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2009

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Stantec

2009 Annual Report
Lovington Paddock Site
Lea County, New Mexico
NMOCD Permit: 1R272

Township: 17 South
Range: 36 East
Section: 1

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Reviewed by:

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December 2009

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1.0 Introduction

On behalf of Chevron Environmental Management Company (Chevron), Stantec Consulting Corporation (Stantec) prepared this *2009 Annual Report* to summarize the following activities conducted at the Lovington Paddock Unit (the Site) in 2009:

- Semi-annual groundwater monitoring.

This work was conducted under the regulatory oversight of the New Mexico Oil Conservation Division (NMOCD).

The remainder of the report is organized into the following sections:

- Section 2 summarizes background and characterization information for the Site;
- Section 3 describes field activities conducted at the Site in 2009;
- Section 4 summarizes results; and
- Section 5 provides conclusions and recommendations.

2.0 Site Background and Characterization

2.1 SITE LOCATION AND REGIONAL SETTING

The Site is located within the Lovington Paddock Unit, an active oil production field, which is located in the southeast corner of New Mexico, in the central portion of Lea County, approximately five miles south-southeast of the City of Lovington. A Site location map is presented as Figure 1.

The Site lies in the Colorado River Basin of the Great Plains physiographic province on the Lea Plateau of the Southern High Plains, which is bounded on the south and west by the Mescalaro Escarpment and on the north and northeast by the Brazos River Basin. Surface acreage in the area of the Site is predominately comprised of oil production equipment. Topography at the Site is generally flat with an approximate elevation of 3,838 feet above mean sea level (amsl). A Site satellite photograph is presented as Figure 2.

Current Site features include the following:

- One former pit location;
- Five known pipelines;
- A three-well biosparge remediation system utilizing wells BW-1, MW-T (converted when BW-2 failed), and BW-3;
- 11 dry monitoring wells (MW-1 through MW-10 and MW-A);
- 22 monitoring wells (MW-B through MW-W); and
- Oil field production wells and oil field injection wells located throughout the Lovington Paddock Unit.

A Site details map is presented on Figure 3

2.2 GEOLOGICAL AND HYDROGEOLOGICAL CHARACTERIZATION

A file review of previously submitted soil boring advancement and groundwater monitoring well completion logs indicate the following geology at the Site:

- Interbedded sand and sandstone from the ground surface to approximately 20 feet below ground surface (bgs).
- The caliche strata layer extends from approximately 20 feet bgs, to a sand layer found at approximately 65 feet bgs.
- The sand layer overlays a layer of clay found at approximately 90 feet bgs. The clay layer is approximately 20 feet thick.
- The clay overlays a second sand and gravel stratum that extends to approximately 115 feet bgs.

- Clay beds are encountered at approximately 115 feet bgs and define the total depth of the Site wells.

The geologic formations of interest in the vicinity of the Site include (from the oldest to the youngest): Triassic, undifferentiated; Cretaceous, undifferentiated; and Tertiary Ogallala (Stantec, 2008). The monitoring wells advanced at the Site were believed to have penetrated only the upper one-third portion of the Ogallala Formation and were not drilled to a sufficient depth to encounter the Triassic and Cretaceous Formations. The lower Tertiary Ogallala Formation is the primary freshwater-bearing formation in the vicinity and under the Site. The Ogallala Formation is believed to rest uncomformably upon the claystones, sandstones, and siltstones of the Triassic Chinle Formation. The Chinle forms the base of the fresh groundwater in the area because of the Chinle's low vertical permeability. The lower Ogallala Formation has not been encountered at the Site but is believed to be a heterogeneous combination of clay, silt, sand, and gravel of braided-stream deposits interbedded with, and overlain by, eolian sediments deposited as sand sheets and loess. These river- or stream-related (fluvial or alluvial) sediments were deposited on a sloping plain in the form of coalescing alluvial fans by streams that originated in the Rocky Mountains to the west and northwest. In contrast to the fluvial deposition of the lower Ogallala sediments, the upper part of the Ogallala is composed of eolian deposits of fine- to very fine-grained sandstones. Hard, often siliceous, caliche caps the Ogallala and appears as cobbles in the surface soil.

Local groundwater gradient generally slopes to the southeast and follows the topographic slope toward Johnson Draw.

2.3 PREVIOUS INVESTIGATIONS AND REMEDIATION

In June 1998, the initial assessment of an abandoned pit by Highlander Environmental Corporation (Highlander) included the installation of five soil borings (BH-1 through BH-5). Four of the borings were installed around the edge of the pit, and one was installed in the bottom of the pit. In July 1998 and August 1998, sludge material and soils were excavated approximately two feet deep, where a hard caliche layer was encountered. In October 1998, monitoring wells MW-1 through MW-4 were installed, and groundwater samples were collected in November 1998. Monitoring wells MW-5 and MW-6 were installed, and in March 1999, monitoring wells MW-7, MW-8, and MW-9 were installed at the Site. Based on groundwater sampling results, two separate plumes were identified. One plume is associated with the abandoned pit, and one plume is up-gradient of the pit. Soil borings BH-6 through BH-9 were installed to investigate the plume up-gradient of the abandoned pit. Soil boring BH-11 was converted to monitoring well MW-10. The results from the borings and monitoring wells exhibited petroleum hydrocarbon concentrations and phase-separated hydrocarbons (PSH) in eight of the ten monitoring wells (MW-1 through MW-10). Based on these results, it is believed that there are two separate petroleum hydrocarbon plumes.

In March 2001, Environmental Plus, Inc. (EPI), on behalf of EOTT Energy, LLC, uncovered 300 feet of EOTT pipeline to look for previously-repaired or replaced line. Based on EPI's

observations, no previously-repaired or replaced lines were found. EPI also stated that the area that showed staining during drilling activities was moist with water and had no petroleum hydrocarbon odor. As indicated in EPI's report, a representative from Chevron's field office (formerly Pure Resources, LP) was on-site during the excavation of the pipeline.

In 2001, the 40-acre tract on which the Site is located was purchased by AST West from the City of Lovington. Shortly after AST West purchased the land, they installed a well near their business south of the site. Additionally, Goff Dairies installed four water wells to the east and south of the site. The wells were designed to pump roughly 600 to 800 gallons per minