15 ppm	6	
						3626	Caliche, yellowish tan, weathered-dense, w/chert nods in matrix, no odor.
		6	7	Core	10 ppm		
	CALICHE	7	8	Core	18 ppm	8	
						3624	
		8	9	Core	22 ppm		
		9	10	Core	14 ppm	10	
						3622	Caliche, yellow tan-orange brown, weathered-dense, w/chert nods in matrix, interbedded w/mod-well cemented vf grain sand, no odor.
		10	11	Core	15 ppm		
		11	12	Core	29 ppm	12	
	CALICHE					3620	
		12	13	Core	37 ppm		
		13	14	Core	38 ppm	14	
						3618	
		14	15	Core	57 ppm		
							Caliche, lt yellow tan-lt gray, w/chert nods in matrix,
		15	16	Core	88 ppm	16	interbedded w/mod-well cemented vf grain sand, sl HC odor.
						3616	
		16	17	Core	29 ppm		
	CALICHE	17	18	Core	350 ppm	18	
						3614	
		18	19	Core	280 ppm		
		19	20	Core	284 ppm	20	

MONITORING WELL NO: MW-KK TOTAL DEPTH: 36.5 Feet

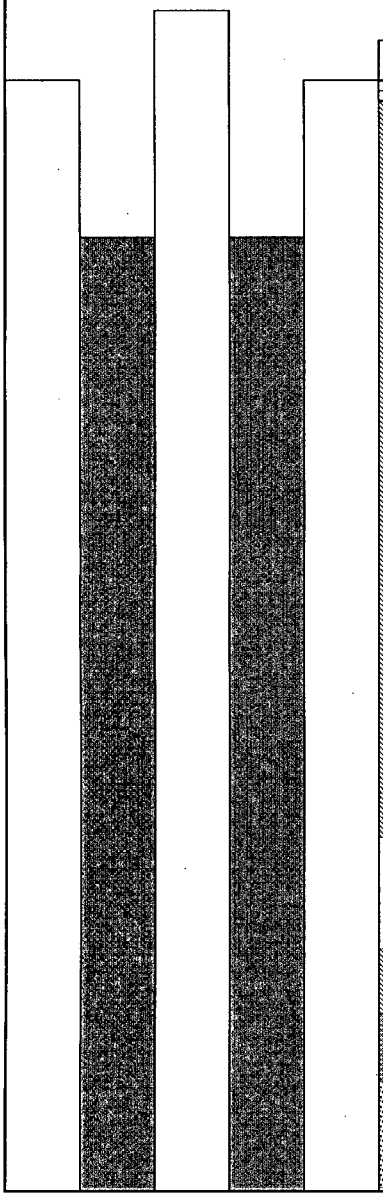


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3612	Silty Clay, yellow tan, w/40% silt in matrix, interbedded w/mod-well cemented vf grain sand, moist, mod HC odor.
		20	21	Core	310 ppm		
		21	22	Core	252 ppm	22	
						3610	
	ML	22	23	Core	790 ppm		
		23	24	Core	621 ppm	24	
						3608	
		24	25	Core	562 ppm		
		25	26	Core	291 ppm	26	
						3606	Sandy Clay, gray white-gray, w/30% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod-str HC odor.
		26	27	Core	219 ppm		
	CL	27	28	Core	114 ppm	28	Encountered Groundwater!
						3604	
		28	29	Core	443 ppm		
	CL	29	30	Core	440 ppm	30	Sandy Clay, tan-orange brown, w/45% vf grain sand in matrix,
						3602	interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
		30	31	Core	57 ppm		Sand, tan-orange brown, vf grain, w/20% clay in matrix,
		31	32	Core	31 ppm	32	interbedded w/mod-well cemented vf grain sand, wet, sl HC odor.
						3600	
		32	33	Core	25 ppm		
		33	34	Core	22 ppm	34	
						3598	
		34	35	Core	21 ppm		
		35	36	Core	23 ppm	36	
						3596	TD Boring @ 36.5 Feet!
						38	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

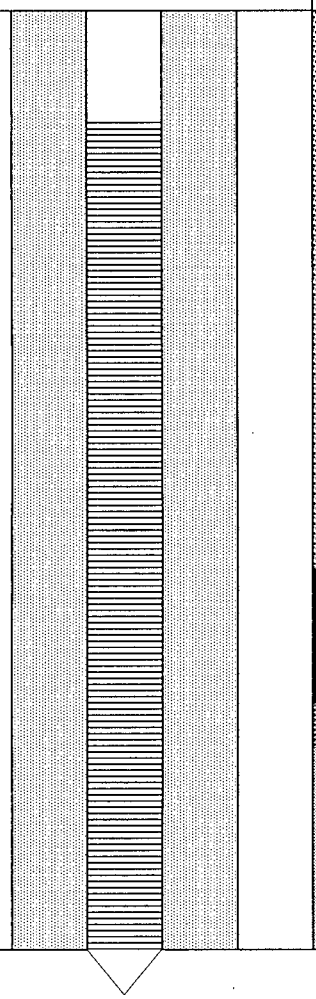
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-LL	TOTAL DEPTH:	37 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3633	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/6/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/6/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3633	Silt (Top Soil), brown, w/15% clay in matrix, no odor.
	CALICHE	0	1	Core	5 ppm		Caliche, lt yellow tan-tan, dense-weathered, w/chert nods in matrix, no odor.
		1	2	Core	23 ppm	2	
						3631	
		2	3	Core	70 ppm		
		3	4	Core	49 ppm	4	
						3629	
		4	5	Core	51 ppm		
		5	6	Core	117 ppm	6	
	CALICHE					3627	Caliche, lt tan-tan brown, weathered-dense, w/chert nods in matrix, sl HC odor.
		6	7	Core	20 ppm		
		7	8	Core	113 ppm	8	
						3625	
	CALICHE	8	9	Core	57 ppm		Caliche, lt yellow tan-tan, weathered-dense, w/chert in matrix sl HC odor.
		9	10	Core	130 ppm	10	
						3623	
		10	11	Core	18 ppm		
	CALICHE	11	12	Core	44 ppm	12	Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix no odor.
						3621	
		12	13	Core	17 ppm		
	LOST CORE	13	14	Core	31 ppm	14	LOST CORE INTERVAL
						3619	
		14	15	Core	-		
	CALICHE	15	16	Core	-	16	Caliche, lt yellow tan-tan, weathered-dense, w/chert in nods in matrix, no odor.
						3617	
	SC	16	17	Core	322 ppm		Clayey Sand, tan-lt orange brown, vf grain, w/30% clay in matrix, interbedded w/mod-well cemented vf grain sand in, sl-mod HC odor.
		17	18	Core	373 ppm	18	
	CL					3615	Sandy Clay, lt tan brown, vf grain, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand in, mod HC odor.
		18	19	Core	449 ppm		
		19	20	Core	387 ppm	20	

MONITORING WELL NO: MW-LL TOTAL DEPTH: 37 Feet

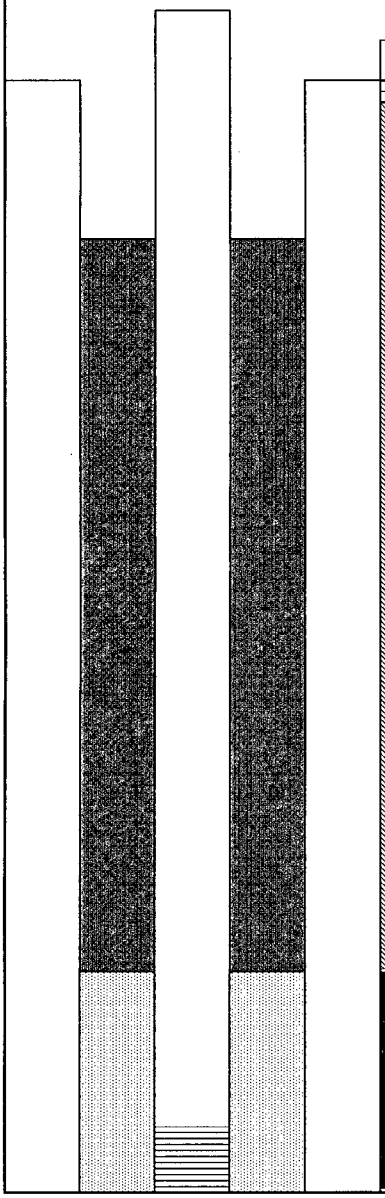


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3613	
	CL	20	21	Core	518 ppm		
		21	22	Core	320 ppm	22	
						3611	
	CL	22	23	Core	506 ppm		Clay, tan brown, vf grain, w/20% vf grain sand in matrix, interbedd w/mod-well cemented vf grain sand, mod-str HC odor.
		23	24	Core	717 ppm	24	
	CL	24	25	Core	641 ppm	3609	Clay, tan brown, vf grain, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, str HC odor.
		25	26	Core	693 ppm	26	
	CL	26	27	Core	316 ppm	3607	Silty Clay, lt tan-lt brown, w/20% silt in matrix, interbedded mod-well cemented vf grain sand, moist, str HC odor.
		27	28	Core	332 ppm	28	Encountered Groundwater!
						3605	
		28	29	Core	340 ppm		
		29	30	Core	412 ppm	30	
	SC	30	31	Core	348 ppm	3603	Clayey Sand, lt gray brown-black, vf grain, w/40% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod-str HC odor.
		31	32	Core	268 ppm	32	
						3601	
	SC	32	33	Core	44 ppm		Clayey Sand, lt tan brown, vf grain, w/30% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		33	34	Core	38 ppm	34	Sand, orange brown, vf grain, w/5% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
						3599	
	SW	34	35	Core	26 ppm		Sand, lt tan brown, vf grain, w/5% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		35	36	Core	20 ppm	36	
						3597	
							TD Boring @ 37 Feet!
						38	
						3595	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

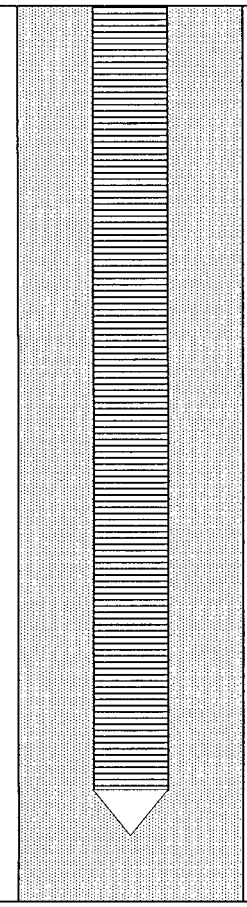
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-MM	TOTAL DEPTH:	36 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3629	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/5/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/5/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3629	Silt (Top Soil), tan-brown, w/5% clay in matrix, no odor.
		0	1	Core	5 ppm		
	MH	1	2	Core	4 ppm	2	
						3627	
		2	3	Core	5 ppm		
		3	4	Core	8 ppm	4	
						3625	
		4	5	Core	8 ppm		Caliche, lt yellow tan-tan weathered-dense, w/chert nods in matrix, no odor.
	CALICHE	5	6	Core	13 ppm	6	
						3623	
		6	7	Core	6 ppm		
		7	8	Core	8 ppm	8	Caliche, lt yellow tan, weathered-dense, w/chert nods in matrix, no odor.
						3621	
		8	9	Core	7 ppm		
	CALICHE	9	10	Core	8 ppm	10	
						3619	
		10	11	Core	11 ppm		
		11	12	Core	9 ppm	12	
	CALICHE					3617	Caliche, lt yellow tan-tan, dense, w/chert nods in matrix, no odor.
		12	13	Core	60 ppm		
		13	14	Core	330 ppm	14	Caliche, lt yellow tan-lt gray, weathered-dense, w/chert nods in matrix, interbedded w/mod-well cemented vf grain sand, mod HC odor.
						3615	
		14	15	Core	293 ppm		
		15	16	Core	403 ppm	16	
	CALICHE					3613	
		16	17	Core	449 ppm		
		17	18	Core	561 ppm	18	
						3611	
		18	19	Core	440 ppm		
		19	20	Core	363 ppm	20	

MONITORING WELL NO: MW-MM TOTAL DEPTH: 36 Feet

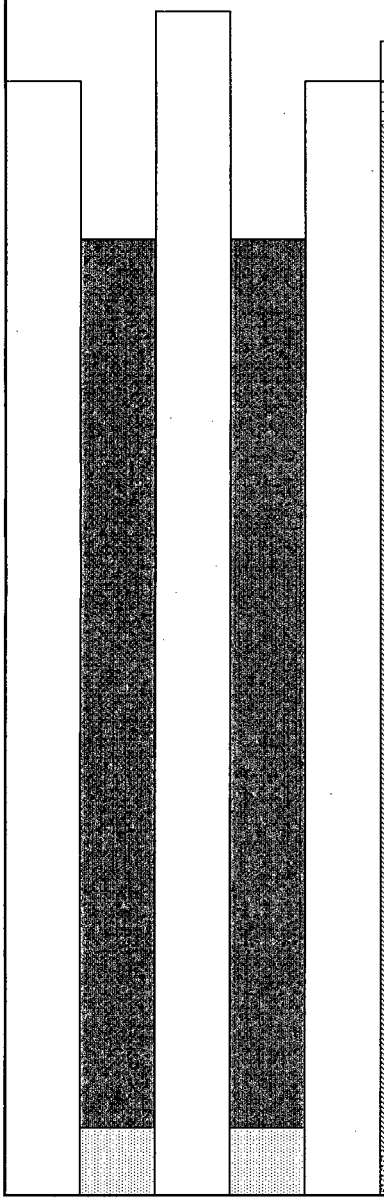


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3609	Sandy Clay, lt tan gray, w/25% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, moist, mod HC odor.
	CL	20	21	Core	168 ppm		
		21	22	Core	140 ppm	22	Encountered Groundwater!
						3607	
	SC	22	23	Core	175 ppm		Clayey Sand, lt tan gray, vf grain, w/35% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, mod HC odor.
		23	24	Core	152 ppm	24	
						3605	Sandy Clay, lt gray, w/25% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, sl-mod HC odor.
	SC	24	25	Core	109 ppm		
		25	26	Core	129 ppm	26	
	SW					3603	Sand, orange brown, vf grain, w/5% clay in matrix, wet, no odor.
	SW	26	27	Core	5 ppm		Sand, lt tan-lt brown, vf grain, w/15% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		27	28	Core	7 ppm	28	
						3601	
	SW	28	29	Core	9 ppm		Sand, orange brown, vf grain, w/5% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		29	30	Core	5 ppm	30	
						3599	
		30	31	Core	7 ppm		
		31	32	Core	12 ppm	32	
						3597	
		32	33	Core	9 ppm		
		33	34	Core	11 ppm	34	
	SW	34	35	Core	8 ppm	3595	Sand, tan-lt brown, vf grain, w/5% clay in matrix, interbedded w/mod-well cemented vf grain sand, wet, no odor.
		35	36	Core	13 ppm	36	TD Boring @ 36 Feet!
						3593	
						38	
						3591	
						40	
						42	
						44	

MONITORING WELL LITHOLOGIC LOG

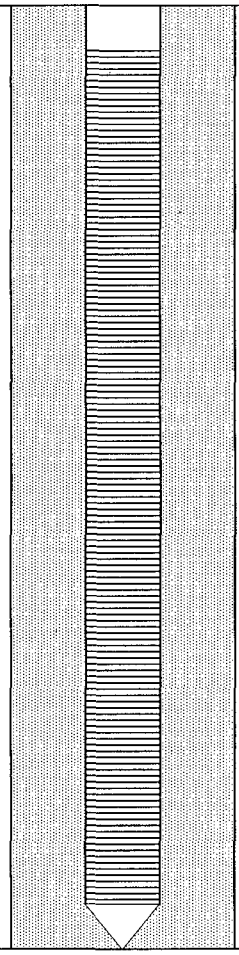
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-NN	TOTAL DEPTH:	36.5 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3633	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/5/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/5/2003	FILE NAME:	
COMMENTS:			



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3633	Silt (Top Soil), dk brown, w/10% clay in matrix, no odor.
	CALICHE	0	1	Core	5 ppm		Caliche, lt yellowish tan, dense-weathered, w/chert nods in matrix, no odor.
		1	2	Core	5 ppm	2	
						3631	
		2	3	Core	9 ppm		
		3	4	Core	17 ppm	4	
						3629	
		4	5	Core	7 ppm		
	CALICHE	5	6	Core	22 ppm	6	Caliche, lt yellowish tan-tan, weathered-dense, w/chert nods in matrix, no odor.
						3627	
		6	7	Core	16 ppm		
		7	8	Core	17 ppm	8	
						3625	
		8	9	Core	11 ppm		
		9	10	Core	30 ppm	10	
	CALICHE	10	11	Core	64 ppm	3623	Caliche, tan-brown, weathered-dense, w/chert nods in matrix, no odor.
		11	12	Core	7 ppm	12	
	CALICHE	12	13	Core	8 ppm	3621	Caliche, lt yellowish tan-tan, dense-weathered, w/chert nods in matrix, no odor.
		13	14	Core	10 ppm	14	
						3619	
	CALICHE	14	15	Core	6 ppm		Caliche, lt yellowish tan, weathered-dense, w/chert nods in matrix, sl HC odor.
		15	16	Core	18 ppm	16	
						3617	
		16	17	Core	188 ppm		
		17	18	Core	168 ppm	18	
						3615	
		18	19	Core	411 ppm		
	CL	19	20	Core	411 ppm	20	Clay, orange brown, w/15% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, mod-str HC

MONITORING WELL NO: MW-NN TOTAL DEPTH: 36.5 Feet

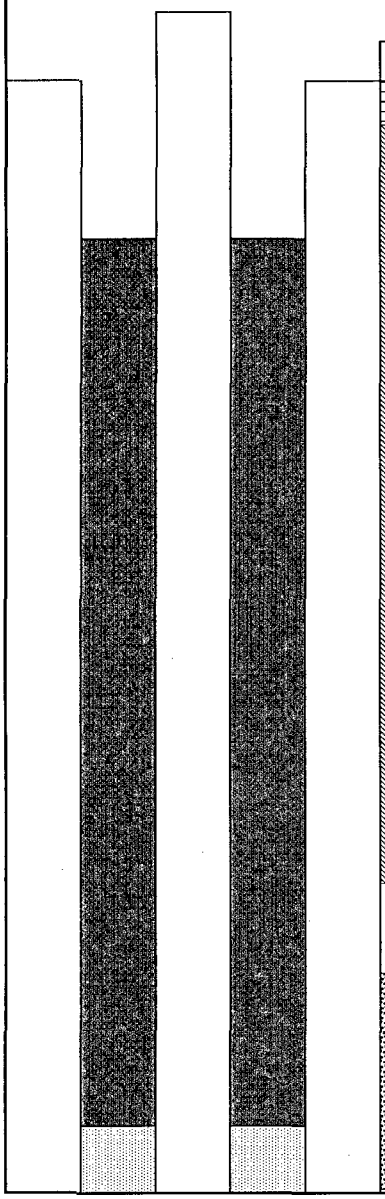


LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3613	odor.
	CL	20	21	Core	1226 ppm		
		21	22	Core	1362 ppm	22	
						3611	
		22	23	Core	1128 ppm		Sandy Clay, lt yellowish tan-tan, w/25% vf grain sand in matrix interbedded w/mod-well cemented vf grain sand, str HC odor.
	CL	23	24	Core	1752 ppm	24	
						3609	
		24	25	Core	1930 ppm		
		25	26	Core	986 ppm	26	
						3607	Sandy Clay, tan-grayish brown, w/35% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, str HC odor.
		26	27	Core	691 ppm		
	CL	27	28	Core	1053 ppm	28	Encountered Groundwater!
						3605	
		28	29	Core	761 ppm		
		29	30	Core	500 ppm	30	
						3603	
		30	31	Core	582 ppm		Clay, lt yellowish tan-lt gray, w/20% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, wet, str HC odor.
		31	32	Core	1670 ppm	32	
						3601	
	CL	32	33	Core	998 ppm		
		33	34	Core	722 ppm	34	
						3599	
		34	35	Core	767 ppm		
	SW	35	36	Core	404 ppm	36	Sand, grayish brown, vf grain, w/10% clay in matrix, wet, str HC odor.
						3597	
							TD Boring @ 36.5 Feet!
						38	
						3595	
						40	
						3593	
						42	
						3591	
						44	

MONITORING WELL LITHOLOGIC LOG

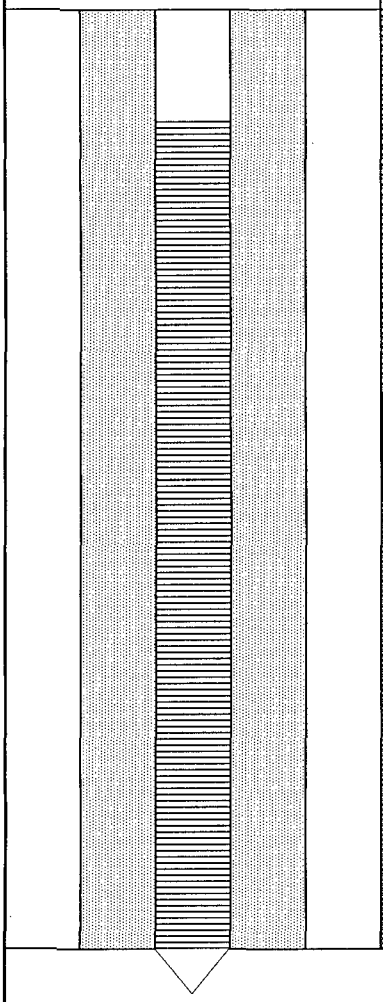
TRIDENT ENVIRONMENTAL

MONITORING WELL NO:	MW-OO	TOTAL DEPTH:	37 Feet
SITE ID:	Eldridge Ranch	CLIENT:	Duke Energy Field Services
SURFACE ELEVATION:	3633	COUNTY:	Lea
CONTRACTOR:	Prosonic	STATE:	New Mexico
DRILLING METHOD:	Rotosonic	LOCATION:	Monument, NM
START DATE:	12/6/2003	FIELD REP.:	J. Fergerson
COMPLETION DATE:	12/6/2003	FILE NAME:	
COMMENTS:			



LITH.	USCS	SAMPLE FROM	SAMPLE TO	SAMPLE TYPE	SAMPLE PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
	MH					3633	Silty Clay (Top Soil), brown, w/30% silt & dense caliche in matrix, no odor.
	CALICHE	0	1	Core	228 ppm		Caliche, lt yellow tan-tan, weathered-dense, w/chert nods in matrix, mod HC odor.
	CALICHE	1	2	Core	155 ppm	2	
						3631	
	CALICHE	2	3	Core	62 ppm		Caliche, lt yellow tan-lt brown, dense-weathered, w/chert nods in matrix, sl HC odor.
		3	4	Core	23 ppm	4	
						3629	
		4	5	Core	25 ppm		Caliche, lt yellow tan-lt brown, weathered-dense, w/chert nods in matrix, no odor.
		5	6	Core	22 ppm	6	
						3627	
	CALICHE	6	7	Core	31 ppm		
		7	8	Core	54 ppm	8	
						3625	
		8	9	Core	31 ppm		
		9	10	Core	15 ppm	10	
						3623	
	CALICHE	10	11	Core	7 ppm		Caliche, lt yellow tan, weathered, no odor.
		11	12	Core	13 ppm	12	
						3621	
		12	13	Core	22 ppm		
	CALICHE	13	14	Core	8 ppm	14	Caliche, lt yellow tan-tan, weathered-dense, w/chert nods in matrix, interbedded w/mod-well cemented vf grain sand, no odor.
						3619	
	LOST CORE	14	15	Core	-		LOST CORE INTERVAL
		15	16	Core	-	16	
						3617	Sandy Clay, white-tan brown, w/25% vf grain sand in matrix, sl HC odor.
	CL	16	17	Core	298 ppm		
		17	18	Core	460 ppm	18	
						3615	
	CL	18	19	Core	405 ppm		Sandy Clay, lt tan-lt orange brown, w/40% vf grain sand in matrix, interbedded w/mod-well cemented vf grain sand, mod-str HC odor.
		19	20	Core	384 ppm	20	

MONITORING WELL NO: MW-OO TOTAL DEPTH: 37 Feet



LITH.	SAMPLE USCS	FROM	TO	TYPE	PID	DEPTH	LITHOLOGIC DESCRIPTION LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOL., DIST. FEATURES
						3613	
		20	21	Core	448 ppm		
		21	22	Core	385 ppm	22	
						3611	
		22	23	Core	310 ppm		
	CL	23	24	Core	408 ppm	24	
						3609	
		24	25	Core	299 ppm		
		25	26	Core	277 ppm	26	
						3607	
		26	27	Core	116 ppm		
		27	28	Core	129 ppm	28	Sandy Clay, lt yellow white-gray, w/20% vf grain sand & chert nod
	CL					3605	in matrix, moist, mod HC odor.
							Encountered Groundwater!
	CHERT	28	29	Core	127 ppm		Chert, lt yellow white, dense, no odor.
							Clayey Sand, lt tan brown, vf grain, w/30% clay in matrix,
		29	30	Core	457 ppm	30	interbedded w/mod-well cemented vf grain sand, wet, mod
						3603	HC odor.
		30	31	Core	378 ppm		
		31	32	Core	343 ppm	32	
						3601	
	SC	32	33	Core	260 ppm		
		33	34	Core	200 ppm	34	
						3599	
		34	35	Core	121 ppm		
		35	36	Core	81 ppm	36	
						3597	
							TD Boring @ 37 Feet!
						38	
						3595	
						40	
						42	
						44	

APENDIX 2

December 2003, January 2004 Analytical Laboratory Reports

ANALYTICAL REPORT

Prepared for:

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Project:	Duke Energy Field Services
PO#:	
Order#:	G0308160
Report Date:	12/17/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308160-01	W.WW	WATER	12/9/03 15:15	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX					
	Chloride					
0308160-02	MW-1	WATER	12/9/03 16:25	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX					
	Chloride					
0308160-03	N.WW	WATER	12/9/03 17:25	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX					
	Chloride					
0308160-04	MW-3	WATER	12/10/03 8:10	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX					
	Chloride					
0308160-05	MW-4	WATER	12/10/03 8:30	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX					
	Chloride					
0308160-06	MW-5	WATER	12/10/03 8:50	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX					
	Chloride					
0308160-07	MW-6	WATER	12/10/03 9:20	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	8021B/5030 BTEX Chloride					
0308160-08	MW-9	WATER	12/10/03 9:50	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX Chloride					
0308160-09	MW-19	WATER	12/10/03 10:10	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX Chloride					
0308160-10	MW-18	WATER	12/10/03 11:20	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX Chloride					
0308160-11	MW-10	WATER	12/10/03 11:50	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX Chloride					
0308160-12	MW-12	WATER	12/10/03 12:40	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX Chloride					
0308160-13	MW-20	WATER	12/10/03 13:35	12/11/03 13:40	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 1 C		
	8021B/5030 BTEX Chloride					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308160-14	MW-21	WATER	12/10/03 14:10	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp 1 C		
0308160-15	MW-15	WATER	12/10/03 15:20	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp 1 C		
0308160-16	MW-25	WATER	12/10/03 15:40	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp 1 C		
0308160-17	MW-22	WATER	12/10/03 15:50	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp 1 C		
0308160-18	DMW-01	WATER	12/10/03 16:45	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp 1 C		
0308160-19	Duplicate "A"	WATER	12/10/03 20:00	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX	Rejected: No		Temp 1 C		
0308160-20	Duplicate "B"	WATER	12/10/03 22:00	12/11/03 13:40	See COC	See COC
	Lab Testing: 8021B/5030 BTEX	Rejected: No		Temp 1 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308160-21	Trip Blank	WATER	12/10/03	12/11/03 13:40	See COC	See COC

Lab Testing: **Rejected:** No **Temp** 1 C

8021B/5030 BTEX

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-01
Sample ID: W.WW

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	106	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-02
Sample ID: MW-1

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	64.2	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-03
Sample ID: N.WW

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	106	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-04
Sample ID: MW-3

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	62.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-05
Sample ID: MW-4

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	73.8	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-06
Sample ID: MW-5

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	65.0	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-07
Sample ID: MW-6

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	88.6	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-08
Sample ID: MW-9

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	44.3	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-09
Sample ID: MW-19

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	65.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-10
Sample ID: MW-18

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	65.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-11
Sample ID: MW-10

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	68.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-12
Sample ID: MW-12

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	284	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-13
Sample ID: MW-20

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	124	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-14
Sample ID: MW-21

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	48.7	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-15
Sample ID: MW-15

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	44.3	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-16
Sample ID: MW-25

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	51.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-17
Sample ID: MW-22

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	44.3	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308160-18
Sample ID: DMW-01

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	44.3	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Approval:
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-01
Sample ID: W.WW

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	86%	80	120
Bromofluorobenzene	80%	80	120

Lab ID: 0308160-02
Sample ID: MW-1

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.034**	0.001
Toluene	**0.039**	0.001
Ethylbenzene	**0.003**	0.001
p/m-Xylene	**0.009**	0.001
o-Xylene	**0.003**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	120%	80	120
Bromofluorobenzene	86%	80	120

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-03
Sample ID: N.WW

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.210**	0.001
Toluene	**0.006**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**0.003**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**246%**	**80**	**120**
Bromofluorobenzene	**84%**	**80**	**120**

Lab ID: 0308160-04
Sample ID: MW-3

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**85%**	**80**	**120**
Bromofluorobenzene	**90%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-05
Sample ID: MW-4

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	**3.36**	0.005
Toluene	**2.46**	0.005
Ethylbenzene	**0.142**	0.005
p/m-Xylene	**0.348**	0.005
o-Xylene	**0.091**	0.005

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**161%**	**80**	**120**
Bromofluorobenzene	**80%**	**80**	**120**

Lab ID: 0308160-06
Sample ID: MW-5

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.052**	0.001
Toluene	**0.010**	0.001
Ethylbenzene	**0.021**	0.001
p/m-Xylene	**0.016**	0.001
o-Xylene	**0.019**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**278%**	**80**	**120**
Bromofluorobenzene	**93%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-07
Sample ID: MW-6

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.004**	0.001
Toluene	**0.001**	0.001
Ethylbenzene	**0.006**	0.001
p/m-Xylene	**0.007**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**91%**	**80**	**120**
Bromofluorobenzene	**80%**	**80**	**120**

Lab ID: 0308160-08
Sample ID: MW-9

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**0.002**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**88%**	**80**	**120**
Bromofluorobenzene	**86%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-09
Sample ID: MW-19

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.050**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**86%**	**80**	**120**
Bromofluorobenzene	**84%**	**80**	**120**

Lab ID: 0308160-10
Sample ID: MW-18

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.018**	0.001
Toluene	**0.006**	0.001
Ethylbenzene	**0.002**	0.001
p/m-Xylene	**0.009**	0.001
o-Xylene	**0.002**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**253%**	**80**	**120**
Bromofluorobenzene	**86%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-11
Sample ID: MW-10

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**6.95**	0.010
Toluene	**0.190**	0.010
Ethylbenzene	**0.020**	0.010
p/m-Xylene	**0.032**	0.010
o-Xylene	**0.012**	0.010

Surrogates	% Recovered	QC Limits	
aaa-Toluene	101%	80	120
Bromofluorobenzene	91%	80	120

Lab ID: 0308160-12
Sample ID: MW-12

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	20	CK	8021B

Parameter	Result mg/L	RL
Benzene	**14.7**	0.020
Toluene	**0.142**	0.020
Ethylbenzene	**0.102**	0.020
p/m-Xylene	**0.035**	0.020
o-Xylene	**< 0.020**	0.020

Surrogates	% Recovered	QC Limits	
aaa-Toluene	98%	80	120
Bromofluorobenzene	86%	80	120

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-13
Sample ID: MW-20

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**87%**	**80**	**120**
Bromofluorobenzene	**84%**	**80**	**120**

Lab ID: 0308160-14
Sample ID: MW-21

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.009**	0.001
Toluene	**0.006**	0.001
Ethylbenzene	**0.006**	0.001
p/m-Xylene	**0.019**	0.001
o-Xylene	**0.003**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**180%**	**80**	**120**
Bromofluorobenzene	**91%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-15
Sample ID: MW-15

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.029**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**142%**	**80**	**120**
Bromofluorobenzene	**84%**	**80**	**120**

Lab ID: 0308160-16
Sample ID: MW-25

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/12/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.002**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**86%**	**80**	**120**
Bromofluorobenzene	**84%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-17
Sample ID: MW-22

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/15/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.014**	0.001
Toluene	**0.012**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**0.002**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	83%	80	120
Bromofluorobenzene	84%	80	120

Lab ID: 0308160-18
Sample ID: DMW-01

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/15/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.002**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	89%	80	120
Bromofluorobenzene	87%	80	120

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-19
Sample ID: Duplicate "A"

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007722-02		12/15/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.054**	0.001
Toluene	**0.010**	0.001
Ethylbenzene	**0.020**	0.001
p/m-Xylene	**0.015**	0.001
o-Xylene	**0.019**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**282%**	**80**	**120**
Bromofluorobenzene	**95%**	**80**	**120**

Lab ID: 0308160-20
Sample ID: Duplicate "B"

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007746-02		12/16/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.008**	0.001
Toluene	**0.005**	0.001
Ethylbenzene	**0.006**	0.001
p/m-Xylene	**0.018**	0.001
o-Xylene	**0.003**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**180%**	**80**	**120**
Bromofluorobenzene	**100%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308160
Project:
Project Name: Duke Energy Field Services
Location: Eldridge

Lab ID: 0308160-21
Sample ID: Trip Blank

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007746-02		12/16/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**97%**	**80**	**120**
Bromofluorobenzene	**94%**	**80**	**120**

Approval:
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted N/A = Not RL = Reporting Limit Page

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308160

BLANK WATER **Result**	**Recovery** WATER	**LAB-ID #** **Pct (%)**	**Concentr.** **RPD**	**Sample**	**Concentr**	**Spike**	**QC Test**
Benzene-mg/L		0007722-02			<0.001		
Benzene-mg/L		0007746-02			<0.001		
Toluene-mg/L		0007722-02			<0.001		
Toluene-mg/L		0007746-02			<0.001		
Ethylbenzene-mg/L		0007722-02			<0.001		
Ethylbenzene-mg/L		0007746-02			<0.001		
p/m-Xylene-mg/L		0007722-02			<0.001		
p/m-Xylene-mg/L		0007746-02			<0.001		
o-Xylene-mg/L		0007722-02			<0.001		
o-Xylene-mg/L		0007746-02			<0.001		

CONTROL WATER **Result**	**Recovery** WATER	**LAB-ID #** **Pct (%)**	**Concentr.** **RPD**	**Sample**	**Concentr**	**Spike**	**QC Test**
Benzene-mg/L		0007746-03		0.1	0.104	104.%	
Toluene-mg/L		0007746-03		0.1	0.094	94.%	
Ethylbenzene-mg/L		0007746-03		0.1	0.091	91.%	
p/m-Xylene-mg/L		0007746-03		0.2	0.181	90.5%	
o-Xylene-mg/L		0007746-03		0.1	0.090	90.%	

CONTROL DUP WATER **Result**	**Recovery** WATER	**LAB-ID #** **Pct (%)**	**Concentr.** **RPD**	**Sample**	**Concentr**	**Spike**	**QC Test**
Benzene-mg/L		0007746-04		0.1	0.093	93.%	11.2%
Toluene-mg/L		0007746-04		0.1	0.087	87.%	7.7%
Ethylbenzene-mg/L		0007746-04		0.1	0.083	83.%	9.2%
p/m-Xylene-mg/L		0007746-04		0.2	0.165	82.5%	9.2%
o-Xylene-mg/L		0007746-04		0.1	0.083	83.%	8.1%

MS WATER **Result**	**Recovery** WATER	**LAB-ID #** **Pct (%)**	**Concentr.** **RPD**	**Sample**	**Concentr**	**Spike**	**QC Test**
Benzene-mg/L		0308160-01	0	0.1	0.091	91.%	
Toluene-mg/L		0308160-01	0	0.1	0.087	87.%	
Ethylbenzene-mg/L		0308160-01	0	0.1	0.086	86.%	
p/m-Xylene-mg/L		0308160-01	0	0.2	0.171	85.5%	
o-Xylene-mg/L		0308160-01	0	0.1	0.084	84.%	

MSD WATER **Result**	**Recovery** WATER	**LAB-ID #** **Pct (%)**	**Concentr.** **RPD**	**Sample**	**Concentr**	**Spike**	**QC Test**
Benzene-mg/L		0308160-01	0	0.1	0.091	91.%	0.%
Toluene-mg/L		0308160-01	0	0.1	0.088	88.%	1.1%
Ethylbenzene-mg/L		0308160-01	0	0.1	0.086	86.%	0.%
p/m-Xylene-mg/L		0308160-01	0	0.2	0.171	85.5%	0.%
o-Xylene-mg/L		0308160-01	0	0.1	0.085	85.%	1.2%

SRM	WATER	LAB-ID #	Concentr.	Sample	Concentr	Spike	QC Test
Result	**Recovery**	**Pct (%)**	**RPD**				
WATER							
Benzene-mg/L		0007722-05		0.1	0.091	91.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308160

SRM Result	WATER Recovery WATER	LAB-ID # Pct (%)	Concentr. RPD	Sample	Concentr	Spike	QC Test
Benzene-mg/L		0007746-05		0.1	0.105	105.%	
Toluene-mg/L		0007722-05		0.1	0.088	88.%	
Toluene-mg/L		0007746-05		0.1	0.099	99.%	
Ethylbenzene-mg/L		0007722-05		0.1	0.084	84.%	
Ethylbenzene-mg/L		0007746-05		0.1	0.094	94.%	
p/m-Xylene-mg/L		0007722-05		0.2	0.171	85.5%	
p/m-Xylene-mg/L		0007746-05		0.2	0.189	94.5%	
o-Xylene-mg/L		0007722-05		0.1	0.082	82.%	
o-Xylene-mg/L		0007746-05		0.1	0.094	94.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0308160

BLANK	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER			.			
Chloride-mg/L		0007731-01			<5.00		
MS	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER			.			
Chloride-mg/L		0308160-01	106	250	354	99.2%	
MSD	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER			.			
Chloride-mg/L		0308160-01	106	250	350	97.6%	1.1%
SRM	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER			.			
Chloride-mg/L		0007731-04		5000	4960	99.2%	

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michael H. Stewart
Company Name: Remediacon, Inc.
Company Address: PO Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Gilbert Van Dusta

Project Name: Duke Energy Field Service
Project #:
Project Loc: Eldridge
PO #:

0308160

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl (BTEX only)	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chloride			RUSH TAT (Pre-Schedule)	Standard TAT
-01	W.WW	12-09-03	1515	3	✓		✓					✓											✓			✓				✓
-02	MW-1	12-09-03	1625	3	✓		✓					✓											✓			✓				✓
-03	N. WW	12-09-03	1725	3	✓		✓					✓											✓			✓				✓
-04	MW-3	12-10-03	0810	3	✓		✓					✓											✓			✓				✓
-05	MW-4	12-10-03	0830	3	✓		✓					✓											✓			✓				✓
-06	MW-5	12-10-03	0850	3	✓		✓					✓											✓			✓				✓
-07	MW-6	12-10-03	0920	3	✓		✓					✓											✓			✓				✓
-08	MW-9	12-10-03	0950	3	✓		✓					✓											✓			✓				✓
-09	MW-19	12-10-03	1010	3	✓		✓					✓											✓			✓				✓
-10	MW-18	12-10-03	1120	3	✓		✓					✓											✓			✓				✓

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
Rec 1°C
(2) each 40mL glass w/ HCl
(1) each 250mL amber glass

Relinquished by:	Date	Time	Received by:	Date	Time
Gilbert Van Dusta	12/11/03	1:40pm			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Rebecca Tuo	12-11-03	1340

Dec 17 03 12:38p

p.21

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michael H. Stewart
Company Name: Remediacon, Inc.
Company Address: P O Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Gilbert G. Van Deventer

Project Name: Duke Energy Field Service
Project #:
Project Loc: Eldridge
PO #:

Dec 17 03 12:38p

LAB # (lab use only) 0308160	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl (BTEX only)	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TPH: 418.1 8015M 1005 1006	Calions (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Cl/bride			RUSH TAT (Pre-Schedule)	Standard TAT
-11	MW-10	12-10-03	1150	3	✓		✓					✓											✓			✓				✓
-12	MW-12	12-10-03	1240	3	✓		✓					✓											✓			✓				✓
-13	MW-20	12-10-03	1335	3	✓		✓					✓											✓			✓				✓
-14	MW-21	12-10-03	1410	3	✓		✓					✓											✓			✓				✓
-15	MW-15	12-10-03	1520	3	✓		✓					✓											✓			✓				✓
-16	MW-25	12-10-03	1540	3	✓		✓					✓											✓			✓				✓
-17	MW-22	12-10-03	1550	3	✓		✓					✓											✓			✓				✓
-18	DMW-01	12-10-03	1645	3	✓		✓					✓											✓			✓				✓
-19	Duplicate "A"	12-10-03	2000	2	✓		✓					✓											✓			✓				✓
-20	Duplicate "B"	12-10-03	2200	2	✓		✓					✓											✓			✓				✓
Special Instructions: -21 2 trip blanks included				2	✓		✓					✓																		

Sample Containers Intact? Y N ✓
Temperature Upon Receipt:
Laboratory Comments:
Ice 1°C
(2) each 40mL glass w/HCl
(1) each 250mL amber glass

Relinquished by:	Date	Time	Received by:	Date	Time
Gilbert G Van Deventer	12/11/03	1:40pm			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Rec. d/C	12-11-03	1340

P.22

ANALYTICAL REPORT

Prepared for:

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Project: Duke Energy Field Services

PO#:

Order#: G0308190

Report Date: 12/23/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308190-01	MW-GG (0312150940)	WATER	12/15/03 9:40	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308190-02	MW-AA (0312151010)	WATER	12/15/03 10:10	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308190-03	MW-II (0312151035)	WATER	12/15/03 10:35	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308190-04	MW-HH (0312151200)	WATER	12/15/03 12:00	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308190-05	MW-BB (0312151210)	WATER	12/15/03 12:10	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308190-06	MW-JJ (0312151240)	WATER	12/15/03 12:40	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308190-07	MW-EE (0312151535)	WATER	12/15/03 15:35	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	8021B/5030 BTEX Chloride					
0308190-08	MW-CC (0312151550)	WATER	12/15/03 15:50	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX Chloride					
0308190-09	MW-N (0312151605)	WATER	12/15/03 16:05	12/16/03 17:10	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp** 2.0 C		
	8021B/5030 BTEX Chloride					

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-01
Sample ID: MW-GG (0312150940)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	74.4	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-02
Sample ID: MW-AA (0312151010)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	88.6	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-03
Sample ID: MW-II (0312151035)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	81.5	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-04
Sample ID: MW-HH (0312151200)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	88.6	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-05
Sample ID: MW-BB (0312151210)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	97.5	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-06
Sample ID: MW-JJ (0312151240)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	93.1	mg/L	1	5.00	9253	12/17/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-07
Sample ID: MW-EE (0312151535)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	93.1	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-08
Sample ID: MW-CC (0312151550)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	97.5	mg/L	1	5.00	9253	12/17/03	SB

Lab ID: 0308190-09
Sample ID: MW-N (0312151605)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	70.9	mg/L	1	5.00	9253	12/17/03	SB

Approval:
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.
RL = Reporting Limit
N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-01
Sample ID: MW-GG (0312150940)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**5.96**	0.010
Toluene	**0.031**	0.010
Ethylbenzene	**< 0.010**	0.010
p/m-Xylene	**0.014**	0.010
o-Xylene	**< 0.010**	0.010

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**104%**	**80**	**120**
Bromofluorobenzene	**89%**	**80**	**120**

Lab ID: 0308190-02
Sample ID: MW-AA (0312151010)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.356**	0.001
Toluene	**0.030**	0.001
Ethylbenzene	**0.005**	0.001
p/m-Xylene	**0.005**	0.001
o-Xylene	**0.002**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**150%**	**80**	**120**
Bromofluorobenzene	**96%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-03
Sample ID: MW-II (0312151035)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.518**	0.001
Toluene	**0.167**	0.001
Ethylbenzene	**0.010**	0.001
p/m-Xylene	**0.022**	0.001
o-Xylene	**0.006**	0.001

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**235%**	**80**	**120**
Bromofluorobenzene	**100%**	**80**	**120**

Lab ID: 0308190-04
Sample ID: MW-HH (0312151200)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**3.23**	0.010
Toluene	**0.052**	0.010
Ethylbenzene	**< 0.010**	0.010
p/m-Xylene	**< 0.010**	0.010
o-Xylene	**< 0.010**	0.010

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**84%**	**80**	**120**
Bromofluorobenzene	**80%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-05
Sample ID: MW-BB (0312151210)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**4.34**	0.010
Toluene	**0.064**	0.010
Ethylbenzene	**0.058**	0.010
p/m-Xylene	**0.011**	0.010
o-Xylene	**< 0.010**	0.010

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**97%**	**80**	**120**
Bromofluorobenzene	**83%**	**80**	**120**

Lab ID: 0308190-06
Sample ID: MW-JJ (0312151240)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	20	CK	8021B

Parameter	Result mg/L	RL
Benzene	**15.9**	0.020
Toluene	**0.071**	0.020
Ethylbenzene	**0.096**	0.020
p/m-Xylene	**< 0.020**	0.020
o-Xylene	**< 0.020**	0.020

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**96%**	**80**	**120**
Bromofluorobenzene	**90%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-07
Sample ID: MW-EE (0312151535)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**2.13**	0.010
Toluene	**1.53**	0.010
Ethylbenzene	**0.111**	0.010
p/m-Xylene	**0.263**	0.010
o-Xylene	**0.061**	0.010

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**194%**	**80**	**120**
Bromofluorobenzene	**97%**	**80**	**120**

Lab ID: 0308190-08
Sample ID: MW-CC (0312151550)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	25	CK	8021B

Parameter	Result mg/L	RL
Benzene	**17.6**	0.025
Toluene	**2.94**	0.025
Ethylbenzene	**0.168**	0.025
p/m-Xylene	**0.314**	0.025
o-Xylene	**0.063**	0.025

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**150%**	**80**	**120**
Bromofluorobenzene	**97%**	**80**	**120**

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308190-09
Sample ID: MW-N (0312151605)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007790-02		12/20/03	1	50	CK	8021B

Parameter	Result mg/L	RL
Benzene	**33.2**	0.050
Toluene	**2.85**	0.050
Ethylbenzene	**0.229**	0.050
p/m-Xylene	**0.352**	0.050
o-Xylene	**0.064**	0.050

Surrogates	% Recovered	QC Limits	
aaa-Toluene	**117%**	**80**	**120**
Bromofluorobenzene	**87%**	**80**	**120**

Approval:
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted N/A = Not RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308190

BLANK Result	WATER Recovery WATER	LAB-ID # Pct (%)	Concentr. RPD	Sample	Concentr	Spike	QC Test
Benzene-mg/L		0007790-02			<0.001		
Toluene-mg/L		0007790-02			<0.001		
Ethylbenzene-mg/L		0007790-02			<0.001		
p/m-Xylene-mg/L		0007790-02			<0.001		
o-Xylene-mg/L		0007790-02			<0.001		
MS Result	WATER Recovery WATER	LAB-ID # Pct (%)	Concentr. RPD	Sample	Concentr	Spike	QC Test
Benzene-mg/L		0308191-01	0.002	0.1	0.091	89.%	
Toluene-mg/L		0308191-01	0	0.1	0.097	97.%	
Ethylbenzene-mg/L		0308191-01	0	0.1	0.096	96.%	
p/m-Xylene-mg/L		0308191-01	0	0.2	0.195	97.5%	
o-Xylene-mg/L		0308191-01	0	0.1	0.098	98.%	
MSD Result	WATER Recovery WATER	LAB-ID # Pct (%)	Concentr. RPD	Sample	Concentr	Spike	QC Test
Benzene-mg/L		0308191-01	0.002	0.1	0.092	90.%	1.1%
Toluene-mg/L		0308191-01	0	0.1	0.099	99.%	2.%
Ethylbenzene-mg/L		0308191-01	0	0.1	0.098	98.%	2.1%
p/m-Xylene-mg/L		0308191-01	0	0.2	0.201	100.5%	3.%
o-Xylene-mg/L		0308191-01	0	0.1	0.100	100.%	2.%
SRM Result	WATER Recovery WATER	LAB-ID # Pct (%)	Concentr. RPD	Sample	Concentr	Spike	QC Test
Benzene-mg/L		0007790-05		0.1	0.104	104.%	
Toluene-mg/L		0007790-05		0.1	0.090	90.%	
Ethylbenzene-mg/L		0007790-05		0.1	0.086	86.%	
p/m-Xylene-mg/L		0007790-05		0.2	0.172	86.%	
o-Xylene-mg/L		0007790-05		0.1	0.085	85.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0308190

BLANK	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER						
Chloride-mg/L		0007757-01			<5.00		

MS	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER						
Chloride-mg/L		0308190-01	74.4	200	273	99.3%	

MSD	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER						
Chloride-mg/L		0308190-01	74.4	200	269	97.3%	1.5%

SRM	WATER	**LAB-ID #**	**Concentr.**	**Sample**	**Concentr**	**Spike**	**QC Test**
Result	**Recovery**	**Pct (%)**	**RPD**				
	WATER						
Chloride-mg/L		0007757-04		5000	4960	99.2%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308190

Project: Duke Energy Field Services

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
MW-GG	0308190-01	WATER	12/15/2003	12/16/2003
MW-AA	0308190-02	WATER	12/15/2003	12/16/2003
MW-II	0308190-03	WATER	12/15/2003	12/16/2003
MW-HH	0308190-04	WATER	12/15/2003	12/16/2003
MW-BB	0308190-05	WATER	12/15/2003	12/16/2003
MW-JJ	0308190-06	WATER	12/15/2003	12/16/2003
MW-EE	0308190-07	WATER	12/15/2003	12/16/2003
MW-CC	0308190-08	WATER	12/15/2003	12/16/2003
MW-N	0308190-09	WATER	12/15/2003	12/16/2003

Surrogate recoveries on the 8021B BTEX are outside control limits due to matrix interference. (G0308190-02,03,07,08)

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By: Date:

Environmental Lab of Texas I, Ltd.

ANALYTICAL REPORT

Prepared for:

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Project: Duke Energy Field Services

PO#:

Order#: G0308176

Report Date: 12/22/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308176-01	MW-7 (032111010)	WATER	12/11/03 10:10	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-02	MW-D (0312111020)	WATER	12/11/03 10:20	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-03	MW-E (0312111050)	WATER	12/11/03 10:50	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-04	MW-F (0312111130)	WATER	12/11/03 11:30	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-05	MW-G (0312111210)	WATER	12/11/03 12:10	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-06	MW-A (0312111315)	WATER	12/11/03 13:15	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-07	MW-B (0312111300)	WATER	12/11/03 13:00	12/15/03 8:00	See COC	See COC
	Lab Testing:	Rejected: No		Temp: -2.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	8021B/5030 BTEX Chloride					
0308176-08	MW-C (0312111330)	WATER	12/11/03 13:30	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX Chloride					
0308176-09	MW-H (0312111400)	WATER	12/11/03 14:00	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX Chloride					
0308176-10	MW-I (0312111425)	WATER	12/11/03 14:25	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX Chloride					
0308176-11	MW-J (0312111450)	WATER	12/11/03 14:50	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX Chloride					
0308176-12	MW-K (0312111535)	WATER	12/11/03 15:35	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX Chloride					
0308176-13	MW-S (0312111610)	WATER	12/11/03 16:10	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX Chloride					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308176-14	MW-R (0312111630)	WATER	12/11/03 16:30	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-15	MW-Q (0312111700)	WATER	12/11/03 17:00	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-16	Trip Blank	WATER	12/12/03	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		
0308176-17	MW-P (0312120745)	WATER	12/12/03 7:45	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-18	MW-T (0312120820)	WATER	12/12/03 8:20	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-19	MW-13 (0312120850)	WATER	12/12/03 8:50	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-20	MW-O (0312120905)	WATER	12/12/03 9:05	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
	Chloride					
0308176-21	MW-MM (0312120945)	WATER	12/12/03 9:45	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308176-22	MW-DD (0312121015)	WATER	12/12/03 10:15	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308176-23	MW-14 (0312121030)	WATER	12/12/03 10:30	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308176-24	MW-NN (0312121050)	WATER	12/12/03 10:50	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308176-25	MW-LL (0312121120)	WATER	12/12/03 11:20	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX					
	Chloride					
0308176-26	MW-OO (0312121155)	WATER	12/12/03 11:55	12/15/03 8:00	See COC	See COC
	Lab Testing:	**Rejected:** No		**Temp:** -2.0 C		
	8021B/5030 BTEX					
	Chloride					

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308176-27	MW-KK (0312121235)	WATER	12/12/03 12:35	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-28	MW-M (0312121350)	WATER	12/12/03 13:50	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-29	MW-FF (0312121430)	WATER	12/12/03 14:30	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-30	MW-L (0312121455)	WATER	12/12/03 14:55	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX, Chloride	Rejected: No		Temp: -2.0 C		
0308176-31	Duplicate "C" (0312122000)	WATER	12/12/03 20:00	12/15/03 8:00	See COC	See COC
	Lab Testing: 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-01
Sample ID: MW-7 (032111010)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	84%	80	120
Bromofluorobenzene	83%	80	120

Lab ID: 0308176-02
Sample ID: MW-D (0312111020)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.008	0.001
Toluene	0.002	0.001
Ethylbenzene	0.004	0.001
p/m-Xylene	0.003	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	169%	80	120
Bromofluorobenzene	90%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-03
Sample ID: MW-E (0312111050)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.847**	0.001
Toluene	**0.012**	0.001
Ethylbenzene	**0.003**	0.001
p/m-Xylene	**0.005**	0.001
o-Xylene	**0.002**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	129%	80	120
Bromofluorobenzene	107%	80	120

Lab ID: 0308176-04
Sample ID: MW-F (0312111130)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**<0.001**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	92%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-05
Sample ID: MW-G (0312111210)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	96%	80	120
Bromofluorobenzene	99%	80	120

Lab ID: 0308176-06
Sample ID: MW-A (0312111315)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	2.11	0.005
Toluene	1.80	0.005
Ethylbenzene	0.218	0.005
p/m-Xylene	0.621	0.005
o-Xylene	0.141	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	555%	80	120
Bromofluorobenzene	107%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-07
Sample ID: MW-B (0312111300)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.321**	0.001
Toluene	**0.221**	0.001
Ethylbenzene	**0.099**	0.001
p/m-Xylene	**0.221**	0.001
o-Xylene	**0.050**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	728%	80	120
Bromofluorobenzene	106%	80	120

Lab ID: 0308176-08
Sample ID: MW-C (0312111330)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.027**	0.001
Toluene	**0.019**	0.001
Ethylbenzene	**0.004**	0.001
p/m-Xylene	**0.005**	0.001
o-Xylene	**0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	120%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-09
Sample ID: MW-H (0312111400)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.066**	0.001
Toluene	**<0.001**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**<0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	88%	80	120

Lab ID: 0308176-10
Sample ID: MW-I (0312111425)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.522**	0.001
Toluene	**0.004**	0.001
Ethylbenzene	**0.001**	0.001
p/m-Xylene	**0.003**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	107%	80	120
Bromofluorobenzene	99%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-11
Sample ID: MW-J (0312111450)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	97%	80	120
Bromofluorobenzene	99%	80	120

Lab ID: 0308176-12
Sample ID: MW-K (0312111535)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	2.33	0.005
Toluene	<0.005	0.005
Ethylbenzene	<0.005	0.005
p/m-Xylene	<0.005	0.005
o-Xylene	<0.005	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	110%	80	120
Bromofluorobenzene	89%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-13
Sample ID: MW-S (0312111610)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.002	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	116%	80	120
Bromofluorobenzene	91%	80	120

Lab ID: 0308176-14
Sample ID: MW-R (0312111630)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.004	0.001
Toluene	0.003	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	98%	80	120
Bromofluorobenzene	93%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-15
Sample ID: MW-Q (0312111700)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007756-02		12/17/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	7.44	0.010
Toluene	0.045	0.010
Ethylbenzene	0.015	0.010
p/m-Xylene	0.019	0.010
o-Xylene	<0.010	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	117%	80	120
Bromofluorobenzene	96%	80	120

Lab ID: 0308176-16
Sample ID: Trip Blank

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	<0.001	0.001
Toluene	<0.001	0.001
Ethylbenzene	<0.001	0.001
p/m-Xylene	<0.001	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	91%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-17
Sample ID: MW-P (0312120745)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**10.2**	0.010
Toluene	**0.023**	0.010
Ethylbenzene	**0.036**	0.010
p/m-Xylene	**0.018**	0.010
o-Xylene	**< 0.010**	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	103%	80	120
Bromofluorobenzene	106%	80	120

Lab ID: 0308176-18
Sample ID: MW-T (0312120820)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	**4.30**	0.010
Toluene	**0.026**	0.010
Ethylbenzene	**0.011**	0.010
p/m-Xylene	**0.023**	0.010
o-Xylene	**< 0.010**	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	118%	80	120
Bromofluorobenzene	92%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-19
Sample ID: MW-13 (0312120850)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	20	CK	8021B

Parameter	Result mg/L	RL
Benzene	**16.1**	0.020
Toluene	**0.582**	0.020
Ethylbenzene	**0.139**	0.020
p/m-Xylene	**0.185**	0.020
o-Xylene	**0.041**	0.020

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	133%	80	120
Bromofluorobenzene	98%	80	120

Lab ID: 0308176-20
Sample ID: MW-O (0312120905)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	50	CK	8021B

Parameter	Result mg/L	RL
Benzene	**30.4**	0.050
Toluene	**0.129**	0.050
Ethylbenzene	**0.062**	0.050
p/m-Xylene	**< 0.050**	0.050
o-Xylene	**< 0.050**	0.050

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	98%	80	120
Bromofluorobenzene	86%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-21
Sample ID: MW-MM (0312120945)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.237	0.001
Toluene	0.006	0.001
Ethylbenzene	0.007	0.001
p/m-Xylene	0.009	0.001
o-Xylene	<0.001	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	145%	80	120
Bromofluorobenzene	85%	80	120

Lab ID: 0308176-22
Sample ID: MW-DD (0312121015)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.772	0.005
Toluene	0.007	0.005
Ethylbenzene	0.037	0.005
p/m-Xylene	0.059	0.005
o-Xylene	<0.005	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	131%	80	120
Bromofluorobenzene	89%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-23
Sample ID: MW-14 (0312121030)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	**0.398**	0.001
Toluene	**0.002**	0.001
Ethylbenzene	**<0.001**	0.001
p/m-Xylene	**0.001**	0.001
o-Xylene	**<0.001**	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	118%	80	120
Bromofluorobenzene	98%	80	120

Lab ID: 0308176-24
Sample ID: MW-NN (0312121050)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	25	CK	8021B

Parameter	Result mg/L	RL
Benzene	**31.5**	0.025
Toluene	**0.043**	0.025
Ethylbenzene	**0.121**	0.025
p/m-Xylene	**0.028**	0.025
o-Xylene	**<0.025**	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	89%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-25
Sample ID: MW-LL (0312121120)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	20	CK	8021B

Parameter	Result mg/L	RL
Benzene	13.7	0.020
Toluene	0.216	0.020
Ethylbenzene	0.124	0.020
p/m-Xylene	0.172	0.020
o-Xylene	< 0.020	0.020

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	110%	80	120
Bromofluorobenzene	91%	80	120

Lab ID: 0308176-26
Sample ID: MW-OO (0312121155)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	50	CK	8021B

Parameter	Result mg/L	RL
Benzene	31.5	0.050
Toluene	5.41	0.050
Ethylbenzene	0.209	0.050
p/m-Xylene	0.368	0.050
o-Xylene	0.087	0.050

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	120%	80	120
Bromofluorobenzene	95%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-27
Sample ID: MW-KK (0312121235)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	1	CK	8021B

Parameter	Result mg/L	RL
Benzene	0.263	0.001
Toluene	0.115	0.001
Ethylbenzene	0.006	0.001
p/m-Xylene	0.010	0.001
o-Xylene	0.003	0.001

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	158%	80	120
Bromofluorobenzene	97%	80	120

Lab ID: 0308176-28
Sample ID: MW-M (0312121350)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	5	CK	8021B

Parameter	Result mg/L	RL
Benzene	1.67	0.005
Toluene	0.108	0.005
Ethylbenzene	0.030	0.005
p/m-Xylene	0.019	0.005
o-Xylene	0.006	0.005

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	132%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-29
Sample ID: MW-FF (0312121430)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	10	CK	8021B

Parameter	Result mg/L	RL
Benzene	3.22	0.010
Toluene	< 0.010	0.010
Ethylbenzene	< 0.010	0.010
p/m-Xylene	< 0.010	0.010
o-Xylene	< 0.010	0.010

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	93%	80	120
Bromofluorobenzene	88%	80	120

Lab ID: 0308176-30
Sample ID: MW-L (0312121455)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	20	CK	8021B

Parameter	Result mg/L	RL
Benzene	21.4	0.020
Toluene	< 0.020	0.020
Ethylbenzene	0.130	0.020
p/m-Xylene	< 0.020	0.020
o-Xylene	< 0.020	0.020

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	113%	80	120
Bromofluorobenzene	94%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-31
Sample ID: Duplicate "C" (0312122000)

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007783-02		12/18/03	1	25	CK	8021B

Parameter	Result mg/L	RL
Benzene	25.4	0.025
Toluene	<0.025	0.025
Ethylbenzene	0.166	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	113%	80	120
Bromofluorobenzene	95%	80	120

Approval: Raland K Tuttle 12-22-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-01
Sample ID: MW-7 (032111010)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	93.1	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-02
Sample ID: MW-D (0312111020)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	68.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-03
Sample ID: MW-E (0312111050)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	70.9	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-04
Sample ID: MW-F (0312111130)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	46.5	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-05
Sample ID: MW-G (0312111210)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	46.5	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-06
Sample ID: MW-A (0312111315)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	73.8	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-07
Sample ID: MW-B (0312111300)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	70.9	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-08
Sample ID: MW-C (0312111330)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	82.7	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-09
Sample ID: MW-H (0312111400)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	60.9	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-10
Sample ID: MW-I (0312111425)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	59.1	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-11
Sample ID: MW-J (0312111450)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	62.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-12
Sample ID: MW-K (0312111535)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	59.1	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-13
Sample ID: MW-S (0312111610)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	59.1	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-14
Sample ID: MW-R (0312111630)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	46.5	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-15
Sample ID: MW-Q (0312111700)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	65.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-17
Sample ID: MW-P (0312120745)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	68.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-18
Sample ID: MW-T (0312120820)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	65.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-19
Sample ID: MW-13 (0312120850)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	73.8	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308176-20
Sample ID: MW-O (0312120905)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	68.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-21
Sample ID: MW-MM (0312120945)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	51.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-22
Sample ID: MW-DD (0312121015)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	48.7	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-23
Sample ID: MW-14 (0312121030)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	46.5	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-24
Sample ID: MW-NN (0312121050)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	70.9	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-25
Sample ID: MW-LL (0312121120)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	76.8	mg/L	1	5.00	9253	12/15/03	SB

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART		Order#:	G0308176
REMEDIACON		Project:	
P.O. BOX 302		Project Name:	Duke Energy Field Services
EVERGREEN, CO 80437		Location:	Eldridge Ranch

Lab ID: 0308176-26
Sample ID: MW-OO (0312121155)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	68.0	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-27
Sample ID: MW-KK (0312121235)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	111	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-28
Sample ID: MW-M (0312121350)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	186	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-29
Sample ID: MW-FF (0312121430)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	257	mg/L	1	5.00	9253	12/15/03	SB

Lab ID: 0308176-30
Sample ID: MW-L (0312121455)

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	102	mg/L	1	5.00	9253	12/15/03	SB

Approval: Raland K Tuttle 12-22-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308176

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0007756-02			<0.001		
Benzene-mg/L	0007783-02			<0.001		
Toluene-mg/L	0007756-02			<0.001		
Toluene-mg/L	0007783-02			<0.001		
Ethylbenzene-mg/L	0007756-02			<0.001		
Ethylbenzene-mg/L	0007783-02			<0.001		
p/m-Xylene-mg/L	0007756-02			<0.001		
p/m-Xylene-mg/L	0007783-02			<0.001		
o-Xylene-mg/L	0007756-02			<0.001		
o-Xylene-mg/L	0007783-02			<0.001		
CONTROL WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0007756-03		0.1	0.098	98.%	
Toluene-mg/L	0007756-03		0.1	0.094	94.%	
Ethylbenzene-mg/L	0007756-03		0.1	0.093	93.%	
p/m-Xylene-mg/L	0007756-03		0.2	0.188	94.%	
o-Xylene-mg/L	0007756-03		0.1	0.093	93.%	
CONTROL DUP WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0007756-04		0.1	0.098	98.%	0.%
Toluene-mg/L	0007756-04		0.1	0.094	94.%	0.%
Ethylbenzene-mg/L	0007756-04		0.1	0.090	90.%	3.3%
p/m-Xylene-mg/L	0007756-04		0.2	0.181	90.5%	3.8%
o-Xylene-mg/L	0007756-04		0.1	0.089	89.%	4.4%
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0308176-16	0	0.1	0.114	114.%	
Toluene-mg/L	0308176-16	0	0.1	0.091	91.%	
Ethylbenzene-mg/L	0308176-16	0	0.1	0.087	87.%	
p/m-Xylene-mg/L	0308176-16	0	0.2	0.165	82.5%	
o-Xylene-mg/L	0308176-16	0	0.1	0.083	83.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0308176-16	0	0.1	0.106	106.%	7.3%
Toluene-mg/L	0308176-16	0	0.1	0.096	96.%	5.3%
Ethylbenzene-mg/L	0308176-16	0	0.1	0.091	91.%	4.5%
p/m-Xylene-mg/L	0308176-16	0	0.2	0.181	90.5%	9.2%
o-Xylene-mg/L	0308176-16	0	0.1	0.086	86.%	3.6%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/L	0007756-05		0.1	0.102	102.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308176

SRM WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/L	0007783-05		0.1	0.112	112.%	
Toluene-mg/L	0007756-05		0.1	0.095	95.%	
Toluene-mg/L	0007783-05		0.1	0.097	97.%	
Ethylbenzene-mg/L	0007756-05		0.1	0.091	91.%	
Ethylbenzene-mg/L	0007783-05		0.1	0.089	89.%	
p/m-Xylene-mg/L	0007756-05		0.2	0.182	91.%	
p/m-Xylene-mg/L	0007783-05		0.2	0.177	88.5%	
o-Xylene-mg/L	0007756-05		0.1	0.090	90.%	
o-Xylene-mg/L	0007783-05		0.1	0.087	87.%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0308176

BLANK WATER	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/L	0007731-01			<5.00		
Chloride-mg/L	0007732-01			<5.00		
Chloride-mg/L	0007733-01			<5.00		
MS WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0308160-01	106	250	354	99.2%	
Chloride-mg/L	0308176-03	70.9	200	266	97.5%	
Chloride-mg/L	0308176-24	70.9	200	269	99.%	
MSD WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0308160-01	106	250	350	97.6%	1.1%
Chloride-mg/L	0308176-03	70.9	200	269	99.%	1.1%
Chloride-mg/L	0308176-24	70.9	200	266	97.5%	1.1%
SRM WATER	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/L	0007731-04		5000	4960	99.2%	
Chloride-mg/L	0007732-04		5000	4960	99.2%	
Chloride-mg/L	0007733-04		5000	4960	99.2%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176

Project: Duke Energy Field Services

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
MW-7 (032111010)	0308176-01	WATER	12/11/2003	12/15/2003
MW-D (0312111020	0308176-02	WATER	12/11/2003	12/15/2003
MW-E (0312111050	0308176-03	WATER	12/11/2003	12/15/2003
MW-F (0312111130	0308176-04	WATER	12/11/2003	12/15/2003
MW-G (0312111210	0308176-05	WATER	12/11/2003	12/15/2003
MW-A (0312111315	0308176-06	WATER	12/11/2003	12/15/2003
MW-B (0312111300	0308176-07	WATER	12/11/2003	12/15/2003
MW-C (0312111330	0308176-08	WATER	12/11/2003	12/15/2003
MW-H (0312111400	0308176-09	WATER	12/11/2003	12/15/2003
MW-I (0312111425)	0308176-10	WATER	12/11/2003	12/15/2003
MW-J (0312111450)	0308176-11	WATER	12/11/2003	12/15/2003
MW-K (0312111535	0308176-12	WATER	12/11/2003	12/15/2003
MW-S (0312111610	0308176-13	WATER	12/11/2003	12/15/2003
MW-R (0312111630	0308176-14	WATER	12/11/2003	12/15/2003
MW-Q (0312111700	0308176-15	WATER	12/11/2003	12/15/2003
Trip Blank	0308176-16	WATER	12/12/2003	12/15/2003
MW-P (0312120745	0308176-17	WATER	12/12/2003	12/15/2003
MW-T (0312120820	0308176-18	WATER	12/12/2003	12/15/2003
MW-13 (031212085	0308176-19	WATER	12/12/2003	12/15/2003
MW-O (0312120905	0308176-20	WATER	12/12/2003	12/15/2003
MW-MM (0312120	0308176-21	WATER	12/12/2003	12/15/2003
MW-DD (03121210	0308176-22	WATER	12/12/2003	12/15/2003
MW-14 (031212103	0308176-23	WATER	12/12/2003	12/15/2003
MW-NN (03121210	0308176-24	WATER	12/12/2003	12/15/2003
MW-LL (031212112	0308176-25	WATER	12/12/2003	12/15/2003
MW-OO (03121211	0308176-26	WATER	12/12/2003	12/15/2003
MW-KK (03121212	0308176-27	WATER	12/12/2003	12/15/2003
MW-M (031212135	0308176-28	WATER	12/12/2003	12/15/2003

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308176

Project: Duke Energy Field Services

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

MW-FF (031212143	0308176-29	WATER	12/12/2003	12/15/2003
MW-L (0312121455	0308176-30	WATER	12/12/2003	12/15/2003
Duplicate "C" (0312	0308176-31	WATER	12/12/2003	12/15/2003

Surrogate recoveries on the 8021B BTEX is outside control limits due to matrix interference. (G0308176-02,03,06,07,19,21,22,27,28)

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By: Rolando K Sub Date: 12-22-03

Environmental Lab of Texas I, Ltd.

Environmental Lab of Texas I, Ltd.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon Inc
Company Address: P.O. Box ~~76~~ 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: John Fergen - Trident Environmental
Fax Copy of COC to 720-518-8081

Project Name: Duke Energy Field Services
Project #:
Project Loc: Eldridge Ranch
PO #:

Page 1 of 4

(lab use only)
ORDER #: 0308176

	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl (2) 40 mL glass	NaOH	H2SO4	None 3-50mL HDPE	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	TCLP: Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030	RCI	Chlorides	RUSH TAT (Pre-Schedule)	Standard TAT
-01	MW-7 (031211 1010)	12/11/03	1010 JF	3	✓		✓			✓		✓											✓		✓		✓
-02	MW-D (031211 1020)	12/11/03	1020 JF	3	✓		✓			✓		✓											✓		✓		✓
-03	MW-E (031211 1050)	12/11/03	1050	3	✓		✓			✓		✓											✓		✓		✓
-04	MW-F (031211 1130)	12/11/03	1130	3	✓		✓			✓		✓											✓		✓		✓
-05	MW-G (031211 1210)	12/11/03	1210	3	✓		✓			✓		✓											✓		✓		✓
-06	MW-A (031211 1315)	12/11/03	1315	3	✓		✓			✓		✓											✓		✓		✓
-07	MW-B (031211 1300)	12/11/03	1300	3	✓		✓			✓		✓											✓		✓		✓
-08	MW-C (031211 1330)	12/11/03	1330	3	✓		✓			✓		✓											✓		✓		✓
-09	MW-H (031211 1400)	12/11/03	1400	3	✓		✓			✓		✓											✓		✓		✓
-10	MW-I (031211 1425)	12/11/03	1425	3	✓		✓			✓		✓											✓		✓		✓

Special Instructions: Send Invoice To: Duke Energy Field Services
Attn: Steve Weathers
370 17th Street, Suite 900, Denver, CO 80202

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
-2.0°C

Relinquished by:	Date	Time	Received by:	Date	Time
John Fergen	12/15/03	0545			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jeanie McMurrey	12-15-03	0800

Dec 22 03 06:23p

p.33

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79763
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon Inc
Company Address: P.O. Box ~~75~~ 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: John Zeigen - Trident Environmental

Project Name: Duke Energy Field Services
Project #:
Project Loc: Eldridge Ranch
PO #:

0308176

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	Preservative: HNO_3	Preservative: HCl (2) 40mg/455	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None 250ml (HDPE	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: TCLP:	Analyze For: TOTAL: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	N.O.R.M.	Total Gamma	Chlorides	RUSH TAT (Pre-Schedule)	Standard TAT
-11	MW-J (031211 1450)	12/11/03	1450	3	✓		✓			✓		✓												✓				✓		✓
-12	MW-K (031211 1535)	12/11/03	1535	3	✓		✓			✓		✓												✓				✓		✓
-13	MW-S (031211 1610)	12/11/03	1610	3	✓		✓			✓		✓												✓				✓		✓
-14	MW-R (031211 1630)	12/11/03	1630	3	✓		✓			✓		✓												✓				✓		✓
-15	MW-Q (031211 1700)	12/11/03	1700	3	✓		✓			✓		✓												✓				✓		✓
-16	TRIP BIANK			4	✓		✓																	✓						✓
-17	MW-P (031212 0745)	12/12/03	0745	3	✓		✓			✓		✓												✓				✓		✓
-18	MW-T (031212 0820)	12/12/03	0820	3	✓		✓			✓		✓												✓				✓		✓
-19	MW-13 (031212 0850)	12/12/03	0850	3	✓		✓			✓		✓												✓				✓		✓
-20	MW-O (031212 0905)	12/12/03	0905	3	✓		✓			✓		✓												✓				✓		✓

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
-2.0 C

Relinquished by:	Date	Time	Received by:	Date	Time
John Zeigen	12/15/03	0545			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jeanne McMurrey	12-15-03	0800

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79763
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon Inc
Company Address: P.O. Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Josh Ferguson - Trident Environmental

Project Name: Duke Energy Field Service
Project #:
Project Loc: Eldridge Ranch
PO #:

LAB # (lab use only) 0308176	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl (2) 40mL glass	NaOH	H_2SO_4	None 250mL HDPE	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	TOTAL: Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	N.O.R.M.	Total Gamma	Chlorides	RUSH TAT (Pre-Schedule)	Standard TAT
-21	MW-MM (03 12 12 0945)	12/12/03	0945	3	✓		✓		1	✓		✓											✓				✓		✓
-22	MW-DD (03 12 12 1015)	12/12/03	1015	3	✓		✓			✓		✓											✓				✓		✓
-23	MW-14 (03 12 12 1030)	12/12/03	1030	3	✓		✓			✓		✓											✓				✓		✓
-24	MW-NN (03 12 12 1050)	12/12/03	1050	3	✓		✓			✓		✓											✓				✓		✓
-25	MW-LL (03 12 12 1120)	12/12/03	1120	3	✓		✓			✓		✓											✓				✓		✓
-26	MW-OO (03 12 12 1155)	12/12/03	1155	3	✓		✓			✓		✓											✓				✓		✓
-27	MW-KK (03 12 12 1235)	12/12/03	1235	3	✓		✓			✓		✓											✓				✓		✓
-28	MW-M (03 12 12 1350)	12/12/03	1350	3	✓		✓			✓		✓											✓				✓		✓
-29	MW-FF (03 12 12 1430)	12/12/03	1430	3	✓		✓			✓		✓											✓				✓		✓
-30	MW-L (03 12 12 1455)	12/12/03	1455	3	✓		✓			✓		✓											✓				✓		✓

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt: -2.0°C
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
Josh Ferguson	12/15/03	0545			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jane McMurrey	12-15-03	0800

Environmental Lab of Texas I, Ltd.

2600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon Inc
Company Address: P.O. Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: John Fergen - Trident Environmental

Project Name: Duke Energy Field Services
Project #:
Project Loc: Eldridge Ranch
PO #:

Page 4 of 4

(lab use only)
ORDER #: 0308176

FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl (2) 40mg/lgss	NaOH	H2SO4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	TOTAL: Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	RUSH TAT (Pre-Schedule)	Standard TAT
-31 Duplicate "C" (03121220000)	12/12/03	2000	2	✓		✓					✓											✓			✓

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt: -2.0°C
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
John Fergen	12/15/03	0545			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jeanne McMurrey	12-15-03	0800

Dec 22 03 06:25p

p.36

Analytical Report

Prepared for:

Michael Stewart
REMEDIACON
P.O. Box 302
Evergreen, CO 80437

Project: Duke Energy Field Services
Project Number: None Given
Lab Order Number: 4A15005

Report Date: 01/16/04

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 14:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
House Well (0401130917)	4A15005-01	Water	01/13/04 09:17	01/15/04 09:28
MW-16 (0401131020)	4A15005-02	Water	01/13/04 10:20	01/15/04 09:28
MW-17 (0401131110)	4A15005-03	Water	01/13/04 11:10	01/15/04 09:28
MW-24 (0401131155)	4A15005-04	Water	01/13/04 11:55	01/15/04 09:28
South Well (0401131325)	4A15005-05	Water	01/13/04 13:25	01/15/04 09:28
MW-2 (0401131440)	4A15005-06	Water	01/13/04 14:40	01/15/04 09:28
Duplicate (0401132000)	4A15005-07	Water	01/13/04 20:00	01/15/04 09:28
Trip Blank	4A15005-08	Water	01/13/04 00:00	01/15/04 09:28

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 10:36

Halogenated and Volatile Organics by EPA Method 8021B

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
House Well (0401130917) (4A15005-01) Water Sampled: 01/13/04 09:17 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*114 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*104 %*	*80-120*		"	"	"	"	
Benzene	**0.147**	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	J [0.000798]	0.00100	"	"	"	"	"	"	J
Xylene (p/m)	J [0.000680]	0.00100	"	"	"	"	"	"	J
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
MW-16 (0401131020) (4A15005-02) Water Sampled: 01/13/04 10:20 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*120 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*95.0 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
MW-17 (0401131110) (4A15005-03) Water Sampled: 01/13/04 11:10 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*113 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*92.5 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	

Raland Tuttle, Laboratory Director

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 10:36

Halogenated and Volatile Organics by EPA Method 8021B

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-24 (0401131155) (4A15005-04) Water Sampled: 01/13/04 11:55 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*112 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*86.5 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
South Well (0401131325) (4A15005-05) Water Sampled: 01/13/04 13:25 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*109 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*96.0 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
MW-2 (0401131440) (4A15005-06) Water Sampled: 01/13/04 14:40 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*118 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	

Raland K Tuttle

Raland Tuttle, Laboratory Director

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 14:16

Halogenated and Volatile Organics by EPA Method 8021B

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Duplicate (0401132000) (4A15005-07) Water Sampled: 01/13/04 20:00 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*116 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*93.5 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Trip Blank (4A15005-08) Water Sampled: 01/13/04 00:00 Received: 01/15/04 09:28									
Surrogate: a,a,a-Trifluorotoluene		*110 %*	*80-120*		*EA41608*	*01/15/04*	*01/15/04*	*EPA 8021B*	
Surrogate: 4-Bromofluorobenzene		*97.0 %*	*80-120*		"	"	"	"	
Benzene	ND	0.00100	mg/L	"	"	"	"	"	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 10:36

Miscellaneous Physical/Conventional Chemistry Parameters

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
House Well (0401130917) (4A15005-01) Water Sampled: 01/13/04 09:17 Received: 01/15/04 09:28									
Chloride	**78.0**	5.00	mg/L	1	EA41504	01/15/04	01/15/04	EPA 325.3	
MW-16 (0401131020) (4A15005-02) Water Sampled: 01/13/04 10:20 Received: 01/15/04 09:28									
Chloride	**51.0**	5.00	mg/L	1	EA41504	01/15/04	01/15/04	EPA 325.3	
MW-17 (0401131110) (4A15005-03) Water Sampled: 01/13/04 11:10 Received: 01/15/04 09:28									
Chloride	**42.5**	5.00	mg/L	1	EA41504	01/15/04	01/15/04	EPA 325.3	
MW-24 (0401131155) (4A15005-04) Water Sampled: 01/13/04 11:55 Received: 01/15/04 09:28									
Chloride	**62.0**	5.00	mg/L	1	EA41504	01/15/04	01/15/04	EPA 325.3	
South Well (0401131325) (4A15005-05) Water Sampled: 01/13/04 13:25 Received: 01/15/04 09:28									
Chloride	**88.6**	5.00	mg/L	1	EA41504	01/15/04	01/15/04	EPA 325.3	
MW-2 (0401131440) (4A15005-06) Water Sampled: 01/13/04 14:40 Received: 01/15/04 09:28									
Chloride	**31.9**	5.00	mg/L	1	EA41504	01/15/04	01/15/04	EPA 325.3	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raland K Tuttle

Raland Tuttle, Laboratory Director

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 10:36

Halogenated and Volatile Organics by EPA Method 8021B - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA41608 - EPA 5030C (GC)										
Blank (EA41608-BLK1)			Prepared & Analyzed: 01/15/04							
Surrogate: a,a,a-Trifluorotoluene	*23.6*		*ug/l*	*20.0*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*18.7*		"	*20.0*		*93.5*	*80-120*			
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
LCS (EA41608-BS1)			Prepared & Analyzed: 01/15/04							
Surrogate: a,a,a-Trifluorotoluene	*18.9*		*ug/l*	*20.0*		*94.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.7*		"	*20.0*		*98.5*	*80-120*			
Benzene	100		"	100		100	80-120			
Toluene	107		"	100		107	80-120			
Ethylbenzene	105		"	100		105	80-120			
Xylene (p/m)	219		"	200		110	80-120			
Xylene (o)	109		"	100		109	80-120			
Calibration Check (EA41608-CCV1)			Prepared: 01/15/04 Analyzed: 01/16/04							
Surrogate: a,a,a-Trifluorotoluene	*18.5*		*ug/l*	*20.0*		*92.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*21.4*		"	*20.0*		*107*	*80-120*			
Benzene	104		"	100		104	80-120			
Toluene	112		"	100		112	80-120			
Ethylbenzene	110		"	100		110	80-120			
Xylene (p/m)	228		"	200		114	80-120			
Xylene (o)	112		"	100		112	80-120			
Duplicate (EA41608-DUP1)		**Source: 4A15005-01**	Prepared & Analyzed: 01/15/04							
Surrogate: a,a,a-Trifluorotoluene	*17.7*		*ug/l*	*20.0*		*88.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*17.4*		"	*20.0*		*87.0*	*80-120*			
Benzene	0.135	0.00100	mg/L		0.147			8.51	20	
Toluene	ND	0.00100	"		ND				20	
Ethylbenzene	J [0.000607]	0.00100	"		0.000798			27.2	20	J
Xylene (p/m)	ND	0.00100	"		0.000680				20	
Xylene (o)	ND	0.00100	"		ND				20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raland Tuttle, Laboratory Director

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 10:36

Miscellaneous Physical/Conventional Chemistry Parameters - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA41504 - General Preparation (GC)										
Blank (EA41504-BLK1)				Prepared & Analyzed: 01/15/04						
Chloride	ND	5.00	mg/L							
***Calibration Check* (EA41504-CCV1)**				Prepared & Analyzed: 01/15/04						
Chloride	4960		mg/L	5000		99.2	80-120			
Matrix Spike (EA41504-MS1)		**Source: 4A15005-01**		Prepared & Analyzed: 01/15/04						
Chloride	276	5.00	mg/L	200	78.0	99.0	80-120			
Matrix Spike Dup (EA41504-MSD1)		**Source: 4A15005-01**		Prepared & Analyzed: 01/15/04						
Chloride	280	5.00	mg/L	200	78.0	101	80-120	1.44	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Raland K Tuttle

Raland Tuttle, Laboratory Director

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/16/04 10:36

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Raland Tuttle, Laboratory Director

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon, Inc.
Company Address: P.O. Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Dale T Littlejohn

Project Name: Duke Energy Field Services
Project #:
Project Loc: Eldridge Ranch
PO #:

4A15005

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	Preservative: HNO_3	Preservative: HCl	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: TPH: 418.1 8015M 1005 1006	Analyze For: Cations (Ca, Mg, Na, K)	Analyze For: Anions (Cl, SO4, CO3, HCO3)	Analyze For: SAR / ESP / CEC	Analyze For: Metals: As Ag Ba Cd Cr Pb Hg Se	Analyze For: Volatiles	Analyze For: Semivolatiles	Analyze For: BTEX 8021B/~~5030 or~~ BTEX 8260	Analyze For: RCI	Analyze For: N.O.R.M.	Analyze For: Cl	Analyze For:	Analyze For:	Analyze For:	RUSH TAT (Pre-Schedule)	Standard TAT
01	House Well (0401130917)	1-13-04	0917	3	✓		✓					✓											✓			✓					✓
02	MW-16 (0401131020)	"	1020	4	✓		✓					✓											✓			✓					✓
03	MW-17 (0401131110)	"	1110	4	✓		✓					✓											✓			✓					✓
04	MW-24 (0401131155)	"	1155	4	✓		✓					✓											✓			✓					✓
05	South Well (0401131325)	"	1325	4	✓		✓					✓											✓			✓					✓
06	MW-2 (0401131440)	"	1440	4	✓		✓					✓											✓			✓					✓
07	Duplicate (0401132000)	"	2000	3	✓		✓					✓											✓								✓
08	Trip Blank	"	—	2	✓							✓											✓								
~~09~~																															

Special Instructions:
Send original and invoice to Steve Weathers, DEFS, Denver CO.

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
RC - 1°C

Relinquished by:	Date	Time	Received by:	Date	Time
Dale T Littlejohn	1-15-04	0928			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Lab at 20	1-15-04	0920

ENVIRONMENTAL LAB OF
12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:
Michael Stewart
REMEDIACON
P.O. Box 302
Evergreen, CO 80437

Project: Duke Energy Field Services
Project Number: None Given
Location: Eldridge Ranch

Lab Order Number: 4A27009

Report Date: 01/31/04

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/31/04 06:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-GG (0312150940)	4A27009-01	Water	12/15/03 09:40	12/16/03 17:10
MW-AA (0312151010)	4A27009-02	Water	12/15/03 10:10	12/16/03 17:10
MW-II (0312151035)	4A27009-03	Water	12/15/03 10:35	12/16/03 17:10
MW-HH (0312151200)	4A27009-04	Water	12/15/03 12:00	12/16/03 17:10
MW-BB (0312151210)	4A27009-05	Water	12/15/03 12:10	12/16/03 17:10
MW-JJ (0312151240)	4A27009-06	Water	12/15/03 12:40	12/16/03 17:10
MW-EE (0312151535)	4A27009-07	Water	12/15/03 15:35	12/16/03 17:10
MW-CC (0312151550)	4A27009-08	Water	12/15/03 15:50	12/16/03 17:10
MW-N (0312151605)	4A27009-09	Water	12/15/03 16:05	12/16/03 17:10

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	02/02/04 11:28

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-GG (0312150940) (4A27009-01)	Water	Sampled: 12/15/03 09:40	Received: 12/16/03 17:10						
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/30/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**280**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**20.3**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-AA (0312151010) (4A27009-02)	Water	Sampled: 12/15/03 10:10	Received: 12/16/03 17:10						
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/30/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**344**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**20.4**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-II (0312151035) (4A27009-03)	Water	Sampled: 12/15/03 10:35	Received: 12/16/03 17:10						
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/30/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**300**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**22.9**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-HH (0312151200) (4A27009-04)	Water	Sampled: 12/15/03 12:00	Received: 12/16/03 17:10						
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/30/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**268**	2.00	"	"	"	"	01/28/04	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**31.9**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-BB (0312151210) (4A27009-05)	Water	Sampled: 12/15/03 12:10	Received: 12/16/03 17:10						
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/28/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**340**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**36.1**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	02/02/04 11:28

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-JJ (0312151240) (4A27009-06)		Water	Sampled: 12/15/03 12:40		Received: 12/16/03 17:10				
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/28/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**300**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**37.9**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-EE (0312151535) (4A27009-07)		Water	Sampled: 12/15/03 15:35		Received: 12/16/03 17:10				
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/28/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**207**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**54.2**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-CC (0312151550) (4A27009-08)		Water	Sampled: 12/15/03 15:50		Received: 12/16/03 17:10				
Carbonate Alkalinity	**10.0**	0.100	mg/L	1	EA43019	01/28/04	01/28/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**224**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**48.9**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04
MW-N (0312151605) (4A27009-09)		Water	Sampled: 12/15/03 16:05		Received: 12/16/03 17:10				
Carbonate Alkalinity	ND	0.100	mg/L	1	EA43019	01/28/04	01/28/04	EPA 310.2	O-04
Bicarbonate Alkalinity	**295**	2.00	"	"	"	"	"	"	O-04
Hydroxide Alkalinity	ND	0.100	"	"	"	"	"	"	O-04
Sulfate	**7.10**	0.500	"	"	EA43016	01/28/04	01/28/04	EPA 375.4	O-04

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/31/04 06:09

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-GG (0312150940) (4A27009-01) Water	**Sampled: 12/15/03 09:40 Received: 12/16/03 17:10**								
Calcium	60.8	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	20.6	0.0100	"	"	"	"	"	"	
Potassium	3.57	0.0500	"	1	"	"	01/30/04	"	
Sodium	53.4	0.100	"	10	"	"	01/30/04	"	
MW-AA (0312151010) (4A27009-02) Water	**Sampled: 12/15/03 10:10 Received: 12/16/03 17:10**								
Calcium	74.0	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	22.0	0.0100	"	"	"	"	"	"	
Potassium	4.88	0.0500	"	1	"	"	01/30/04	"	
Sodium	63.2	0.100	"	10	"	"	01/30/04	"	
MW-II (0312151035) (4A27009-03) Water	**Sampled: 12/15/03 10:35 Received: 12/16/03 17:10**								
Calcium	129	1.00	mg/L	100	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	16.4	0.0100	"	10	"	"	01/30/04	"	
Potassium	4.65	0.0500	"	1	"	"	01/30/04	"	
Sodium	59.5	0.100	"	10	"	"	01/30/04	"	
MW-HH (0312151200) (4A27009-04) Water	**Sampled: 12/15/03 12:00 Received: 12/16/03 17:10**								
Calcium	74.7	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	19.9	0.0100	"	"	"	"	"	"	
Potassium	4.10	0.0500	"	1	"	"	01/30/04	"	
Sodium	58.6	0.100	"	10	"	"	01/30/04	"	
MW-BB (0312151210) (4A27009-05) Water	**Sampled: 12/15/03 12:10 Received: 12/16/03 17:10**								
Calcium	83.2	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	24.2	0.0100	"	"	"	"	"	"	
Potassium	6.66	0.0500	"	1	"	"	01/30/04	"	
Sodium	79.4	0.100	"	10	"	"	01/30/04	"	

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/31/04 06:09

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-JJ (0312151240) (4A27009-06) Water	**Sampled: 12/15/03 12:40**		**Received: 12/16/03 17:10**						
Calcium	**81.3**	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	**18.9**	0.0100	"	"	"	"	"	"	
Potassium	**4.47**	0.0500	"	1	"	"	01/30/04	"	
Sodium	**54.1**	0.100	"	10	"	"	01/30/04	"	
MW-EE (0312151535) (4A27009-07) Water	**Sampled: 12/15/03 15:35**		**Received: 12/16/03 17:10**						
Calcium	**105**	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	**18.1**	0.0100	"	"	"	"	"	"	
Potassium	**4.55**	0.0500	"	1	"	"	01/30/04	"	
Sodium	**51.5**	0.100	"	10	"	"	01/30/04	"	
MW-CC (0312151550) (4A27009-08) Water	**Sampled: 12/15/03 15:50**		**Received: 12/16/03 17:10**						
Calcium	**77.0**	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	**18.9**	0.0100	"	"	"	"	"	"	
Potassium	**5.93**	0.0500	"	1	"	"	01/30/04	"	
Sodium	**79.5**	0.100	"	10	"	"	01/30/04	"	
MW-N (0312151605) (4A27009-09) Water	**Sampled: 12/15/03 16:05**		**Received: 12/16/03 17:10**						
Calcium	**70.4**	0.100	mg/L	10	EA43012	01/30/04	01/30/04	EPA 6010B	
Magnesium	**17.4**	0.0100	"	"	"	"	"	"	
Potassium	**4.02**	0.0500	"	1	"	"	01/30/04	"	
Sodium	**58.6**	0.100	"	10	"	"	01/30/04	"	

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/31/04 06:09

General Chemistry Parameters by EPA / Standard Methods - Quality Control
Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA43016 - General Preparation (WetChem)										
Blank (EA43016-BLK1)				Prepared & Analyzed: 01/28/04						
Sulfate	ND	0.500	mg/L							
Calibration Check (EA43016-CCV1)				Prepared & Analyzed: 01/28/04						
Sulfate	49.1		mg/L	50.0		98.2	80-120			
Duplicate (EA43016-DUP1)		**Source: 4A27009-01**		Prepared & Analyzed: 01/28/04						
Sulfate	20.8	0.500	mg/L		20.3			2.43	20	
Batch EA43019 - General Preparation (WetChem)										
Blank (EA43019-BLK1)				Prepared & Analyzed: 01/28/04						
Carbonate Alkalinity	ND	0.100	mg/L							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
Calibration Check (EA43019-CCV1)				Prepared & Analyzed: 01/28/04						
Carbonate Alkalinity	0.0496		mg/L	0.0500		99.2	80-120			
Duplicate (EA43019-DUP1)		**Source: 4A27009-01**		Prepared & Analyzed: 01/28/04						
Carbonate Alkalinity	0.00	0.100	mg/L		0.00				20	
Bicarbonate Alkalinity	278	2.00	"		280			0.717	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	01/31/04 06:09

Total Metals by EPA / Standard Methods - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EA43012 - General Preparation (Metals)										
Blank (EA43012-BLK1)				Prepared & Analyzed: 01/30/04						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EA43012-CCV1)				Prepared & Analyzed: 01/30/04						
Calcium	2.24		mg/L	2.00		112	85-115			
Magnesium	2.10		"	2.00		105	85-115			
Potassium	1.97		"	2.00		98.5	85-115			
Sodium	2.08		"	2.00		104	85-115			
Duplicate (EA43012-DUP1)	**Source: 4A27009-01**			Prepared & Analyzed: 01/30/04						
Calcium	60.5	0.100	mg/L		60.8			0.495	20	
Magnesium	20.4	0.0100	"		20.6			0.976	20	
Potassium	3.55	0.0500	"		3.57			0.562	20	
Sodium	53.3	0.100	"		53.4			0.187	20	

REMEDIACON	Project: Duke Energy Field Services	720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
REMEDIACON	Project Manager: Michael Stewart	02/02/04 11:28

Notes and Definitions

O-04	This sample was analyzed outside the EPA recommended holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon, Inc.
Company Address: P.O. Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: John Teigen

Project Name: Duke Energy Field Services
Project #:
Project Loc: Eldridge Ranch
PO #:

Page 1 of 1

Resubmit 4A27009 030890

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl (=) 40mL glass	NaOH	H2SO4	None (=) 125mL HDPE	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	TOTAL: BTEX 8021B/5030 or BTEX 8260	RCI	N.O.R.M.	Chlorides			RUSH TAT (Pre-Schedule)	Standard TAT
-01	-01	MW-GG (0312150940)	12/15/03	0940	3	✓		✓					✓					✓	✓					✓			✓				✓
-02	-02	MW-AA (0312151010)	12/15/03	1010	3	✓		✓					✓					✓	✓					✓			✓				✓
-03	-03	MW-II (0312151035)	12/15/03	1035	3	✓		✓					✓					✓	✓					✓			✓				✓
-04	-04	MW-HH (0312151200)	12/15/03	1200	3	✓		✓					✓					✓	✓					✓			✓				✓
-05	-05	MW-BB (0312151210)	12/15/03	1210	3	✓		✓					✓					✓	✓					✓			✓				✓
-06	-06	MW-JJ (0312151240)	12/15/03	1240	3	✓		✓					✓					✓	✓					✓			✓				✓
-07	-07	MW-EE (0312151535)	12/15/03	1535	3	✓		✓					✓					✓	✓					✓			✓				✓
-08	-08	MW-CC (0312151550)	12/15/03	1550	3	✓		✓					✓					✓	✓					✓			✓				✓
-09	-09	MW-N (0312151605)	12/15/03	1605	3	✓		✓					✓					✓	✓					✓			✓				✓

Special Instructions: Send Invoice To: Duke Energy Field Services % Add. Per Mike 1-27-04 1450 CT
Attn: Steve Weathers

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments:
2.0°C

Relinquished by	Date	Time	Received by:	Date	Time
John Teigen	12/16/03	1710			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Jane Mcmurry	12-16-03	1710

COPY

Feb 02 04 01:55p

P.10

ANALYTICAL REPORT

Prepared for:

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Project: Duke Energy Field Services

PO#:

Order#: G0308102

Report Date: 12/05/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308102-01	SB-BB (18-19')	SOIL	11/21/03 9:10	12/4/03 9:36	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: 4.0 C		
0308102-02	SB-AA (18-19')	SOIL	11/21/03 12:15	12/4/03 9:36	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: 4.0 C		
0308102-03	SB-EE (22-23')	SOIL	11/23/03 9:40	12/4/03 9:36	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: 4.0 C		
0308102-04	SB-Q (5-6')	SOIL	12/1/03 8:30	12/4/03 9:36	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: 4.0 C		
0308102-05	SB-Q (14-15')	SOIL	12/1/03 8:33	12/4/03 9:36	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: 4.0 C		
0308102-06	SB-Q (19-20')	SOIL	12/1/03 9:50	12/4/03 9:36	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: 4.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308102-01
Sample ID: SB-BB (18-19')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/4/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	75%	70	130
1-Chlorooctadecane	70%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/4/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	88%	80	120
Bromofluorobenzene	80%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308102-02
Sample ID: SB-AA (18-19')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/4/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	125%	70	130
1-Chlorooctadecane	85%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/4/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	95%	80	120
Bromofluorobenzene	93%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308102-03
Sample ID: SB-EE (22-23')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/4/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	126%	70	130
1-Chlorooctadecane	85%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/4/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	0.065	0.025
Toluene	0.073	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	0.053	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	102%	80	120
Bromofluorobenzene	96%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308102-04
Sample ID: SB-Q (5-6')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/4/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	130%	70	130
1-Chlorooctadecane	90%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/4/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	89%	80	120
Bromofluorobenzene	90%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308102-05
Sample ID: SB-Q (14-15')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/4/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	129%	70	130
1-Chlorooctadecane	90%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/4/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	92%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308102
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308102-06
Sample ID: SB-Q (19-20')

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/4/03	1	1	CK	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	123%	70	130
1-Chlorooctadecane	85%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007643-02		12/4/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	94%	80	120
Bromofluorobenzene	96%	80	120

Approval: Raland K Tuttle 12-05-03
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Sandra Biezugbe, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0308102

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007638-02			<10.0		
CONTROL SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007638-03		952	727	76.4%	
CONTROL DUP SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007638-04		952	747	78.5%	2.7%
SRM SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007638-05		1000	841	84.1%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308102

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0007643-02			< 0.025		
Toluene-mg/kg	0007643-02			< 0.025		
Ethylbenzene-mg/kg	0007643-02			< 0.025		
p/m-Xylene-mg/kg	0007643-02			< 0.025		
o-Xylene-mg/kg	0007643-02			< 0.025		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0308102-03	0.065	2.5	2.58	100.6%	
Toluene-mg/kg	0308102-03	0.073	2.5	2.56	99.5%	
Ethylbenzene-mg/kg	0308102-03	0	2.5	2.48	99.2%	
p/m-Xylene-mg/kg	0308102-03	0.053	5	4.97	98.3%	
o-Xylene-mg/kg	0308102-03	0	2.5	2.38	95.2%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0308102-03	0.065	2.5	2.56	99.8%	0.8%
Toluene-mg/kg	0308102-03	0.073	2.5	2.61	101.5%	1.9%
Ethylbenzene-mg/kg	0308102-03	0	2.5	2.51	100.4%	1.2%
p/m-Xylene-mg/kg	0308102-03	0.053	5	5.00	98.9%	0.6%
o-Xylene-mg/kg	0308102-03	0	2.5	2.42	96.8%	1.7%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0007643-05		0.1	0.100	100.%	
Toluene-mg/kg	0007643-05		0.1	0.096	96.%	
Ethylbenzene-mg/kg	0007643-05		0.1	0.093	93.%	
p/m-Xylene-mg/kg	0007643-05		0.2	0.186	93.%	
o-Xylene-mg/kg	0007643-05		0.1	0.091	91.%	

Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michael H. Stewart
Company Name: Remediacon, Inc.
Company Address: PO Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Dale T Littlejohn

Project Name: Duke Energy Field Serv.
Project #:
Project Loc: Eldridge Ranch
PO #:

* Sample was not properly preserved

0308102

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030 or GRO TPH	PCI	N.O.R.M.	DRO/GRO 8015M			RUSH TAT (Pre-Scheduled)	Standard TAT
-01	SB-BB (18-19')	11/21/03	0910	1	✓									✓								✓			✓			✓	
-02	SB-AA (18-19')	11/21/03	1215	1	✓									✓								✓			✓			✓	
-03	SB-EE (22-23')	11/23/03	0940	1	✓									✓								✓			✓			✓	
-04	SB-Q (5-6')	12/1/03	0830	1	✓									✓								✓			✓			✓	
-05	SB-Q (14-15') *	12/1/03	0833	1	✓									✓								✓			✓			✓	
-06	SB-Q (19-20')	12/1/03	0950	1	✓									✓								✓			✓			✓	

Special Instructions: Send original report and invoice to Steve Weathers, Duke Energy Field Services, fax results to M. Stewart.

Sample Containers Intact? (Y) N
Temperature Upon Receipt: 4.0°C
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
Dale T Littlejohn	12/4/03				
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
			Sandra Bizzell	12/04/03	936

ANALYTICAL REPORT

Prepared for:

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Project:	Duke Energy Field Services
PO#:	
Order#:	G0308175
Report Date:	12/16/2003

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437
720-528-8132

Order#: G0308175
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas, unless otherwise noted.

Lab ID:	Sample :	Matrix:	Date / Time Collected	Date / Time Received	Container	Preservative
0308175-01	SB-T (23-24) 0312021500	SOIL	12/2/03 15:00	12/15/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		
0308175-02	SB-II (19-20) 0312021610	SOIL	12/4/03 16:10	12/15/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		
0308175-03	SB-GG (19-21) 0312050920	SOIL	12/5/03 9:20	12/15/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		
0308175-04	SB-NN (24-25) 0312021600	SOIL	12/5/03 16:00	12/15/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		
0308175-05	SB-OO (26-28) 0312021315	SOIL	12/6/03 13:15	12/15/03 8:00	4 oz glass	Ice
	Lab Testing: 8015M 8021B/5030 BTEX	Rejected: No		Temp: -2.0 C		

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308175
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308175-01
Sample ID: SB-T (23-24) 0312021500

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/15/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	51.8	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	51.8	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	95%	70	130
1-Chlorooctadecane	79%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007724-02		12/15/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	1.54	0.025
Toluene	1.60	0.025
Ethylbenzene	0.456	0.025
p/m-Xylene	1.02	0.025
o-Xylene	0.191	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	607%	80	120
Bromofluorobenzene	101%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308175
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308175-02
Sample ID: SB-II (19-20) 0312021610

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/15/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	71.7	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	71.7	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	93%	70	130
1-Chlorooctadecane	79%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007724-02		12/15/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	0.690	0.025
Toluene	0.499	0.025
Ethylbenzene	0.198	0.025
p/m-Xylene	0.529	0.025
o-Xylene	0.095	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	444%	80	120
Bromofluorobenzene	104%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308175
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308175-03
Sample ID: SB-GG (19-21) 0312050920

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/15/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	101%	70	130
1-Chlorooctadecane	84%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007724-02		12/15/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	90%	80	120
Bromofluorobenzene	100%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART
REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308175
Project:
Project Name: Duke Energy Field Services
Location: Eldridge Ranch

Lab ID: 0308175-04
Sample ID: SB-NN (24-25) 0312021600

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/15/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	<10.0	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	<10.0	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	91%	70	130
1-Chlorooctadecane	74%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007724-02		12/15/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	<0.025	0.025
Toluene	<0.025	0.025
Ethylbenzene	<0.025	0.025
p/m-Xylene	<0.025	0.025
o-Xylene	<0.025	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	90%	80	120
Bromofluorobenzene	102%	80	120

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

MICHAEL STEWART		Order#:	G0308175
REMEDIACON		Project:	
P.O. BOX 302		Project Name:	Duke Energy Field Services
EVERGREEN, CO 80437		Location:	Eldridge Ranch

Lab ID: 0308175-05

Sample ID: SB-OO (26-28) 0312021315

8015M

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
		12/15/03	1	1	JLH	8015M

Parameter	Result mg/kg	RL
GRO, C6-C12	483	10.0
DRO, >C12-C35	<10.0	10.0
TOTAL, C6-C35	483	10.0

Surrogates	% Recovered	QC Limits (%)	
1-Chlorooctane	94%	70	130
1-Chlorooctadecane	79%	70	130

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0007724-02		12/15/03	1	25	CK	8021B

Parameter	Result mg/kg	RL
Benzene	12.6	0.025
Toluene	20.0	0.025
Ethylbenzene	2.34	0.025
p/m-Xylene	5.50	0.025
o-Xylene	1.26	0.025

Surrogates	% Recovered	QC Limits (%)	
aaa-Toluene	1930%	80	120
Bromofluorobenzene	106%	80	120

Approval: Celey D. Keene 12/16/03

Raland K. Tuttle, Lab Director, QA Officer — Date

Celey D. Keene, Org. Tech. Director

Jeanne McMurrey, Inorg. Tech. Director

Sandra Biezugbe, Lab Tech.

Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M

Order#: G0308175

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007736-02			<10.0		
CONTROL SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007736-03		952	795	83.5%	
MS SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0308170-06	0	952	1023	107.5%	
MSD SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0308170-06	0	952	1034	108.6%	1.1%
SRM SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
TOTAL, C6-C35-mg/kg	0007736-05		1000	1006	100.6%	

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0308175

BLANK SOIL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-mg/kg	0007724-02			< 0.025		
Toluene-mg/kg	0007724-02			< 0.025		
Ethylbenzene-mg/kg	0007724-02			< 0.025		
p/m-Xylene-mg/kg	0007724-02			< 0.025		
o-Xylene-mg/kg	0007724-02			< 0.025		
MS SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0308171-01	0	0.1	0.096	96.%	
Toluene-mg/kg	0308171-01	0	0.1	0.093	93.%	
Ethylbenzene-mg/kg	0308171-01	0	0.1	0.093	93.%	
p/m-Xylene-mg/kg	0308171-01	0	0.2	0.186	93.%	
o-Xylene-mg/kg	0308171-01	0	0.1	0.090	90.%	
MSD SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0308171-01	0	0.1	0.092	92.%	4.3%
Toluene-mg/kg	0308171-01	0	0.1	0.089	89.%	4.4%
Ethylbenzene-mg/kg	0308171-01	0	0.1	0.089	89.%	4.4%
p/m-Xylene-mg/kg	0308171-01	0	0.2	0.180	90.%	3.3%
o-Xylene-mg/kg	0308171-01	0	0.1	0.087	87.%	3.4%
SRM SOIL	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Benzene-mg/kg	0007724-05		0.1	0.090	90.%	
Toluene-mg/kg	0007724-05		0.1	0.084	84.%	
Ethylbenzene-mg/kg	0007724-05		0.1	0.082	82.%	
p/m-Xylene-mg/kg	0007724-05		0.2	0.163	81.5%	
o-Xylene-mg/kg	0007724-05		0.1	0.081	81.%	

CASE NARRATIVE

ENVIRONMENTAL LAB OF TEXAS

Prepared for:

REMEDIACON
P.O. BOX 302
EVERGREEN, CO 80437

Order#: G0308175

Project: Duke Energy Field Services

The following samples were received as indicated below and on the attached Chain of Custody record. All analyses were performed within the holding time and with acceptable quality control results unless otherwise noted.

SAMPLE ID	LAB ID	MATRIX	Date Collected	Date Received
SB-I (23-24) 03120	0308175-01	SOIL	12/02/2003	12/15/2003
SB-II (19-20) 03120	0308175-02	SOIL	12/04/2003	12/15/2003
SB-GG (19-21) 031	0308175-03	SOIL	12/05/2003	12/15/2003
SB-NN (24-25) 031	0308175-04	SOIL	12/05/2003	12/15/2003
SB-OO (26-28) 031	0308175-05	SOIL	12/06/2003	12/15/2003

Surrogate recoveries on the 8021B BTEX are outside control limits due to matrix interference. (G0308175-01,02,05)

The enclosed results of analyses are representative of the samples as received by the laboratory. Environmental Lab of Texas makes no representations or certifications as to the methods of sample collection, sample identification, or transportation handling procedures used prior to our receipt of samples. To the best of my knowledge, the information contained in this report is accurate and complete.

Approved By: _____ Date: 12/16/03

Environmental Lab of Texas I, Ltd.

Environmental Lab of Texas I, Ltd.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Mike Stewart
Company Name: Remediacon Inc
Company Address: P.O. Box 302
City/State/Zip: Evergreen, CO 80437
Telephone No: 303-674-4370 Fax No: 720-528-8132
Sampler Signature: Jack Feeney

Project Name: Duke Energy Field Services
Project #:
Project Loc: Eldridge Ranch
PO #:

(lab use only)
ORDER #: 0308175

FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TCLP/TOTAL: TPH: 418.1 8015M 1005 1006	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RCI	NORM	TDS/TSS	GRO/DRO			IRUSH TAT (Pre-Schedule)	Standard TAT
-01 SB-T (23-24) 031202 1500	12/2/03	1500	1	✓									✓									✓				✓				✓
-02 SB-II (19-20) 031202 1610	12/4/03	1610	1	✓									✓									✓				✓				✓
-03 SB-GG (19-21) 031205 0920	12/5/03	0920	1	✓									✓									✓				✓				✓
-04 SB-NN (24-25) 031202 1600	12/5/03	1600	1	✓									✓									✓				✓				✓
-05 SB-OO (26-28) 031202 1315	12/6/03	1315	1	✓									✓									✓				✓				✓

Special Instructions: Send Invoice To: Duke Energy Field Services
Attn: Steve Weathers

Relinquished by:	Date	Time	Received by:	Date	Time
Jack Feeney	12/15/03	0545			
Relinquished by:	Date	Time	Received by ELOT:	Date	Time
				12-15-03	0900

Sample Containers Intact? Y N
Temperature Upon Receipt: 2.0
Laboratory Comments:

Jan 23 04 04:16p

p.11

Table 3. Stable Carbon Isotope Report

DUKE ENERGY

ATTN: Steve Weathers

HGS NO:	Sample Information			$\delta^{13}C$ per mil	$\delta^{13}C$ per mil	$\delta^{13}C$ per mil
	Sample Id	Operator	Location	Saturate	Aromatic	Resin
03-2073-064535	MW-23	Trident Envir.	Eldridge Ranch	-29.8	-29.6	-29.1
03-2073-064536	MW-26	Trident Envir.	Eldridge Ranch	-29.9	-29.2	-28.1
03-2073-064537	MW-27	Trident Envir.	Eldridge Ranch	-29.9	-29.4	-28.2
03-2073-064538	MW-11	Trident Envir.	Eldridge Ranch	-28.3	-28.5	-27.9
03-2073-064539	MW-18	Trident Envir.	Eldridge Ranch	-29.4	-29.0	-28.0
03-2073-064540	MW-8	Trident Envir.	Eldridge Ranch	-28.6	-28.3	-27.4

Oil Topping and Liquid Chromatography Report

REMEDIACON INC.
ELDRIDGE RANCH

ATTN: Mike Stewart

HGS ID.	CUST ID 1	SPL ID	OIL WT. (g)	TOPPED OIL WT. (mg)	%C15+ (residual)	LC WT. (mg)	SATURATES WT. (mg)	SATURATES %	AROMATICS WT. (mg)	AROMATICS %	RESINS WT. (mg)	RESINS %	ASPHALTENES WT. (mg)	ASPHALTENES %	RECOVI in %
76260	MW-EE	312151310	9.0136	22.1	0.245	22.1	9.9	44.8%	7.7	34.8%	3.5	15.8%	0.5	2.3%	97.7%
76261	MW-N	312151330	12.0849	13.9	0.115	13.9	7.4	53.2%	4.1	29.5%	1.8	12.9%	0.2	1.4%	97.1%
76262	MW-CC	312151355	12.9557	17.2	0.133	17.2	8.1	47.1%	4.9	28.5%	3.5	20.3%	0.2	1.2%	97.1%

HGS project no: 04-2285

Analysis Summary

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Client	Duke Energy Field Svcs.		**Contact(s):**	Mike Stewart	
Address	PO Box 302				
Suite / Department					
City	Evergreen	**State**	CO	**Zip**	80437
Phone	(303) 674-4370	**Ext**			
Fax	(720) 528-8132				

Work Order No. 2004010030 Hydrocarbon (Hypersys)

Compound	Sample ID				
	04010030-001A 0312151310	04010030-002A 0312151310	04010030-003A 0312151355		
Paraffin, wt%	22.741	28.618	29.075		
Isoparaffin, wt%	28.135	31.822	31.466		
Naphthenics, wt%	43.303	33.490	33.632		
Aromatics, wt%	3.331	4.562	4.321		
Olefins, wt%	2.483	1.507	1.506		
Unknowns, wt%	0.007	ND	ND		
2,2,4-Trimethylpentane, wt%	ND	ND	ND		
Calculated Research Octane	61.75	66.24	66.31		
Lead ppm	N/A	N/A	N/A		
Oxygnates	N/A	N/A	N/A		
N-Hexane, wt%	9.307	11.422	11.438		
Benzene, wt%	0.846	2.111	1.749		
Ethyl Benzene, wt%	0.014	ND	0.007		
Toluene, wt%	1.804	2.301	2.300		
Meta-Xylene, wt%	0.325	0.064	0.146		
Para-Xylene, wt%	0.189	0.086	0.092		
Ortho-Xylene, wt%	0.119	ND	0.027		
Total Xylenes, wt%	0.633	0.15	0.265		
EDB	N/A	N/A	N/A		
EDC	N/A	N/A	N/A		
Ethanol	N/A	N/A	N/A		
Specific Gravity @ 60°F.	0.7234	0.7054	0.7035		
API Gravity @ 60°F.	63.90	68.88	69.42		
Color	Straw	Straw	Light Straw		
Odor	Sour NGL	Sour NGL	Sour NGL		
Carbon Range	C4 -C11	C4 - C10	C4 - C10		
Major Range	C6 - C8	C5 - C7	C5 - C7		
Naphthalene, wt%	ND	ND	ND		
2-Methyl Naphthalene, wt%	0	ND	ND		
1-Methyl Naphthalene, wt%	0.005	ND	ND		

Remarks: See Individual Certificate of Analysis

Bob Rannals
Hydrocarbon Lab Manager

Certificate of Analysis

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Analysis Number: 04010030-001A

Sample ID:	0312151310	**Date of Sample:**	12/15/03
Project Location:		**Time Sampled:**	13:10
Project Name:	MW-EE	**Date Sample Analyzed:**	01/06/04
Client	Duke Energy Field Svcs.	**Contact(s):**	Mike Stewart
Address	PO Box 302		
Suite / Department	0		
City	Evergreen	**State**	CO **Zip** 80437
Phone	(303) 674-4370 **Ext**		
Fax	(720) 528-8132		

Color:	Straw		**Odor:**	Sour NGL	
Specific Gravity @ 60° F.	0.7234		**API @ 60° F.**	63.90	
Carbon Range	C_4 -C_{11}		**Major Range**	C_6 - C_8	
Paraffin	22.741	wt%	**N-Hexane**	9.307	wt%
Isoparaffins	28.135	wt%	**Benzene**	0.846	wt%
Naphthenics	43.303	wt%	**Ethyl Benzene**	0.014	wt%
Aromatics	3.331	wt%	**Toluene**	1.804	wt%
Olefins	2.483	wt%	**Meta-Xylene**	0.325	wt%
Unknowns	0.007	wt%	**Para-Xylene**	0.189	wt%
2,2,4-Tri Methylpentane	ND	wt%	**Ortho-Xylene**	0.119	wt%
			Xylenes	0.633	wt%
Calculated Research Octane	61.75		**EDB**	N/A	ppm
Lead/Manganese	N/A	ppm	**EDC**	N/A	ppm
Oxygnates	N/A	wt%	**Ethanol**	N/A	wt%
C_{17}	ND	wt%	**C_{18}**	ND	wt%
Pristane	ND	wt%	**Phytane**	ND	wt%
Naphthalene	ND	wt%	**2-Methyl Naphthalene**		
1-Methyl Naphthalene	0.005	wt%			

Gasoline Range:	C_4-C_{13} Indicators:	2,2,4-TMP; MTBE; Olefins, Lead
Diesel Range:	C_7-C_{22} Indicators:	No Olefins, Pristane, Phytane
Condensate Range:	C_2-C_{25}+ Indicators:	No Olefins, Light & Heavies
Heavy Oil:	C_{20+}	

Comments:

Bob Rannals
Hydrocarbon Lab Manager

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-001A MW-EE
File: CAPJF2
Calibration File: MW-EE_LI

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 116 Peaks

Composite Report

Hydrocarbon Totals by Group Type

Type	Wt %	Vol %	Mol %
Total Paraffins:	22.741	24.379	23.468
Total Iso-paraffins:	28.135	29.844	27.624
Total Naphthenes:	43.303	40.592	43.129
Total Aromatics:	3.331	2.744	3.465
Total Olefins:	2.483	2.435	2.309
Total C26 PLUS	0.000	0.000	0.000
Total Unknowns:	0.007	0.005	0.005
Total:	100.000	100.000	100.000

Totals by Carbon Number

Group	Wt %	Vol %	Mol %	Ave. Mw.	Ave. Sp Gr.
Methane	0.000	0.000	0.000	0.000	0.000
Ethane	0.000	0.000	0.000	0.000	0.000
Propane	0.000	0.000	0.000	0.000	0.000
Butanes:	0.123	0.153	0.199	58.124	0.576
Pentanes:	4.157	4.662	5.453	71.854	0.639
Hexanes:	34.729	35.343	38.458	85.108	0.704
Heptanes:	43.951	43.336	41.893	98.878	0.727
Octanes:	14.692	14.219	12.278	112.779	0.741
Nonanes:	2.155	2.105	1.590	127.679	0.734
Decanes:	0.175	0.168	0.117	141.307	0.747
C11's:	0.013	0.010	0.008	150.076	0.868
C12's:	0.000	0.000	0.000	0.000	0.000
C13's:	0.000	0.000	0.000	0.000	0.000
C14's:	0.000	0.000	0.000	0.000	0.000
C15's:	0.000	0.000	0.000	0.000	0.000
C16's:	0.000	0.000	0.000	0.000	0.000
C17's:	0.000	0.000	0.000	0.000	0.000
C18's:	0.000	0.000	0.000	0.000	0.000
C19's:	0.000	0.000	0.000	0.000	0.000
C20's:	0.000	0.000	0.000	0.000	0.000
C21's:	0.000	0.000	0.000	0.000	0.000
C22's:	0.000	0.000	0.000	0.000	0.000
C23's:	0.000	0.000	0.000	0.000	0.000
C24's:	0.000	0.000	0.000	0.000	0.000
C25's:	0.000	0.000	0.000	0.000	0.000
C26's:	0.000	0.000	0.000	0.000	0.000
C26 PLUS	0.000	0.000	0.000		
Unknowns:	0.007	0.005	0.005		
Total:	100.000	100.000	100.000	95.659	0.717

P.I.A.N.U. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-001A MW-EE
File: CAPJF2
Calibration File: MW-EE_LI

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 116 Peaks

Types by Carbon Number

Paraffins:	C1	0.000	0.000	0.000
	C2	0.000	0.000	0.000
	C3	0.000	0.000	0.000
	C4	0.106	0.132	0.172
	C5	2.459	2.814	3.212
	C6	9.307	10.116	10.178
	C7	8.375	8.780	7.877
	C8	2.194	2.238	1.810
	C9	0.272	0.272	0.200
	C10	0.028	0.028	0.019
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Iso-paraffins:	C4	0.016	0.021	0.026
	C5	1.100	1.272	1.437
	C6	10.001	10.897	10.938
	C7	11.428	11.969	10.749
	C8	4.167	4.273	3.438
	C9	1.295	1.289	0.952
	C10	0.126	0.124	0.084
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Aromatics:	C6	0.846	0.690	1.021
	C7	1.804	1.492	1.846
	C8	0.647	0.535	0.575
	C9	0.008	0.007	0.006
	C10	0.020	0.016	0.014
	C11	0.005	0.003	0.003
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000

	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Naphthenes:	C5	0.599	0.576	0.804
	C6	14.574	13.640	16.321
	C7	20.285	19.077	19.471
	C8	7.259	6.756	6.096
	C9	0.579	0.537	0.432
	C10	0.000	0.000	0.000
	C11	0.008	0.007	0.005
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Olefins:	C4	0.000	0.000	0.000
	C5	0.000	0.000	0.000
	C6	0.000	0.000	0.000
	C7	2.058	2.019	1.950
	C8	0.425	0.417	0.359
	C9	0.000	0.000	0.000

P.I.A.N.U. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-001A MW-EE
File: CAPJF2
Calibration File: MW-EE_LI

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 116 Peaks

Boiling Point Distribution Data

Wt. Percent Off	deg.C.	Vol. Percent Off	deg.C.
IBP (0.5%)	27.84	IBP (0.5%)	27.84
10.0	60.26	10.0	60.26
20.0	68.73	20.0	68.73
30.0	80.09	30.0	71.80
40.0	86.06	40.0	80.72
50.0	91.72	50.0	91.72
60.0	98.42	60.0	98.42
70.0	100.93	70.0	100.93
80.0	106.84	80.0	103.47
90.0	119.36	90.0	117.71
FBP (99.5%)	150.82	FBP (99.5%)	148.50

Research Octane Number = 61.75

(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	3.26
Iso-paraffins:	18.22
Aromatics:	4.01
Naphthenes:	34.33
Olefins:	1.92

WT% Hydrogen = Not Calculated

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-001A MW-EE
File: CAPJF2
Calibration File: MW-EE_LI

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 116 Peaks

Components Listed in Chromatographic Order

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
1	9.18	367.6	i-Butane	1482	0.016	0.021	0.026	0.43
2	9.60	400.0	n-Butane	9682	0.106	0.132	0.172	0.00
3	11.17	474.9	i-Pentane	99655	1.100	1.272	1.437	0.53
4	12.02	500.0	n-Pentane	219297	2.459	2.814	3.212	0.00
5	13.63	536.8	2,2-Dimethylbutane	19770	0.211	0.233	0.231	0.45
6	15.32	565.0	Cyclopentane	53818	0.599	0.576	0.804	0.18
7	15.42	566.5	2,3-Dimethylbutane	66847	0.691	0.749	0.756	0.12
8	15.68	570.3	2-Methylpentane	492428	5.286	5.801	5.781	0.06
9	16.73	584.0	3-Methylpentane	349869	3.813	4.114	4.170	0.07
10	18.15	600.0	n-Hexane	869306	9.307	10.116	10.178	0.00
11	20.50	626.9	2,2-Dimethylpentane	29502	0.312	0.332	0.294	0.22
12	20.72	629.1	Methylcyclopentane	552634	6.029	5.772	6.751	0.06
13	21.13	633.3	2,4-Dimethylpentane	53215	0.558	0.594	0.525	0.30
14	21.73	639.1	Cyclic Diolefin or Triolefin	8467	0.090	0.091	0.087	0.16
15	23.33	653.3	Benzene	88193	0.846	0.690	1.021	0.25
16	24.00	658.7	3,3-Dimethylpentane	21862	0.233	0.241	0.219	0.17
17	24.42	662.0	Cyclohexane	826129	8.546	7.868	9.570	0.37
18	25.57	670.7	2-Methylhexane	376943	4.028	4.254	3.788	0.33
19	25.78	672.3	2,3-Dimethylpentane	123370	1.275	1.314	1.199	0.21
20	26.13	674.8	1,1-Dimethylcyclopentane	93326	0.961	0.913	0.923	0.19
21	26.68	678.7	3-Methylhexane	429895	4.616	4.815	4.342	0.25
22	27.52	684.3	1c,3-Dimethylcyclopentane	177844	1.809	1.741	1.737	0.05
23	27.90	686.7	1t,3-Dimethylcyclopentane	160150	1.730	1.656	1.661	0.24
24	28.07	687.8	3-Ethylpentane	37259	0.407	0.418	0.383	0.21
25	28.27	689.1	1t,2-Dimethylcyclopentane	270855	2.793	2.664	2.681	0.21
26	30.07	700.0	n-Heptane	785427	8.375	8.780	7.877	0.00
27	32.93	720.7	Methylcyclohexane	1226368	12.620	11.756	12.113	0.16
28	33.40	723.9	2,2-Dimethylhexane	85716	0.905	0.933	0.747	0.29
29	34.70	732.4	035	59427	0.634	0.620	0.608	0.16
30	34.87	733.4	Ethylcyclopentane	36246	0.372	0.348	0.357	0.29
31	35.17	735.3	2,5-Dimethylhexane	45118	0.453	0.468	0.374	0.10
32	36.05	740.7	1c,2t,4-Trimethylcyclopentane	74129	0.756	0.709	0.635	0.12
33	36.28	742.1	038	12884	0.137	0.134	0.132	0.13
34	37.23	747.7	039	70435	0.751	0.735	0.721	0.27
35	37.73	750.6	2,3,4-Trimethylpentane	2342	0.025	0.025	0.021	0.09
36	38.37	754.2	Toluene	188015	1.804	1.492	1.846	0.48
37	39.63	761.1	2,3-Dimethylhexane	25412	0.282	0.284	0.233	0.40
38	39.75	761.7	1,1,2-Trimethylcyclopentane	31276	0.334	0.309	0.280	0.03
39	40.33	764.8	046	739	0.008	0.008	0.008	0.11
40	40.73	766.9	2-Methylheptane	171036	1.831	1.881	1.511	0.00

File: CAPJF2 (010030-001A MW-EE) p. 2

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
41	41.02	768.4	4-Methylheptane	56269	0.600	0.610	0.495	0.26
42	41.23	769.5	1c,2c,3-Trimethylcyclopentane	6617	0.071	0.066	0.059	0.04
43	41.87	772.7	3-Methylheptane	6658	0.071	0.072	0.059	0.44
44	42.17	774.2	1t,3-Dimethylcyclohexane	106032	1.131	1.063	0.950	0.04
45	42.45	775.5	1c,2t,4-Trimethylcyclopentane	187966	2.004	1.865	1.683	0.25
46	42.83	777.4	1t,4-Dimethylcyclohexane	63912	0.682	0.641	0.572	0.03
47	43.95	782.8	048	27293	0.291	0.285	0.279	0.13
48	44.37	784.7	2,2,5-Trimethylhexane	1573	0.017	0.017	0.012	0.48
49	44.70	786.3	3c-Ethylmethylcyclopentane	12619	0.135	0.126	0.113	0.17
50	45.13	788.3	1,4-Octadiene	10788	0.115	0.108	0.098	0.44
51	45.40	789.5	2,3,5-Trimethylhexane	25213	0.269	0.267	0.198	0.07
52	45.87	791.6	Octene-1	3856	0.041	0.041	0.035	0.47
53	46.45	794.2	1t,2-Dimethylcyclohexane	60894	0.649	0.600	0.545	0.05
54	47.80	800.0	n-Octane	209478	2.194	2.238	1.810	0.00
55	48.07	801.5	049	29089	0.310	0.309	0.261	0.41
56	49.80	811.0	N1	4591	0.049	0.045	0.041	0.11
57	51.22	818.5	c-Octene-2	2214	0.024	0.023	0.020	0.36
58	51.75	821.2	2,2,4-Trimethylhexane	1810	0.019	0.019	0.014	0.50
59	52.25	823.8	N2	2024	0.022	0.020	0.018	0.05
60	52.67	825.8	2,2-Dimethylheptane	2865	0.031	0.031	0.022	0.05
61	53.75	831.2	1c,2-Dimethylcyclohexane	12627	0.135	0.121	0.113	0.02
62	55.12	837.8	n-Propylcyclopentane	75746	0.808	0.746	0.678	0.11
63	55.43	839.3	2,4-Dimethylheptane	21709	0.231	0.232	0.170	0.19
64	55.95	841.7	N4	1273	0.014	0.012	0.011	0.06
65	56.47	844.1	Ethylcyclohexane	23373	0.249	0.228	0.209	0.46
66	57.07	846.9	3,3-Dimethylheptane	17643	0.188	0.186	0.138	0.00
67	57.45	848.6	1c,3c,5-Trimethylcyclohexane	3377	0.036	0.034	0.027	0.04
68	57.70	849.8	2,6-Dimethylheptane	1973	0.021	0.021	0.015	0.03
69	58.00	851.1	N5	3600	0.038	0.035	0.032	0.02
70	58.37	852.8	N6	1468	0.016	0.014	0.013	0.05
71	59.28	856.8	Ethylbenzene	1419	0.014	0.012	0.013	0.61
72	59.58	858.1	1,1,4-Trimethylcyclohexane	17392	0.185	0.172	0.138	0.50
73	60.02	860.0	N7	15832	0.169	0.155	0.142	0.43
74	60.50	862.0	I3	2404	0.026	0.025	0.019	0.26
75	60.87	863.6	N8	828	0.009	0.008	0.007	0.20
76	61.40	865.8	m-Xylene	32070	0.325	0.269	0.288	0.15
77	61.73	867.2	p-Xylene	18624	0.189	0.157	0.167	0.06
78	62.52	870.5	N10	2174	0.023	0.021	0.017	0.42
79	62.77	871.5	I4	2120	0.023	0.022	0.017	0.29
80	63.42	874.2	4-Methyloctane	9968	0.106	0.106	0.078	0.05
81	63.63	875.0	2-Methyloctane	12731	0.136	0.136	0.100	0.08
82	64.23	877.4	N11	1297	0.014	0.013	0.010	0.08
83	64.77	879.5	3-Ethylheptane	4951	0.053	0.052	0.039	0.24
84	64.95	880.3	3-Methyloctane	15418	0.164	0.164	0.121	0.04
85	65.68	883.1	3,3-Diethylpentane	483	0.005	0.005	0.004	0.08
86	66.03	884.5	o-Xylene	11661	0.119	0.097	0.106	0.38
87	67.10	888.5	N12	3630	0.039	0.036	0.029	0.25
88	67.32	889.4	N13	10406	0.111	0.102	0.083	0.47
89	67.75	891.0	1-Nonene	5623	0.060	0.059	0.045	0.00
90	68.53	893.9	i-Butylcyclopentane	349	0.004	0.003	0.003	0.02

File: CAPJF2 (010030-001A MW-EE) p. 3

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
91	69.57	897.7	N16	814	0.009	0.008	0.006	0.20
92	70.03	899.4	I9	620	0.007	0.006	0.005	0.09
93	70.20	900.0	n-Nonane	26182	0.272	0.272	0.200	0.00
94	70.72	903.8	1,1-Methylethylcyclohexane	6469	0.069	0.067	0.051	0.47
95	71.17	907.2	t-Nonene-2	2030	0.022	0.021	0.016	0.05
96	72.53	917.1	N19	3016	0.032	0.029	0.024	0.52
97	72.88	919.6	N20	1673	0.018	0.016	0.013	0.21
98	73.45	923.6	i-Propylcyclohexane	348	0.004	0.003	0.003	0.02
99	74.33	929.8	2,6-Dimethyloctane	816	0.009	0.009	0.006	0.46
100	74.65	932.0	2,5-Dimethyloctane	4633	0.049	0.048	0.033	0.25
101	75.30	936.5	I12	794	0.008	0.008	0.006	0.35
102	76.00	941.3	n-Butylcyclopentane	2514	0.027	0.024	0.020	0.15
103	77.10	948.8	n-Propylbenzene	863	0.008	0.007	0.006	0.09
104	78.80	960.1	2,3-Dimethyloctane	880	0.009	0.009	0.006	0.13
105	79.22	962.8	I15	323	0.003	0.003	0.002	0.19
106	80.08	968.4	4-Methylnonane	1248	0.013	0.013	0.009	0.30
107	80.47	970.9	2-Methylnonane	851	0.009	0.009	0.006	0.24
108	81.37	976.6	3-Methylnonane	1204	0.013	0.013	0.009	0.32
109	82.73	985.1	I20	633	0.007	0.007	0.004	0.16
110	83.10	987.4	I21	464	0.005	0.005	0.003	0.49
111	85.17	1000.0	n-Decane	2742	0.028	0.028	0.019	0.00
112	85.87	1006.6	N31	754	0.008	0.007	0.005	0.04
113	88.10	1027.4	1-Methyl-2-i-propylbenzene	837	0.008	0.006	0.005	0.05
114	97.18	1108.7	1,2,3,5-Tetramethylbenzene	1319	0.012	0.010	0.009	0.00
115	106.48	1208.2	?	631	0.007	0.005	0.005	UNK
116	112.22	1277.5	1-Methylnaphthalene	427	0.005	0.003	0.003	0.18

Certificate of Analysis

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Analysis Number: 04010030-002A

Sample ID:	0312151310	**Date of Sample:**	12/15/03
Project #:		**Time Sampled:**	13:30
Project Name:	MW-N	**Date Sample Analyzed:**	01/06/04
Client	Duke Energy Field Svcs.	**Contact(s):**	Mike Stewart
Address	PO Box 302		
Suite / Department	0		
City	Evergreen	**State**	CO **Zip** 80437
Phone	(303) 674-4370 **Ext**		
Fax	(720) 528-8132		

Color:	Straw		**Odor:**	Sour NGL	
***Specific Gravity @ 60° F.**	0.7054		***API @ 60° F.**	68.88	
Carbon Range	C_4 - C_{10}		**Major Range**	C_5 - C_7	
Paraffin	28.618	wt%	**N-Hexane**	11.422	wt%
Isoparaffins	31.822	wt%	**Benzene**	2.111	wt%
Naphthenics	33.490	wt%	**Ethyl Benzene**	ND	wt%
Aromatics	4.562	wt%	**Toluene**	2.301	wt%
Olefins	1.507	wt%	**Meta-Xylene**	0.064	wt%
Unknowns	ND	wt%	**Para-Xylene**	0.086	wt%
2,2,4-Tri Methylpentane	ND	wt%	**Ortho-Xylene**	ND	wt%
			Xylenes	0.15	wt%
Calculated Research Octane	66.24		**EDB**	N/A	ppm
Lead/Manganese	N/A	ppm	**EDC**	N/A	ppm
Oxygnates	N/A	wt%	**Ethanol/Meoh**	N/A	wt%
C_{17}	ND	wt%	**C_{18}**	ND	wt%
Pristane	ND	wt%	**Phytane**	ND	wt%
Naphthalene	ND	wt%	**2-Methyl Naphthalene**	ND	wt%
1-Methyl Naphthalene	ND	wt%			

Gasoline Range: C_4-C_{13} Indicators: 2,2,4-TMP; MTBE; Olefins, Lead
Diesel Range: C_7-C_{22} Indicators: No Olefins, Pristane, Phytane
Crude/Condensate Range: C_2 - C_{25+}: Indicators: No Olefins, Light & Heavies
Heavy Oil: C_{20+} waxy, strong n-parrafins

Comments:

Bob Rannals
Hydrocarbon Lab Manager

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-002A MW-N
File: CAPJF3
Calibration File: MW-N_LIQ

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 86 Peaks

Composite Report

Hydrocarbon Totals by Group Type

Type	Wt %	Vol %	Mol %
Total Paraffins:	28.618	30.692	30.431
Total Iso-paraffins:	31.822	33.579	31.457
Total Naphthenes:	33.490	30.636	32.123
Total Aromatics:	4.562	3.650	4.683
Total Olefins:	1.507	1.442	1.305
Total C26 PLUS	0.000	0.000	0.000
Total Unknowns:	0.000	0.000	0.000
Total:	100.000	100.000	100.000

Totals by Carbon Number

Group	Wt %	Vol %	Mol %	Ave. Mw.	Ave. Sp Gr.
Methane	0.000	0.000	0.000	0.000	0.000
Ethane	0.000	0.000	0.000	0.000	0.000
Propane	0.000	0.000	0.000	0.000	0.000
Butanes:	1.083	1.311	1.634	58.124	0.577
Pentanes:	16.670	18.411	20.304	71.985	0.632
Hexanes:	42.296	42.124	43.611	85.036	0.701
Heptanes:	31.315	29.949	27.837	98.633	0.730
Octanes:	7.696	7.309	5.969	113.051	0.735
Nonanes:	0.915	0.872	0.628	127.768	0.733
Decanes:	0.025	0.024	0.015	142.286	0.730
C11's:	0.000	0.000	0.000	0.000	0.000
C12's:	0.000	0.000	0.000	0.000	0.000
C13's:	0.000	0.000	0.000	0.000	0.000
C14's:	0.000	0.000	0.000	0.000	0.000
C15's:	0.000	0.000	0.000	0.000	0.000
C16's:	0.000	0.000	0.000	0.000	0.000
C17's:	0.000	0.000	0.000	0.000	0.000
C18's:	0.000	0.000	0.000	0.000	0.000
C19's:	0.000	0.000	0.000	0.000	0.000
C20's:	0.000	0.000	0.000	0.000	0.000
C21's:	0.000	0.000	0.000	0.000	0.000
C22's:	0.000	0.000	0.000	0.000	0.000
C23's:	0.000	0.000	0.000	0.000	0.000
C24's:	0.000	0.000	0.000	0.000	0.000
C25's:	0.000	0.000	0.000	0.000	0.000
C26's:	0.000	0.000	0.000	0.000	0.000
C26 PLUS	0.000	0.000	0.000		
Unknowns:	0.000	0.000	0.000		
Total:	100.000	100.000	100.000	89.388	0.698

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-002A MW-N
File: CAPJF3
Calibration File: MW-N_LIQ

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 86 Peaks

Types by Carbon Number

Paraffins:	C1	0.000	0.000	0.000
	C2	0.000	0.000	0.000
	C3	0.000	0.000	0.000
	C4	0.985	1.188	1.486
	C5	9.588	10.686	11.652
	C6	11.422	12.089	11.621
	C7	5.552	5.667	4.858
	C8	0.967	0.961	0.743
	C9	0.104	0.101	0.071
	C10	0.000	0.000	0.000
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Iso-paraffins:	C4	0.098	0.123	0.148
	C5	5.746	6.474	6.983
	C6	14.154	15.023	14.401
	C7	8.408	8.576	7.357
	C8	2.799	2.787	2.148
	C9	0.591	0.573	0.404
	C10	0.025	0.024	0.015
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Aromatics:	C6	2.111	1.677	2.370
	C7	2.301	1.853	2.190
	C8	0.150	0.121	0.123
	C9	0.000	0.000	0.000
	C10	0.000	0.000	0.000
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000

	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Naphthenes:	C5	1.330	1.245	1.662
	C6	14.609	13.336	15.219
	C7	13.852	12.705	12.369
	C8	3.480	3.152	2.719
	C9	0.220	0.198	0.153
	C10	0.000	0.000	0.000
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Olefins:	C4	0.000	0.000	0.000
	C5	0.006	0.006	0.007
	C6	0.000	0.000	0.000
	C7	1.201	1.148	1.063
	C8	0.300	0.288	0.236
	C9	0.000	0.000	0.000

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-002A MW-N
File: CAPJF3
Calibration File: MW-N_LIQ

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 86 Peaks

Boiling Point Distribution Data

Wt. Percent Off	deg.C.	Vol. Percent Off	deg.C.
IBP (0.5%)	-0.50	IBP (0.5%)	-0.50
10.0	36.06	10.0	36.06
20.0	60.26	20.0	49.73
30.0	63.27	30.0	63.27
40.0	68.73	40.0	68.73
50.0	71.80	50.0	71.80
60.0	80.72	60.0	80.72
70.0	91.85	70.0	91.72
80.0	100.93	80.0	98.42
90.0	110.63	90.0	109.11
FBP (99.5%)	143.00	FBP (99.5%)	142.44

Research Octane Number = 66.24

(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	9.14
Iso-paraffins:	23.93
Aromatics:	5.14
Naphthenes:	26.86
Olefins:	1.17

WT% Hydrogen = Not Calculated

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-002A MW-N
File: CAPJF3
Calibration File: MW-N_LIQ

Analyzed on: 01-06-2004
Normalized to 100.00%
Processed 86 Peaks

Components Listed in Chromatographic Order

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
1	9.08	362.0	i-Butane	6673	0.098	0.123	0.148	0.01
2	9.50	400.0	n-Butane	67058	0.985	1.188	1.486	0.00
3	9.72	414.8	2,2-Dimethylpropane	1739	0.025	0.030	0.031	0.30
4	11.05	475.4	i-Pentane	387455	5.721	6.444	6.952	0.03
5	11.88	500.0	n-Pentane	639255	9.588	10.686	11.652	0.00
6	12.75	521.6	c-Pentene-2	387	0.006	0.006	0.007	0.63
7	13.48	536.9	2,2-Dimethylbutane	29271	0.419	0.450	0.426	0.52
8	15.17	565.2	Cyclopentane	89373	1.330	1.245	1.662	0.04
9	15.27	566.7	2,3-Dimethylbutane	75685	1.047	1.105	1.066	0.10
10	15.52	570.3	2-Methylpentane	531717	7.635	8.159	7.769	0.05
11	16.57	584.0	3-Methylpentane	346565	5.053	5.308	5.141	0.08
12	17.98	600.0	n-Hexane	797447	11.422	12.089	11.621	0.00
13	20.32	626.9	2,2-Dimethylpentane	19643	0.278	0.288	0.243	0.22
14	20.53	629.2	Methylcyclopentane	458814	6.696	6.242	6.976	0.04
15	20.95	633.3	2,4-Dimethylpentane	35329	0.495	0.514	0.433	0.34
16	21.53	639.0	Cyclic Diolefin or Triolefin	5432	0.077	0.076	0.069	0.07
17	23.13	653.2	Benzene	164458	2.111	1.677	2.370	0.26
18	23.80	658.7	3,3-Dimethylpentane	14772	0.211	0.212	0.184	0.16
19	24.22	662.0	Cyclohexane	571766	7.913	7.094	8.244	0.35
20	25.37	670.8	2-Methylhexane	202826	2.899	2.982	2.537	0.38
21	25.58	672.4	2,3-Dimethylpentane	70695	0.977	0.981	0.855	0.26
22	25.93	674.9	1,1-Dimethylcyclopentane	54734	0.754	0.698	0.674	0.13
23	26.48	678.7	3-Methylhexane	227080	3.262	3.313	2.854	0.18
24	27.33	684.4	1c,3-Dimethylcyclopentane	99396	1.353	1.268	1.208	0.24
25	27.70	686.8	1t,3-Dimethylcyclopentane	87634	1.266	1.180	1.131	0.33
26	27.88	688.0	3-Ethylpentane	19542	0.285	0.285	0.250	0.41
27	28.07	689.2	1t,2-Dimethylcyclopentane	147969	2.041	1.896	1.823	0.13
28	29.85	700.0	n-Heptane	389189	5.552	5.667	4.858	0.00
29	32.60	720.0	1c,2-Dimethylcyclopentane	14750	0.210	0.201	0.188	0.11
30	32.72	720.8	Methylcyclohexane	581601	8.007	7.263	7.150	0.11
31	33.20	724.1	2,2-Dimethylhexane	39774	0.562	0.564	0.431	0.46
32	34.50	732.5	035	26974	0.385	0.367	0.344	0.34
33	34.68	733.7	Ethylcyclopentane	16051	0.220	0.201	0.197	0.00
34	34.98	735.6	2,5-Dimethylhexane	18836	0.253	0.254	0.194	0.18
35	35.85	740.9	3,3-Dimethylhexane	32457	0.463	0.455	0.355	0.29
36	36.08	742.3	038	5559	0.079	0.076	0.071	0.31
37	37.03	747.9	039	30631	0.437	0.417	0.390	0.08
38	37.52	750.7	2,3,4-Trimethylpentane	852	0.012	0.012	0.009	0.00
39	38.15	754.3	Toluene	179244	2.301	1.853	2.190	0.57
40	39.42	761.2	2,3-Dimethylhexane	11885	0.177	0.173	0.136	0.50

File: CAPJF3 <010030-002A MW-ND p. 2

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
41	39.53	761.8	1,1,2-Trimethylcyclopentane	13451	0.192	0.173	0.150	0.12
42	40.52	767.0	2-Methylheptane	67217	0.963	0.963	0.739	0.09
43	40.80	768.5	4-Methylheptane	23334	0.333	0.330	0.256	0.35
44	41.12	770.1	1c,2c,3-Trimethylcyclopentane	5910	0.084	0.077	0.066	0.57
45	41.62	772.6	3-Methylheptane	2597	0.037	0.037	0.028	0.51
46	41.93	774.2	1t,3-Dimethylcyclohexane	40531	0.578	0.529	0.452	0.03
47	42.23	775.7	1c,2t,4-Trimethylcyclopentane	77627	1.107	1.003	0.865	0.35
48	42.62	777.5	1t,4-Dimethylcyclohexane	26237	0.374	0.343	0.292	0.12
49	43.72	782.8	048	11080	0.158	0.151	0.141	0.12
50	44.47	786.3	3c-Ethylmethylcyclopentane	4956	0.071	0.064	0.055	0.18
51	44.92	788.3	1,4-Octadiene	4212	0.060	0.055	0.048	0.36
52	45.17	789.5	2,3,5-Trimethylhexane	10260	0.146	0.141	0.100	0.07
53	45.63	791.6	Octene-1	1525	0.022	0.021	0.017	0.47
54	46.22	794.2	1t,2-Dimethylcyclohexane	24526	0.350	0.315	0.273	0.06
55	47.57	800.0	n-Octane	69057	0.967	0.961	0.743	0.00
56	47.83	801.5	049	16842	0.240	0.233	0.188	0.42
57	49.55	810.8	N1	1684	0.024	0.021	0.019	0.26
58	50.95	818.2	c-Octene-2	840	0.012	0.012	0.009	0.09
59	51.50	821.0	2,2,4-Trimethylhexane	603	0.009	0.008	0.006	0.31
60	52.42	825.6	2,2-Dimethylheptane	939	0.013	0.013	0.009	0.17
61	53.50	831.0	1c,2-Dimethylcyclohexane	4660	0.066	0.058	0.052	0.22
62	54.88	837.6	n-Propylcyclopentane	29298	0.418	0.376	0.327	0.09
63	55.22	839.2	2,5-Dimethylheptane	7921	0.113	0.110	0.077	0.28
64	56.23	843.9	Ethylcyclohexane	9327	0.133	0.118	0.104	0.69
65	56.85	846.7	3,3-Dimethylheptane	5775	0.082	0.079	0.056	0.18
66	57.78	850.9	N5	674	0.010	0.009	0.008	0.19
67	59.42	858.1	1,1,4-Trimethylcyclohexane	1753	0.025	0.023	0.017	0.53
68	59.82	859.8	N7	5044	0.072	0.064	0.056	0.62
69	61.38	866.4	m-Xylene	4724	0.064	0.052	0.053	0.68
70	61.55	867.1	p-Xylene	6310	0.086	0.069	0.071	0.23
71	62.33	870.3	N9	880	0.013	0.011	0.009	0.39
72	62.60	871.4	I4	807	0.012	0.011	0.008	0.43
73	63.27	874.1	4-Methyloctane	3347	0.048	0.046	0.033	0.14
74	63.48	874.9	2-Methyloctane	4469	0.064	0.062	0.044	0.17
75	64.60	879.3	3-Ethylheptane	1859	0.027	0.025	0.018	0.04
76	64.82	880.2	3-Methyloctane	5478	0.078	0.076	0.053	0.11
77	66.05	884.9	1,1,2-Trimethylcyclohexane	2053	0.029	0.026	0.020	0.04
78	66.97	888.4	N12	1306	0.019	0.017	0.013	0.11
79	67.17	889.2	N13	4055	0.058	0.052	0.040	0.26
80	67.62	890.8	1-Nonene	2150	0.031	0.029	0.021	0.16
81	70.13	900.0	n-Nonane	7451	0.104	0.101	0.071	0.00
82	70.60	903.5	1,1-Methylethylcyclohexane	2639	0.038	0.036	0.026	0.05
83	72.42	916.7	N19	1208	0.017	0.015	0.012	0.05
84	72.77	919.2	N20	623	0.009	0.008	0.006	0.65
85	74.55	931.7	2,5-Dimethyloctane	1739	0.025	0.024	0.015	0.61
86	75.90	941.0	n-Butylcyclopentane	933	0.013	0.012	0.009	0.55

Certificate of Analysis

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Analysis Number: 04010030-003A

Sample ID:	0312151355	**Date of Sample:**	12/05/03
Project #:		**Time Sampled:**	13:55
Project Name:	MW-CC	**Date Sample Analyzed:**	01/07/04
Client	Duke Energy Field Svcs.	**Contact(s):**	Mike Stewart
Address	PO Box 302		
Suite / Department	0		
City	Evergreen	**State**	CO **Zip** 80437
Phone	(303) 674-4370 **Ext**		
Fax	(720) 528-8132		

Color:	Light Straw		**Odor:**	Sour NGL	
Specific Gravity @ 60° F.	0.7035		**API @ 60° F.**	69.42	
Carbon Range	C_4 - C_{10}		**Major Range**	C_5 - C_7	
Paraffin	29.075	wt%	**N-Hexane**	11.438	wt%
Isoparaffins	31.466	wt%	**Benzene**	1.749	wt%
Naphthenics	33.632	wt%	**Ethyl Benzene**	0.007	wt%
Aromatics	4.321	wt%	**Toluene**	2.300	wt%
Olefins	1.506	wt%	**Meta-Xylene**	0.146	wt%
Unknowns	ND	wt%	**Para-Xylene**	0.092	wt%
2,2,4-Tri Methylpentane	ND	wt%	**Ortho-Xylene**	0.027	wt%
			Xylenes	0.265	wt%
Calculated Research Octane	66.31		**EDB**	N/A	wt%
Lead/Manganese	N/A	ppm	**EDC**	N/A	wt%
Oxygnates	N/A	wt%	**Ethanol**	N/A	wt%
C_{17}	ND	wt%	**C_{18}**	ND	wt%
Pristane	ND	wt%	**Phytane**	ND	wt%
Naphthalene	ND	wt%	**2-Methyl Naphthalene**	ND	wt%
1-Methyl Naphthalene	ND	wt%			

	Gasoline Range:	C_4-C_{13} Indicators:	2,2,4-TMP; MTBE; Olefins, Lead
	Diesel Range:	C_7-C_{22} Indicators:	No Olefins, Pristane, Phytane
X	**Condensate Range:**	C_2-C_{25}+ Indicators:	No Olefins, Light & Heavies
	Heavy Oil:	C_{20+}	

Comments:

Bob Rannals
Hydrocarbon Lab Manager

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-003A MW-CC
File: CAPJG1
Calibration File: MW-CC_LI

Analyzed on: 01-07-2004
Normalized to 100.00%
Processed 92 Peaks

Composite Report

Hydrocarbon Totals by Group Type

Type	Wt %	Vol %	Mol %
Total Paraffins:	29.075	31.168	30.968
Total Iso-paraffins:	31.466	33.215	31.232
Total Naphthenes:	33.632	30.725	32.119
Total Aromatics:	4.321	3.455	4.370
Total Olefins:	1.506	1.438	1.312
Total C26 PLUS	0.000	0.000	0.000
Total Unknowns:	0.000	0.000	0.000
Total:	100.000	100.000	100.000

Totals by Carbon Number

Group	Wt %	Vol %	Mol %	Ave. Mw.	Ave. Sp Gr.
Methane	0.000	0.000	0.000	0.000	0.000
Ethane	0.000	0.000	0.000	0.000	0.000
Propane	0.000	0.000	0.000	0.000	0.000
Butanes:	1.311	1.585	1.975	58.124	0.577
Pentanes:	17.064	18.832	20.752	71.992	0.632
Hexanes:	41.776	41.632	42.976	85.104	0.699
Heptanes:	31.055	29.655	27.567	98.625	0.730
Octanes:	7.783	7.334	6.039	112.839	0.740
Nonanes:	0.980	0.934	0.672	127.758	0.732
Decanes:	0.031	0.029	0.019	142.286	0.731
C11's:	0.000	0.000	0.000	0.000	0.000
C12's:	0.000	0.000	0.000	0.000	0.000
C13's:	0.000	0.000	0.000	0.000	0.000
C14's:	0.000	0.000	0.000	0.000	0.000
C15's:	0.000	0.000	0.000	0.000	0.000
C16's:	0.000	0.000	0.000	0.000	0.000
C17's:	0.000	0.000	0.000	0.000	0.000
C18's:	0.000	0.000	0.000	0.000	0.000
C19's:	0.000	0.000	0.000	0.000	0.000
C20's:	0.000	0.000	0.000	0.000	0.000
C21's:	0.000	0.000	0.000	0.000	0.000
C22's:	0.000	0.000	0.000	0.000	0.000
C23's:	0.000	0.000	0.000	0.000	0.000
C24's:	0.000	0.000	0.000	0.000	0.000
C25's:	0.000	0.000	0.000	0.000	0.000
C26's:	0.000	0.000	0.000	0.000	0.000
C26 PLUS	0.000	0.000	0.000		
Unknowns:	0.000	0.000	0.000		
Total:	100.000	100.000	100.000	89.306	0.697

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-003A MW-CC
File: CAPJG1
Calibration File: MW-CC_LI

Analyzed on: 01-07-2004
Normalized to 100.00%
Processed 92 Peaks

Types by Carbon Number

Paraffins:	C1	0.000	0.000	0.000
	C2	0.000	0.000	0.000
	C3	0.000	0.000	0.000
	C4	1.178	1.419	1.775
	C5	9.803	10.911	11.895
	C6	11.438	12.089	11.620
	C7	5.470	5.576	4.779
	C8	1.066	1.058	0.817
	C9	0.120	0.116	0.082
	C10	0.000	0.000	0.000
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Iso-paraffins:	C4	0.133	0.166	0.200
	C5	5.953	6.698	7.223
	C6	14.117	14.962	14.342
	C7	8.302	8.457	7.254
	C8	2.310	2.303	1.771
	C9	0.620	0.600	0.423
	C10	0.031	0.029	0.019
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Aromatics:	C6	1.749	1.387	1.960
	C7	2.300	1.849	2.185
	C8	0.272	0.219	0.224
	C9	0.000	0.000	0.000
	C10	0.000	0.000	0.000
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000

	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Naphthenes:	C5	1.302	1.217	1.625
	C6	14.472	13.194	15.055
	C7	13.702	12.552	12.218
	C8	3.915	3.545	3.055
	C9	0.241	0.217	0.167
	C10	0.000	0.000	0.000
	C11	0.000	0.000	0.000
	C12	0.000	0.000	0.000
	C13	0.000	0.000	0.000
	C14	0.000	0.000	0.000
	C15	0.000	0.000	0.000
	C16	0.000	0.000	0.000
	C17	0.000	0.000	0.000
	C18	0.000	0.000	0.000
	C19	0.000	0.000	0.000
	C20	0.000	0.000	0.000
	C21	0.000	0.000	0.000
	C22	0.000	0.000	0.000
	C23	0.000	0.000	0.000
	C24	0.000	0.000	0.000
	C25	0.000	0.000	0.000
	C26	0.000	0.000	0.000
Olefins:	C4	0.000	0.000	0.000
	C5	0.006	0.007	0.008
	C6	0.000	0.000	0.000
	C7	1.280	1.222	1.132
	C8	0.219	0.209	0.172
	C9	0.000	0.000	0.000

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-003A MW-CC
File: CAPJG1
Calibration File: MW-CC_LI

Analyzed on: 01-07-2004
Normalized to 100.00%
Processed 92 Peaks

Boiling Point Distribution Data

Wt. Percent Off	deg.C.	Vol. Percent Off	deg.C.
IBP (0.5%)	-0.50	IBP (0.5%)	-0.50
10.0	36.06	10.0	36.06
20.0	60.26	20.0	49.25
30.0	63.27	30.0	60.26
40.0	68.73	40.0	68.73
50.0	71.80	50.0	71.80
60.0	80.72	60.0	80.72
70.0	91.85	70.0	91.72
80.0	100.93	80.0	98.42
90.0	110.63	90.0	110.41
FBP (99.5%)	143.28	FBP (99.5%)	142.44

Research Octane Number = 66.31

(Calculated from Individual Component Values)

Contribution to Total by:

Paraffins:	9.49
Iso-paraffins:	23.78
Aromatics:	4.95
Naphthenes:	26.95
Olefins:	1.15

WT% Hydrogen = Not Calculated

P.I.A.N.O. ANALYSIS
SOUTHERN PETROLEUM LABORATORIES, INC.

Sample: 010030-003A MW-CC
File: CAPJG1
Calibration File: MW-CC_LI

Analyzed on: 01-07-2004
Normalized to 100.00%
Processed 92 Peaks

Components Listed in Chromatographic Order

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
1	9.17	366.1	i-Butane	11243	0.133	0.166	0.200	1.14
2	9.60	400.0	n-Butane	99739	1.178	1.419	1.775	0.00
3	9.82	414.3	2,2-Dimethylpropane	2532	0.030	0.035	0.036	0.76
4	11.17	474.9	i-Pentane	498938	5.923	6.663	7.188	0.53
5	12.02	500.0	n-Pentane	812871	9.803	10.911	11.895	0.00
6	12.88	521.3	c-Pentene-2	533	0.006	0.007	0.008	0.35
7	13.63	536.8	2,2-Dimethylbutane	36205	0.417	0.447	0.423	0.45
8	15.32	565.0	Cyclopentane	108804	1.302	1.217	1.625	0.18
9	15.42	566.5	2,3-Dimethylbutane	94407	1.050	1.107	1.067	0.12
10	15.68	570.3	2-Methylpentane	658862	7.607	8.118	7.728	0.06
11	16.73	584.0	3-Methylpentane	430172	5.043	5.291	5.123	0.07
12	18.15	600.0	n-Hexane	993178	11.438	12.089	11.620	0.00
13	20.50	627.0	2,2-Dimethylpentane	24227	0.276	0.285	0.241	0.25
14	20.72	629.2	Methylcyclopentane	567032	6.654	6.194	6.922	0.03
15	21.13	633.3	2,4-Dimethylpentane	42629	0.481	0.498	0.420	0.33
16	21.73	639.1	Cyclic Diolefin or Triolefin	6705	0.077	0.076	0.069	0.20
17	23.33	653.3	Benzene	169420	1.749	1.387	1.960	0.20
18	24.00	658.8	3,3-Dimethylpentane	16920	0.194	0.195	0.169	0.12
19	24.42	662.1	Cyclohexane	702626	7.818	6.999	8.133	0.31
20	25.57	670.8	2-Methylhexane	251758	2.894	2.972	2.528	0.40
21	25.78	672.4	2,3-Dimethylpentane	84760	0.942	0.945	0.823	0.28
22	26.13	674.9	1,1-Dimethylcyclopentane	66935	0.742	0.685	0.661	0.12
23	26.68	678.7	3-Methylhexane	279859	3.233	3.279	2.824	0.18
24	27.53	684.4	1c,3-Dimethylcyclopentane	122788	1.344	1.257	1.198	0.24
25	27.90	686.8	1t,3-Dimethylcyclopentane	108449	1.260	1.173	1.124	0.33
26	28.08	688.0	3-Ethylpentane	24155	0.284	0.283	0.248	0.40
27	28.27	689.2	1t,2-Dimethylcyclopentane	183188	2.032	1.885	1.812	0.13
28	30.05	700.0	n-Heptane	476849	5.470	5.576	4.779	0.00
29	32.82	720.0	1c,2-Dimethylcyclopentane	20144	0.231	0.220	0.206	0.08
30	32.93	720.8	Methylcyclohexane	712551	7.887	7.144	7.033	0.09
31	33.42	724.1	2,2-Dimethylhexane	48007	0.545	0.546	0.418	0.46
32	34.70	732.4	035	34436	0.395	0.376	0.352	0.20
33	34.88	733.5	Ethylcyclopentane	18734	0.207	0.188	0.184	0.15
34	35.18	735.4	2,5-Dimethylhexane	23150	0.250	0.251	0.192	0.03
35	36.07	740.8	1c,2t,4-Trimethylcyclopentane	40056	0.439	0.401	0.343	0.24
36	36.30	742.2	038	6835	0.078	0.075	0.070	0.24
37	36.70	744.6	1t,2c,3-Trimethylcyclopentane	1727	0.019	0.017	0.015	0.02
38	37.25	747.8	039	44193	0.507	0.482	0.452	0.17
39	37.68	750.3	2,3,4-Trimethylpentane	1902	0.022	0.021	0.017	0.39
40	38.37	754.2	Toluene	222792	2.300	1.849	2.185	0.46

File: CAPJG1 <010030-003A MW-CC> p. 2

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
41	39.65	761.2	2,3-Dimethylhexane	14232	0.170	0.166	0.130	0.46
42	39.77	761.8	1,1,2-Trimethylcyclopentane	15442	0.177	0.160	0.138	0.08
43	40.75	766.9	2-Methylheptane	83886	0.966	0.965	0.740	0.03
44	41.03	768.4	4-Methylheptane	27821	0.319	0.316	0.245	0.29
45	41.35	770.0	1c,2c,3-Trimethylcyclopentane	7404	0.085	0.078	0.066	0.50
46	41.88	772.7	3-Methylheptane	3314	0.038	0.038	0.029	0.42
47	42.18	774.2	1t,3-Dimethylcyclohexane	51185	0.587	0.537	0.458	0.03
48	42.48	775.6	1c,2t,4-Trimethylcyclopentane	94325	1.082	0.979	0.844	0.34
49	42.87	777.5	1t,4-Dimethylcyclohexane	32059	0.368	0.336	0.287	0.11
50	43.98	782.8	048	13788	0.158	0.151	0.141	0.07
51	44.40	784.8	2,2,5-Trimethylhexane	685	0.008	0.008	0.005	0.42
52	44.72	786.2	3c-Ethylmethylcyclopentane	6139	0.070	0.064	0.055	0.14
53	45.18	788.4	1,4-Octadiene	5240	0.060	0.055	0.048	0.33
54	45.43	789.5	2,3,5-Trimethylhexane	12613	0.145	0.140	0.099	0.10
55	45.90	791.6	Octene-1	1819	0.021	0.020	0.016	0.50
56	46.50	794.3	1t,2-Dimethylcyclohexane	30306	0.348	0.312	0.271	0.15
57	47.83	800.0	n-Octane	94650	1.066	1.058	0.817	0.00
58	48.12	801.6	049	13890	0.159	0.154	0.124	0.32
59	49.83	811.0	N1	2139	0.025	0.022	0.019	0.13
60	51.27	818.5	c-Octene-2	1107	0.013	0.012	0.010	0.42
61	51.78	821.2	2,2,4-Trimethylhexane	810	0.009	0.009	0.006	0.48
62	52.30	823.8	N2	864	0.010	0.009	0.008	0.10
63	52.70	825.8	2,2-Dimethylheptane	1311	0.015	0.015	0.010	0.02
64	53.82	831.3	1c,2-Dimethylcyclohexane	5886	0.068	0.059	0.053	0.14
65	55.17	837.8	n-Propylcyclopentane	36822	0.422	0.379	0.330	0.14
66	55.50	839.4	2,4-Dimethylheptane	9949	0.114	0.111	0.078	0.08
67	56.52	844.2	Ethylcyclohexane	11572	0.133	0.118	0.104	0.44
68	57.12	846.9	3,3-Dimethylheptane	7321	0.084	0.081	0.057	0.01
69	57.75	849.8	2,6-Dimethylheptane	687	0.008	0.008	0.005	0.02
70	58.05	851.1	N5	801	0.009	0.008	0.007	0.03
71	59.33	856.8	Ethylbenzene	645	0.007	0.006	0.006	0.61
72	59.68	858.3	1,1,4-Trimethylcyclohexane	7046	0.081	0.073	0.056	0.28
73	60.07	860.0	N7	6430	0.074	0.066	0.058	0.43
74	61.50	866.0	m-Xylene	13429	0.146	0.118	0.121	0.35
75	61.78	867.2	p-Xylene	8437	0.092	0.074	0.076	0.07
76	62.57	870.5	N10	1042	0.012	0.011	0.008	0.44
77	62.82	871.5	I4	972	0.011	0.011	0.008	0.31
78	63.47	874.1	4-Methyloctane	4516	0.052	0.050	0.035	0.08
79	63.68	875.0	2-Methyloctane	5851	0.067	0.066	0.046	0.10
80	64.80	879.4	3-Ethylheptane	2383	0.027	0.026	0.019	0.14
81	65.00	880.2	3-Methyloctane	6971	0.080	0.077	0.055	0.07
82	66.10	884.5	o-Xylene	2417	0.027	0.021	0.022	0.40
83	67.15	888.5	N12	1764	0.020	0.018	0.014	0.21
84	67.35	889.3	N13	4843	0.056	0.050	0.039	0.36
85	67.78	890.9	1-Nonene	2739	0.031	0.030	0.022	0.11
86	70.27	900.0	n-Nonane	10686	0.120	0.116	0.082	0.00
87	70.75	903.6	1,1-Methylethylcyclohexane	2857	0.033	0.031	0.023	0.00
88	72.57	916.9	N19	1456	0.017	0.015	0.012	0.70
89	72.92	919.4	N20	832	0.010	0.008	0.007	0.38
90	74.68	931.9	2,5-Dimethyloctane	2208	0.025	0.024	0.016	0.36

File: CAPJG1 <010030-003A MW-CC> p. 3

pk#	Min.	Index	Component	Area	Wt%	Vol%	Mol%	Shift
91	76.02	941.2	n-Butylcyclopentane	1149	0.013	0.012	0.009	0.34
92	78.83	960.1	2,3-Dimethyloctane	452	0.005	0.005	0.003	0.13

DUKE-ENERGY

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Work Order No.: SPLH 42749

Page 1 of 1

Company: Remediacon Inc

Address: P.O. Box 302

Evergreen, CO 80437

Contact: Mike Stewart

Phone/Fax: 303-674-4370 / 720-528-8132

Field/Project: Duke Energy Field Services Eldridge Ranch

Invoice to (company name): Duke Energy Field Services

Contact: Steve Weathers

Phone/Fax: 303-605-1718

Address: 370 17th Street, Suite 900

Denver, CO 80202

Special Instructions:

* Terms: Cylinders will be rented for $15/cyl. All cylinders checked out are to be returned within 21 days, whether they contain sample or not. Cylinders not returned after 30 days will be considered lost and will be billed at current replacement cost.

Requested TAT

- ☐ 24hr*
- ☐ 48hr*
- ☐ 72hr*
- ☒ Standard
- ☐ Other

* Surcharges May Apply

Requested Analysis

Sample ID	Sample Date	Sample Time	Sample Of	Duplica	Compo	Spot	Cylinder Tracking Info * Cylinder #	Date Out	Date In	PIANO	Comments
031215 1310	12/15/03	1310	Oil			✓				✓	MW-EE
031215 1330	12/15/03	1330	Oil			✓				✓	MW-N
031215 1355	12/15/03	1355	Oil			✓				✓	MW-CC

Sampled By-Print Name: John Ferguson

Signature: John Ferguson

Company Name: Trident Environmental

	Date:	Time:		Date:	Time:
Relinquished By-Print Name: John Ferguson			Received By-Print Name:		
Signature: John Ferguson	1/5/04	1830	Signature:	1-6-04	
Relinquished By-Print Name:			Received By-Print Name:		
Signature:			Signature:		

☒ 8880 Interchange Dr. Houston, TX 77054 (713) 660-0901

☐ 9221 Highway 23 Belle Chasse, LA 70037 (504) 391-1337

☐ P.O. Box 3079 Laurel, MS 39442 (601) 428-0842

☐ 500 Ambassador Caffery Pkwy. Scott, LA 70583 (337) 237-4775

☐ 1595 US 79 South Carthage, TX 75633 (903) 693-6242

☐ 459 Hughes Dr. Traverse City, MI 49686 (616) 947-5777

APPENDIX 3

Well Development and Sampling Forms

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-1**
SITE NAME: Eldridge Ranch Site
DATE: 12/9/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☑ Pump If Pump, Type: 2-Stage Super Purger

SAMPLING METHOD: ☐ Disposable Bailer ☑ Direct from Discharge Hose ☐ Other:

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other:

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.50 Feet
DEPTH TO WATER: 19.74 Feet
HEIGHT OF WATER COLUMN: 9.76 Feet
WELL DIAMETER: 2.0 Inch

4.8 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
15:37	0	-	-	-	-	-	Began Pumping Well!
15:40	2	18.6	0.64	6.93	2.1	-	
15:42	4	18.9	0.65	7.36	1.4	-	
15:44	6	19.8	0.64	7.18	1.8	-	
15:47	8	19.3	0.66	7.08	1.4	-	
15:49	10	19.9	0.66	7.04	1.8	-	
15:51	12	19.5	0.66	6.99	1.9	-	
15:53	14	19.3	0.66	6.94	1.9	-	
15:55	16	19.5	0.65	6.87	1.5	-	
15:56	18	19.6	0.66	6.77	2.4	-	
15:58	20	19.6	0.66	6.75	2.2	-	
16:00	22	19.8	0.66	6.69	2.6	-	
16:02	24	19.9	0.66	6.65	1.9	-	
16:04	26	19.6	0.66	6.67	1.8	-	
0:27	:Total Time (hr:min)		**26**	:Total Vol (gal)		**0.96**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031209 1625
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-2**
SITE NAME: Eldridge Ranch Site
DATE: 1/13/2004
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.00 Feet
DEPTH TO WATER: 22.88 Feet
HEIGHT OF WATER COLUMN: 6.12 Feet
WELL DIAMETER: 2.0 Inch

3.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °F	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:18	0	-	-	-	-	-	Begin Hand Bailing
14:22	2	68.0	0.65	6.99	6.3	-	
14:27	4	67.6	0.64	6.85	6.3	-	
14:34	6	66.7	0.64	6.98	6.2	-	

0:16 :Total Time (hr:min) **6** :Total Vol (gal) **0.37** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040113 1440

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: Collected Duplicate Sample No.: 0401132000

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-3**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 31.10 Feet
DEPTH TO WATER: 22.78 Feet
HEIGHT OF WATER COLUMN: 8.32 Feet
WELL DIAMETER: 2.0 Inch

4.1 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
7:31	0	-	-	-	-	-	Begin Hand Bailing
7:39	2	18.8	0.68	7.00	4.2	-	
7:53	4	18.3	0.64	7.10	4.9	-	
7:58	6	19.2	0.66	7.19	5.4	-	
8:02	8	19.5	0.66	7.19	6.1	-	
0:31 :Total Time (hr:min)			**8** :Total Vol (gal)			**0.26** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031210 0810

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-4**

SITE NAME: Eldridge Ranch Site DATE: 12/10/2003

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.90 Feet
DEPTH TO WATER: 22.26 Feet
HEIGHT OF WATER COLUMN: 7.64 Feet
WELL DIAMETER: 2.0 Inch

3.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
8:12	0	-	-	-	-	-	Begin Hand Bailing
8:16	2	18.6	0.86	6.88	1.8	-	
8:20	4	18.7	0.85	6.89	2.0	-	
8:25	6	18.9	0.87	6.91	2.1	-	

0:13 :Total Time (hr:min) **6** :Total Vol (gal) **0.46** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 0830

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-5**

SITE NAME: Eldridge Ranch Site DATE: 12/10/2003

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 27.50 Feet
DEPTH TO WATER: 18.17 Feet
HEIGHT OF WATER COLUMN: 9.33 Feet
WELL DIAMETER: 2.0 Inch

4.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
8:34	0	-	-	-	-	-	Begin Hand Bailing
8:37	2	18.3	0.75	6.90	1.4	-	
8:40	4	18.8	0.77	6.95	1.4	-	
8:44	6	19.0	0.76	6.97	1.6	-	
0:10	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.60**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 0850

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: Collected Duplicate "A" Sample No.: 0312102000 for BTEX

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-6**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 30.20 Feet
DEPTH TO WATER: 22.00 Feet
HEIGHT OF WATER COLUMN: 8.20 Feet
WELL DIAMETER: 2.0 Inch

4.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
8:55	0	-	-	-	-	-	Begin Hand Bailing
9:00	2	17.9	0.87	6.87	1.6	-	
9:06	4	18.4	0.86	6.89	1.4	-	
9:12	6	18.5	0.86	6.92	1.4	-	
9:18	8	18.4	0.85	6.92	1.5	-	
0:23	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.35**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 0920

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-7**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 36.20 Feet
DEPTH TO WATER: 27.57 Feet
HEIGHT OF WATER COLUMN: 8.63 Feet
WELL DIAMETER: 2.0 Inch

4.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:05	0	-	-	-	-	-	Began Hand Bailing!
9:12	2	17.9	1.07	7.33	2.4	-	
9:19	2.5	17.7	1.06	7.65	5.6	-	
							Well Bailed Dry!
9:48	3.5	18.5	1.06	7.55	4.9	-	
							Well Bailed Dry!
10:02	4.5	19.2	1.05	7.51	5.0		
							Well Bailed Dry. Allowed Well
							Time to Recover Before Collecting
							Sample!
0:57	:Total Time (hr:min)		**4.5**	:Total Vol (gal)		**0.08**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1010

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-8**
SITE NAME: Eldridge Ranch Site
DATE: 10/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: 32.50 Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 32.50 Feet
WELL DIAMETER: 2.0 Inch

15.9 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
0:00 :Total Time (hr:min)			**0** :Total Vol (gal)			**#DIV/0!** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031008

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: FPH MEASURED IN WELL. DID NOT PURGE & SAMPLE.

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-9**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.80 Feet
DEPTH TO WATER: 20.12 Feet
HEIGHT OF WATER COLUMN: 9.68 Feet
WELL DIAMETER: 2.0 Inch

4.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:22	0	-	-	-	-	-	Begin Hand Bailing
10:27	2	18.0	0.61	7.16	2.1	-	
10:33	4	18.1	0.61	7.25	1.8	-	
10:40	6	18.3	0.60	7.23	2.0	-	
10:44	7	18.5	0.62	7.24	2.0	-	

0:22 :Total Time (hr:min) **7** :Total Vol (gal) **0.32** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 0950
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services | WELL ID: **MW-10**

SITE NAME: Eldridge Ranch Site | DATE: 12/10/2003

PROJECT NO. F-104 | SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 33.10 Feet
DEPTH TO WATER: 23.88 Feet
HEIGHT OF WATER COLUMN: 9.22 Feet
WELL DIAMETER: 2.0 Inch

4.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:27	0	-	-	-	-	-	Begin Hand Bailing
11:32	2	18.8	0.84	7.58	0.8	-	
11:36	4	18.8	0.83	7.48	1.6	-	
11:39	6	18.9	0.82	7.33	1.4	-	
11:43	8	19.0	0.82	7.32	1.2	-	
11:46	9	19.2	0.82	7.30	1.1	-	
0:19	:Total Time (hr:min)		**9**	:Total Vol (gal)		**0.47**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1150

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-11**
SITE NAME: Eldridge Ranch Site
DATE: 10/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: 32.70 Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: _____ Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00	:Total Time (hr:min)		**0**	:Total Vol (gal)		**#DIV/0!**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031008
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS: FPH MEASURED IN WELL. DID NOT PURGE & SAMPLE

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services | WELL ID: **MW-12**

SITE NAME: Eldridge Ranch Site | DATE: 12/10/2003

PROJECT NO. F-104 | SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 35.80 Feet
DEPTH TO WATER: 26.82 Feet
HEIGHT OF WATER COLUMN: 8.98 Feet
WELL DIAMETER: 2.0 Inch

4.4 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:00	0	-	-	-	-	-	Begin Hand Bailing
12:05	2	19.0	1.54	7.15	0.5	-	
12:10	4	18.9	1.54	7.41	0.4	-	
12:16	6	18.1	1.50	7.25	0.5	-	
12:21	8	18.4	1.51	7.23	0.7	-	
12:24	9	18.4	1.51	7.16	0.8	-	
12:28	10	18.5	1.52	7.11	1.0	-	
12:35	11	18.4	1.51	7.10	0.6	-	
0:35	:Total Time (hr:min)		**11**	:Total Vol (gal)		**0.31**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1240

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-13**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 37.40 Feet
DEPTH TO WATER: 28.50 Feet
HEIGHT OF WATER COLUMN: 8.90 Feet
WELL DIAMETER: 2.0 Inch

4.4 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
7:13	0	-	-	-	-	-	Begin Hand Bailing
7:19	1.5	17.5	1.01	6.92	2.3	-	
							Well Bailed Dry!
8:00	2.8	16.1	0.91	7.06	2.30	-	
							Well Bailed Dry!
8:37	4	17.8	0.88	7.07	2.2	-	
							Well Bailed Dry. Allowed Well
							Time to Recover Before Collecting
							Sample!

1:24 :Total Time (hr:min) **4** :Total Vol (gal) **0.05** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 0850

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-14**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.40 Feet
DEPTH TO WATER: 24.89 Feet
HEIGHT OF WATER COLUMN: 9.51 Feet
WELL DIAMETER: 2.0 Inch

4.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:15	0	-	-	-	-	-	Began Hand Bailing!
9:18	1.8	17.3	0.86	6.96	1.6	-	
							Well Bailed Dry!
9:49	3.5	17.2	0.84	7.02	2.5	-	
							Well Bailed Dry!
10:23	5.4	18.0	0.84	7.02	2.2	-	
							Well Bailed Dry. Allowed Well
							Time to Recover Before Collecting
							Sample!

1:08 :Total Time (hr:min) **5.4** :Total Vol (gal) **0.08** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1030

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-15**

SITE NAME: Eldridge Ranch Site DATE: 12/10/2003

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 38.71 Feet
DEPTH TO WATER: 27.06 Feet
HEIGHT OF WATER COLUMN: 11.65 Feet
WELL DIAMETER: 2.0 Inch

5.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:50	0	-	-	-	-	-	Begin Hand Bailing
14:55	2	18.3	0.54	7.11	4.8	-	
15:01	4	18.7	0.54	7.16	4.8	-	
15:07	6	17.5	0.53	7.17	5.1	-	
15:10	7	17.6	0.53	7.29	5.3	-	
15:14	8	18.4	0.54	7.10	4.8	-	
0:24	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.33**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1520

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-16**
SITE NAME: Eldridge Ranch Site
DATE: 1/13/2004
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 28.02 Feet
DEPTH TO WATER: 18.72 Feet
HEIGHT OF WATER COLUMN: 9.30 Feet
WELL DIAMETER: 2.0 Inch

4.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °F	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:49	0	-	-	-	-	-	Begin Hand Bailing
9:55	2	64.9	0.70	7.00	3.0	-	
10:07	4	64.3	0.73	6.98	2.5	-	
10:13	6	63.9	0.73	6.98	2.4	-	
0:24 :Total Time (hr:min)			**6** :Total Vol (gal)			**0.25** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 040113 1020
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-17**

SITE NAME: Eldridge Ranch Site DATE: 1/13/2004

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 27.52 Feet
DEPTH TO WATER: 15.94 Feet
HEIGHT OF WATER COLUMN: 11.58 Feet
WELL DIAMETER: 2.0 Inch

5.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °F	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:47	0	-	-	-	-	-	Begin Hand Bailing
10:51	2	64.7	0.67	7.03	3.9		
10:56	4	62.1	0.65	7.02	4.2		
11:02	6	62.1	0.67	7.03	4.0		
0:15	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.40**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040113 1110

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-18**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.87 Feet
DEPTH TO WATER: 23.49 Feet
HEIGHT OF WATER COLUMN: 11.38 Feet
WELL DIAMETER: 2.0 Inch

5.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:53	0	-	-	-	-	-	Begin Hand Bailing
10:58	2	18.7	0.80	7.35	0.4	-	
11:01	4	18.8	0.81	7.26	0.8	-	
11:05	6	19.0	0.80	7.15	0.7	-	
11:10	8	18.9	0.81	7.04	0.7	-	
11:14	10	19.0	0.80	7.06	0.7	-	
11:16	11	19.0	0.80	7.06	0.9	-	
0:23	:Total Time (hr:min)		**11**	:Total Vol (gal)		**0.48**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1120

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-19**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.86 Feet
DEPTH TO WATER: 18.35 Feet
HEIGHT OF WATER COLUMN: 11.51 Feet
WELL DIAMETER: 2.0 Inch

5.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:47	0	-	-	-	-	-	Begin Hand Bailing
9:52	2	17.6	0.67	7.05	2.4	-	
9:56	4	18.0	0.70	6.98	1.6	-	
10:00	6	18.2	0.72	6.96	1.5	-	
10:06	8	17.9	0.72	6.96	1.2	-	
0:19	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.42**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1010

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-20**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 35.01 Feet
DEPTH TO WATER: 31.78 Feet
HEIGHT OF WATER COLUMN: 3.23 Feet
WELL DIAMETER: 2.0 Inch

1.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:12	0	-	-	-	-	-	Begin Hand Bailing
13:17	2	17.6	0.76	7.62	6.0		
13:24	4	17.9	0.77	7.67	5.9		
13:30	6	17.8	0.76	7.64	6.1		

0:18 :Total Time (hr:min) **6** :Total Vol (gal) **0.33** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1335

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-21**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 37.89 Feet
DEPTH TO WATER: 27.23 Feet
HEIGHT OF WATER COLUMN: 10.66 Feet
WELL DIAMETER: 2.0 Inch

5.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:43	0	-	-	-	-	-	Begin Hand Bailing
13:47	2	18.8	0.70	7.36	0.3	-	
13:52	4	18.9	0.70	7.43	0.5	-	
13:57	6	18.4	0.67	7.23	0.5	-	
14:03	8	18.2	0.67	7.36	1.1	-	
14:07	9	18.5	0.68	7.30	1.0	-	
0:24	:Total Time (hr:min)		**9**	:Total Vol (gal)		**0.37**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1410

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: Collected Duplicate "B" Sample No.: 0312102200 for BTEX

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-22**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.92 Feet
DEPTH TO WATER: 23.24 Feet
HEIGHT OF WATER COLUMN: 11.68 Feet
WELL DIAMETER: 2.0 Inch

5.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
15:26	0	-	-	-	-	-	Begin Hand Bailing
15:31	2	17.5	0.64	7.07	1.7	-	
15:36	4	17.9	0.63	7.12	1.9	-	
15:42	6	17.7	0.62	7.13	1.9	-	

0:16 :Total Time (hr:min) **6** :Total Vol (gal) **0.37** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1550

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-23**
SITE NAME: Eldridge Ranch Site
DATE: 10/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 0.00 Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00 :Total Time (hr:min)			**0** :Total Vol (gal)			**#DIV/0!** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031008

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: FPH DETECTED IN WELL. DID NOT PURGE & SAMPLE!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-24**
SITE NAME: Eldridge Ranch Site
DATE: 1/13/2004
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 26.40 Feet
DEPTH TO WATER: 21.59 Feet
HEIGHT OF WATER COLUMN: 4.81 Feet
WELL DIAMETER: 2.0 Inch

2.4 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °F	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:30	0	-	-	-	-	-	Begin Hand Bailing
11:36	2	64.6	0.79	6.94	2.7	-	
11:43	4	64.3	0.78	6.94	2.7	-	
11:49	6	64.8	0.78	6.94	2.7	-	

0:19 :Total Time (hr:min) **6** :Total Vol (gal) **0.31** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040113 1155

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-25**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 39.82 Feet
DEPTH TO WATER: 28.28 Feet
HEIGHT OF WATER COLUMN: 11.54 Feet
WELL DIAMETER: 2.0 Inch

5.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:20	0	-	-	-	-	-	Begin Hand Bailing
14:25	2	18.3	0.62	7.2	5.40	-	
14:32	4	18.6	0.61	7.16	5.50	-	
14:38	6	18.4	0.59	7.17	5.60	-	

0:18 :Total Time (hr:min) **6** :Total Vol (gal) **0.33** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1540

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-26**
SITE NAME: Eldridge Ranch Site
DATE: 10/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 0.00 Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00	:Total Time (hr:min)		**0**	:Total Vol (gal)		**#DIV/0!**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031008

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: FPH DETECTED IN WELL. DID NOT PURGE & SAMPLE!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-27**

SITE NAME: Eldridge Ranch Site DATE: 12/8/2003

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 0.00 Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00 :Total Time (hr:min)			**0** :Total Vol (gal)			**#DIV/0!** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031208

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: FPH DETECTED IN WELL. DID NOT PURGE & SAMPLE!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **DMW-1**
SITE NAME: Eldridge Ranch Site
DATE: 12/10/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☑ Pump If Pump, Type: 2-Stage Super Purger
SAMPLING METHOD: ☐ Disposable Bailer ☑ Direct from Discharge Hose ☐ Other:

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other:

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 48.15 Feet
DEPTH TO WATER: 21.28 Feet
HEIGHT OF WATER COLUMN: 26.87 Feet
WELL DIAMETER: 2.0 Inch

13.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
16:22	0	-	-	-	-	-	Began Pumping Well!
16:25	4	17.1	0.52	7.56	4.8	-	
16:27	8	18.2	0.53	7.48	6.8	-	
16:30	12	17.3	0.52	7.43	6.8	-	
16:33	16	18.1	0.53	7.42	6.6	-	
16:36	20	18.4	0.53	7.40	6.6	-	
16:39	24	18.4	0.53	7.40	6.8	-	
0:17	:Total Time (hr:min)		**24**	:Total Vol (gal)		**1.41**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031210 1645
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **N WATER WELL**
SITE NAME: Eldridge Ranch Site
DATE: 12/9/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☑ Pump If Pump, Type: 2-Stage Super Purger
SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other:
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:
☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☑ Other:
DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 40.08 Feet
DEPTH TO WATER: 30.61 Feet
HEIGHT OF WATER COLUMN: 9.47 Feet
WELL DIAMETER: 6.3 Inch

45.3 Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
16:45	0	-	-	-	-	-	Began Pumping Well!
16:52	4	17.0	0.71	6.47	1.3	-	
16:55	6	17.0	0.71	6.49	1.3	-	
							Well Pumped Dry!
17:00	12	17.2	0.72	6.39	1.5	-	
17:07	16	17.8	0.72	6.39	1.5	-	
17:12	20	18.2	0.73	6.38	1.2	-	
17:17	24	17.9	0.72	6.36	1.8	-	
17:19	26	18.1	0.72	6.28	1.7	-	Well Pumped Dry! Allowed Well
							Time to Recover Before Collecting
							Sample!
0:34 :Total Time (hr:min)			**26** :Total Vol (gal)			**0.76** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031209 1725
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **S WATER WELL**
SITE NAME: Eldridge Ranch Site
DATE: 1/13/2004
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☑ Pump If Pump, Type: 2-Stage Super Purger
SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other:
DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:
☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:
DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 24.90 Feet
DEPTH TO WATER: 19.58 Feet
HEIGHT OF WATER COLUMN: 5.32 Feet
WELL DIAMETER: 8.5 Inch

47.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)

TIME	VOLUME PURGED	TEMP. °F	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:30	0	-	-	-	-	-	Pump On!
12:33	4	67.2	0.97	6.93	3.0	-	
12:36	8	66.9	0.97	6.91	2.9	-	
12:38	12	66.1	0.95	6.90	2.8	-	
12:41	16	66.4	0.96	6.90	2.8	-	
12:44	20	66.5	0.96	6.90	2.8	-	
12:46	24	66.5	0.96	6.74	3.0	-	
12:49	28	66.4	0.96	6.79	3.0	-	
12:52	32	66.5	0.96	6.84	3.0	-	
12:55	36	66.3	0.96	6.84	2.9	-	
12:57	40	66.2	0.96	6.83	2.9	-	
13:00	44	66.2	0.95	6.83	2.9	-	
13:02	48	66.2	0.95	6.84	3.0	-	
13:07	56	66.2	0.95	6.83	3.0	-	
0:37	:Total Time (hr:min)		**56**	:Total Vol (gal)		**1.51**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040113 1325
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **W WATER WELL**
SITE NAME: Eldridge Ranch Site
DATE: 12/9/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☑ Pump If Pump, Type: 2-Stage Super Purger

SAMPLING METHOD: ☐ Disposable Bailer ☑ Direct from Discharge Hose ☐ Other:

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☑ Alconox ☑ Distilled Water Rinse ☐ Other:

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 49.30 Feet
DEPTH TO WATER: 27.28 Feet
HEIGHT OF WATER COLUMN: 22.02 Feet
WELL DIAMETER: 6.0 Inch

97.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:51	0	-	-	-	-	-	Pump On!
14:06	10	16.4	0.62	7.36	8.0	-	
14:22	20	17.4	0.75	7.40	5.1	-	
14:29	25	18.1	0.77	7.49	5.1	-	
14:37	30	18.1	0.78	7.47	5.5	-	
14:44	35	17.6	0.77	7.40	6.3	-	
14:51	40	18.0	0.77	7.37	5.7	-	
14:58	45	18.0	0.77	7.34	5.9	-	
15:06	50	17.9	0.78	7.34	6.1	-	
15:13	55	18.0	0.78	7.34	6.3	-	
1:22	:Total Time (hr:min)		**55**	:Total Vol (gal)		**0.67**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031209 1515
ANALYSES: BTEX (8021-B)
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **HOUSE WELL**
SITE NAME: Eldridge Ranch Site
DATE: 1/13/2004
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: Submersible
SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other:

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:
☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: _____ Feet
WELL DIAMETER: _____ Inch

_____ Minimum Gallons to purge 3 well volumes (Water Column Height x 1.96)

TIME	VOLUME PURGED	TEMP. °F	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:34	0	-	-	-	-	-	Pump On!
9:44	-	59.8	0.88	6.90	0.9	-	
9:54	-	61.6	0.87	6.86	1.0	-	
10:04	-	62.5	0.82	6.84	1.00	-	
10:14	-	65.5	0.84	6.85	0.90	-	
10:17	190						
0:43	:Total Time (hr:min)		**190**	:Total Vol (gal)		**4.40**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040113 0917
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-A**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 28.93 Feet
DEPTH TO WATER: 21.3 Feet
HEIGHT OF WATER COLUMN: 7.63 Feet
WELL DIAMETER: 2.0 Inch

3.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:40	0	-	-	-	-	-	Began Hand Bailing Well!
12:43	2	19.8	0.90	7.10	0.0	-	
12:50	4	19.9	0.90	7.09	0.3	-	
12:55	6	19.7	0.90	7.09	0.0	-	

0:15 :Total Time (hr:min) **6** :Total Vol (gal) **0.40** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1315

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-B**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 32.83 Feet
DEPTH TO WATER: 21.96 Feet
HEIGHT OF WATER COLUMN: 10.87 Feet
WELL DIAMETER: 2.0 Inch

5.3 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:40	0	-	-	-	-	-	Began Hand Bailing Well!
12:46	2	20.1	0.90	7.18	0.0	-	
12:53	4	19.9	0.89	7.18	0.3	-	
12:59	6	19.7	0.89	7,17	0.3	-	
0:19	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.31**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1300

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-C**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.01 Feet
DEPTH TO WATER: 20.94 Feet
HEIGHT OF WATER COLUMN: 8.07 Feet
WELL DIAMETER: 2.0 Inch

4.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:09	0	-	-	-	-	-	Began Hand Bailing Well!
13:12	2	20.0	0.99	7.07	0.5	-	
13:17	4	20.1	1.01	7.01	0.5	-	
13:22	6	20.3	1.01	6.99	0.4	-	
13:26	7	20.0	1.01	6.98	0.8	-	
0:17	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.41**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1330

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-D**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 33.54 Feet
DEPTH TO WATER: 24.30 Feet
HEIGHT OF WATER COLUMN: 9.24 Feet
WELL DIAMETER: 2.0 Inch

4.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:29	0	-	-	-	-	-	Began Hand Bailing Well!
9:33	2	18.3	0.88	7.21	0.1	-	
9:39	4	19.0	0.86	7.32	0.2	-	
							Well Bailed Dry!
10:01	5	18.7	0.85	7.30	2.4	-	
10:13	6	18.7	0.85	7.27	2.6		
							Well Bails Down, but Recovers
							Fairly Quick!
0:44	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.14**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1020

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services | WELL ID: **MW-E**

SITE NAME: Eldridge Ranch Site | DATE: 12/11/2003

PROJECT NO. F-104 | SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 32.24 Feet
DEPTH TO WATER: 21.61 Feet
HEIGHT OF WATER COLUMN: 10.63 Feet
WELL DIAMETER: 2.0 Inch

5.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:05	0	-	-	-	-	-	Began Hand Bailing Well!
10:09	2	19.3	0.92	7.19	0.0	-	
10:35	4	19.1	0.91	7.16	0.3	-	
10:41	6	19.7	0.91	7.17	0.1	-	

0:36 :Total Time (hr:min) | **6** :Total Vol (gal) | **0.17** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1050

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-F**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 27.29 Feet
DEPTH TO WATER: 17.48 Feet
HEIGHT OF WATER COLUMN: 9.81 Feet
WELL DIAMETER: 2.0 Inch

4.8 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:06	0	-	-	-	-	-	Began Hand Bailing Well!
11:11	2	19.0	0.81	7.27	0.0	-	
11:16	4	19.1	0,81	7.29	0.3	-	
11:23	6	19.1	0.81	7.27	0.2	-	
0:17	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.35**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1130

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-G**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 28.48 Feet
DEPTH TO WATER: 17.82 Feet
HEIGHT OF WATER COLUMN: 10.66 Feet
WELL DIAMETER: 2.0 Inch

5.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:48	0	-	-	-	-	-	Began Hand Bailing Well!
11:51	2	19.5	0.67	7.54	2.3	-	
11:56	4	19.7	0.67	7.51	2.1	-	
12:02	6	19.7	0.66	7.50	1.8	-	

0:14 :Total Time (hr:min) **6** :Total Vol (gal) **0.43** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1210

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-H**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 33.37 Feet
DEPTH TO WATER: 22.73 Feet
HEIGHT OF WATER COLUMN: 10.64 Feet
WELL DIAMETER: 2.0 Inch

5.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:39	0	-	-	-	-	-	Began Hand Bailing Well!
13:43	2	19.2	1.10	7.19	0.9	-	
13:47	4	19.2	1.07	7.22	0.6	-	
13:50	6	19.2	1.05	7.20	0.7	-	
13:53	7	19.2	1.04	7.18	1.5		
0:14	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.50**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1400

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-I**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 36.74 Feet
DEPTH TO WATER: 25.48 Feet
HEIGHT OF WATER COLUMN: 11.26 Feet
WELL DIAMETER: 2.0 Inch

5.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:07	0	-	-	-	-	-	Began Hand Bailing Well!
14:12	2	19.2	0.89	7.30	0.2	-	
14:16	4	19.4	0.90	7.21	0.6	-	
14:19	6	19.3	0.90	7.18	0.4	-	
14:23	8	19.3	0.89	7.18	0.8		
0:16	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.50**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1425

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-J**

SITE NAME: Eldridge Ranch Site DATE: 12/11/2003

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 29.36 Feet
DEPTH TO WATER: 23.18 Feet
HEIGHT OF WATER COLUMN: 6.18 Feet
WELL DIAMETER: 2.0 Inch

3.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:30	0	-	-	-	-	-	Began Hand Bailing Well!
14:35	2	19.2	0.99	7.15	0.9	-	
14:40	4	19.3	0.99	7.15	0.9	-	
14:44	6	19.3	0.98	7.15	0.9	-	

0:14 :Total Time (hr:min) **6** :Total Vol (gal) **0.43** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1450

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services | WELL ID: **MW-K**

SITE NAME: Eldridge Ranch Site | DATE: 12/11/2003

PROJECT NO. F-104 | SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 28.31 Feet
DEPTH TO WATER: 16.60 Feet
HEIGHT OF WATER COLUMN: 11.71 Feet
WELL DIAMETER: 2.0 Inch

5.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
15:05	0	-	-	-	-	-	Began Hand Bailing Well!
15:09	2	19.3	0.84	7.21	1.0	-	
15:15	4	19.3	0.82	7.26	3.0	-	
15:20	6	19.0	0.83	7.19	1.5	-	
15:25	8	19.0	0.82	7.23	1.8	-	
0:20	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.40**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1535

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-L**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 33.60 Feet
DEPTH TO WATER: 25.82 Feet
HEIGHT OF WATER COLUMN: 7.78 Feet
WELL DIAMETER: 2.0 Inch

3.8 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:32	0	-	-	-	-	-	Began Hand Bailing Well!
14:37	2	19.4	1.09	7.01	0.0	-	
14:42	4	19.4	1.05	6.96	0.2	-	
14:48	6	19.1	1.05	6.96	0.3	-	
14:51	7	19.2	1.03	6.96	0.2		

0:19 :Total Time (hr:min) **7** :Total Vol (gal) **0.37** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1455

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-M**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 40.42 Feet
DEPTH TO WATER: 28.92 Feet
HEIGHT OF WATER COLUMN: 11.50 Feet
WELL DIAMETER: 2.0 Inch

5.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:56	0	-	-	-	-	-	Began Hand Bailing Well!
13:03	2	18.9	1.60	7.32	0.0	-	
13:10	4	19.0	1.67	7.26	0.3	-	
							Well Bailed Dry!
13:15	5	19.0	1.62	7.25	1.5	-	
							Well Bailed Dry!
13:30	6	19.3	1.34	7.28	1.4		
13:33	7	19.2	1.46	7.30	1.1		
13:37	8	18.9	1.50	7.31	1.4		
13:41	9	19.1	1.54	7.39	2.1		
13:47	10	19.4	1.48	7.37	2.0		
							Well Bails Down, but Recovers
							Quickly!
0:51	:Total Time (hr:min)		**10**	:Total Vol (gal)		**0.20**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1350

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-N**
SITE NAME: Eldridge Ranch Site
DATE: 12/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 0.00 Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00 :Total Time (hr:min)			**0** :Total Vol (gal)			**#DIV/0!** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031208

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: FPH DETECTED IN WELL. DID NOT PURGE & SAMPLE!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-O**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 38.55 Feet
DEPTH TO WATER: 28.95 Feet
HEIGHT OF WATER COLUMN: 9.60 Feet
WELL DIAMETER: 2.0 Inch

4.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
8:46	0	-	-	-	-	-	Began Hand Bailing Well!
8:52	2	18.5	0.80	7.20	0.1	-	
8:57	4	18.5	0.81	7.16	0.4	-	
9:03	6	18.6	0.82	7.18	0.6	-	

0:17 :Total Time (hr:min) **6** :Total Vol (gal) **0.35** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 0905

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-P**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 37.70 Feet
DEPTH TO WATER: 27.17 Feet
HEIGHT OF WATER COLUMN: 10.53 Feet
WELL DIAMETER: 2.0 Inch

5.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
7:26	0	-	-	-	-	-	Began Hand Bailing Well!
7:33	2	17.0	0.82	7.19	0.2	-	
7:37	4	18.0	0.81	7.18	0.3	-	
7:42	6	18.0	0.81	7.17	0.4	-	
						-	
0:16	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.37**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 0745

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-Q**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 36.90 Feet
DEPTH TO WATER: 25.56 Feet
HEIGHT OF WATER COLUMN: 11.34 Feet
WELL DIAMETER: 2.0 Inch

5.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
16:37	0	-	-	-	-	-	Began Hand Bailing Well!
16:43	2	19.0	0.80	7.26	0.1	-	
16:49	4	19.1	0.80	7.23	0.0	-	
16:52	6	19.3	0.82	7.20	0.4	-	
16:56	8	19.2	0.82	7.19	0.6	-	
0:19	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.42**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1700

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-R**

SITE NAME: Eldridge Ranch Site DATE: 12/11/2003

PROJECT NO. F-104 SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 32.87 Feet
DEPTH TO WATER: 20.66 Feet
HEIGHT OF WATER COLUMN: 12.21 Feet
WELL DIAMETER: 2.0 Inch

6.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
16:15	0	-	-	-	-	-	Began Hand Bailing Well!
16:21	2	18.9	0.74	7.30	0.2	-	
16:24	4	19.3	0.75	7.27	0.6	-	
16:27	6	19.2	0.75	7.26	0.7	-	
						-	
0:12	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.50**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1630

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-S**
SITE NAME: Eldridge Ranch Site
DATE: 12/11/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 30.32 Feet
DEPTH TO WATER: 17.28 Feet
HEIGHT OF WATER COLUMN: 13.04 Feet
WELL DIAMETER: 2.0 Inch

6.4 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
15:50	0	-	-	-	-	-	Began Hand Bailing Well!
15:55	2	18.4	0.66	7.60	0.7	-	
15:58	4	18.7	0.67	7.56	1.7	-	
16:01	6	18.8	0.65	7.60	1.4	-	
16:05	8	18.8	0.65	7.60	1.7	-	
0:15	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.53**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031211 1610

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-T**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 37.68 Feet
DEPTH TO WATER: 26.60 Feet
HEIGHT OF WATER COLUMN: 11.08 Feet
WELL DIAMETER: 2.0 Inch

5.4 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
8:06	0	-	-	-	-	-	Began Hand Bailing Well!
8:12	2	18.4	0.86	7.10	0.1	-	
8:15	4	18.7	0.86	7.09	0.3	-	
8:18	6	18.6	0.83	7.12	0.2	-	
						-	
0:12 :Total Time (hr:min)			**6** :Total Vol (gal)			**0.50** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031212 0820

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-AA**
SITE NAME: Eldridge Ranch Site
DATE: 12/15/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.62 Feet
DEPTH TO WATER: 24.08 Feet
HEIGHT OF WATER COLUMN: 10.54 Feet
WELL DIAMETER: 2.0 Inch

5.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:54	0	-	-	-	-	-	Began Hand Bailing Well!
9:58	2	18.8	1.00	7.06	0.3	-	
10:01	4	19.1	1.00	7.06	0.2	-	
10:04	6	19.0	0.98	7.04	0.2	-	

0:10 :Total Time (hr:min) **6** :Total Vol (gal) **0.60** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031215 1010
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-BB**
SITE NAME: Eldridge Ranch Site
DATE: 12/15/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 31.55 Feet
DEPTH TO WATER: 24.42 Feet
HEIGHT OF WATER COLUMN: 7.13 Feet
WELL DIAMETER: 2.0 Inch

3.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:46	0	-	-	-	-	-	Began Hand Bailing Well!
10:50	2	18.7	1.14	6.92	0.0	-	
							Well Bailed Dry!
11:10	3.5	19.5	1.10	6.95	0.1	-	
							Well Bailed Dry!
12:00	4.8	16.1	1.06	6.91	2.1		
							Well Bailed Dry. Allowed Well
							Time to Recover Before Collecting
							Sample!
1:14	:Total Time (hr:min)		**4.8**	:Total Vol (gal)		**0.06**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031215 1210

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-CC**
SITE NAME: Eldridge Ranch Site
DATE: 12/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 0.00 Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00 :Total Time (hr:min)			**0** :Total Vol (gal)			**#DIV/0!** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031208

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: FPH DETECTED IN WELL. DID NOT PURGE & SAMPLE!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-DD**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.41 Feet
DEPTH TO WATER: 24.46 Feet
HEIGHT OF WATER COLUMN: 9.95 Feet
WELL DIAMETER: 2.0 Inch

4.9 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:59	0	-	-	-	-	-	Began Hand Bailing Well!
10:03	2	18.6	0.82	7.10	0.2	-	
10:06	4	18.9	0.80	7.13	0.0	-	
10:09	6	18.8	0.80	7.13	0.4	-	
10:11	7	18.8	0.81	7.13	0.7	-	
0:12	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.58**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1015

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-EE**
SITE NAME: Eldridge Ranch Site
DATE: 12/8/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☐ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☐ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☐ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☐ Disposal Facility

TOTAL DEPTH OF WELL: _____ Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: 0.00 Feet
WELL DIAMETER: 2.0 Inch

0.0 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
							Begin Hand Bailing
0:00	:Total Time (hr:min)		**0**	:Total Vol (gal)		**#DIV/0!**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031208
ANALYSES: BTEX (8021-B), Chlorides
COMMENTS: FPH DETECTED IN WELL. DID NOT PURGE & SAMPLE!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-FF**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 32.91 Feet
DEPTH TO WATER: 27.5 Feet
HEIGHT OF WATER COLUMN: 5.41 Feet
WELL DIAMETER: 2.0 Inch

2.7 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
14:00	0	-	-	-	-	-	Began Hand Bailing Well!
14:05	2	19.4	1.36	7.27	0.4	-	Well Bailing Down, But Recovering
14:10	3.5	19.1	1.45	7.27	0.8	-	Quickly!
14:19	5	18.8	1.52	7.22	2.0	-	"
14:23	6	18.9	1.53	7.19	2.6	-	"
0:23 :Total Time (hr:min)			**6** :Total Vol (gal)			**0.26** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031212 1430

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-GG**
SITE NAME: Eldridge Ranch Site
DATE: 12/15/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 33.41 Feet
DEPTH TO WATER: 24.24 Feet
HEIGHT OF WATER COLUMN: 9.17 Feet
WELL DIAMETER: 2.0 Inch

4.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:29	0	-	-	-	-	-	Began Hand Bailing Well!
9:31	2	18.5	0.92	7.09	0.3	-	
9:35	4	18.9	0.92	7.07	0.0	-	
9:38	6	18.9	0.92	7.08	0.4	-	
0:09	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.66**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031215 0940

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-HH**
SITE NAME: Eldridge Ranch Site
DATE: 12/15/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 33.85 Feet
DEPTH TO WATER: 24.60 Feet
HEIGHT OF WATER COLUMN: 9.25 Feet
WELL DIAMETER: 2.0 Inch

4.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:18	0	-	-	-	-	-	Began Hand Bailing Well!
11:21	2	19.6	1.00	7.00	0.1	-	
11:26	4	19.9	1.00	6.99	0.2	-	
11:50	6	15.8	1.01	6.98	0,5	-	Possible Probe Malfunction!
11:54	8	16.3	1.00	6.93	0.3	-	
0:36 :Total Time (hr:min)			**8** :Total Vol (gal)			**0.22**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031215 1200

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-II**
SITE NAME: Eldridge Ranch Site
DATE: 12/15/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.20 Feet
DEPTH TO WATER: 24.11 Feet
HEIGHT OF WATER COLUMN: 10.09 Feet
WELL DIAMETER: 2.0 Inch

4.9 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:19	0	-	-	-	-	-	Began Hand Bailing Well!
10:23	2	18.9	0.99	7.04	0.01	-	
10:26	4	18.9	0.98	7.02	0.03	-	
10:29	6	19.1	1.00	6.95	0.02	-	
10:31	7	19.1	0.99	6.99	0.01	-	
0:12 :Total Time (hr:min)			**7** :Total Vol (gal)			**0.58** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031215 1035

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services | WELL ID: **MW-JJ**

SITE NAME: Eldridge Ranch Site | DATE: 12/15/2003

PROJECT NO. F-104 | SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 34.90 Feet
DEPTH TO WATER: 24.93 Feet
HEIGHT OF WATER COLUMN: 9.97 Feet
WELL DIAMETER: 2.0 Inch

4.9 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:18	0	-	-	-	-	-	Began Hand Bailing Well!
12:22	2	18.4	0.96	6.93	0.3	-	
12:28	4	18.5	1.02	6.85	0.2	-	
12:34	6	18.2	-	6.85	0.7	-	*Conductivity Probe Malfunction!*
12:36	7	18.6	-	6.86	1.1	-	"
0:18	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.39**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031215 1240

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-KK**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 38.90 Feet
DEPTH TO WATER: 29.61 Feet
HEIGHT OF WATER COLUMN: 9.29 Feet
WELL DIAMETER: 2.0 Inch

4.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:05	0	-	-	-	-	-	Began Hand Bailing Well!
12:10	2	18.0	1.09	7.44	1.1	-	Well Bails Down!
12:15	4	18.0	-	7.43	-	-	"
12:22	6	17.9	1.45	7.34	1.7	-	"
12:27	7	18.1	1.49	7.29	2.1	-	"
12:31	8	18.5	1.52	7.28	1.8	-	"
							Well Bails Down, but Recovers
							Quickly!
0:26	:Total Time (hr:min)		**8**	:Total Vol (gal)		**0.31**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1235

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-LL**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 39.53 Feet
DEPTH TO WATER: 30.31 Feet
HEIGHT OF WATER COLUMN: 9.22 Feet
WELL DIAMETER: 2.0 Inch

4.5 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:02	0	-	-	-	-	-	Began Hand Bailing Well!
11:08	2	18.5	0.82	7.13	0.0	-	
11:13	4	18.5	0.82	7.10	0.0	-	
11:16	6	18.8	0.83	7.09	0.0	-	
0:14	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.43**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1120

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-MM**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 35.70 Feet
DEPTH TO WATER: 24.96 Feet
HEIGHT OF WATER COLUMN: 10.74 Feet
WELL DIAMETER: 2.0 Inch

5.3 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
9:25	0	-	-	-	-	-	Began Hand Bailing Well!
9:30	2	18.4	0.68	7.47	0.4	-	
9:33	4	18.5	0.68	7.47	1.0	-	
9:39	6	18.3	0.65	7.47	1.7	-	
			-				
0:14	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.43**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 0945

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-NN**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 39.10 Feet
DEPTH TO WATER: 30.61 Feet
HEIGHT OF WATER COLUMN: 8.49 Feet
WELL DIAMETER: 2.0 Inch

4.2 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:34	0	-	-	-	-	-	Began Hand Bailing Well!
10:39	2	18.7	0.85	7.11	0.4	-	
10:45	4	18.7	0.85	7.10	0.8	-	
10:48	6	18.9	0.86	7.11	1.0	-	
0:14 :Total Time (hr:min)			**6** :Total Vol (gal)			**0.43** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 031212 1050

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-OO**
SITE NAME: Eldridge Ranch Site
DATE: 12/12/2003
PROJECT NO. F-104
SAMPLER: Van Deventer/Littlejohn / Fergerson

PURGING METHOD: ☑ Hand Bailed ☐ Pump If Pump, Type: _____

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☑ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 39.47 Feet
DEPTH TO WATER: 30.01 Feet
HEIGHT OF WATER COLUMN: 9.46 Feet
WELL DIAMETER: 2.0 Inch

4.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:35	0	-	-	-	-	-	Began Hand Bailing Well!
11:41	2	18.9	0.78	7.21	0.2	-	
11:45	4	19.1	0.78	7.17	0.3	-	
11:49	6	19.0	0.78	7.17	0.7	-	
0:14	:Total Time (hr:min)		**6**	:Total Vol (gal)		**0.43**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 031212 1155

ANALYSES: BTEX (8021-B), Chlorides

COMMENTS: _____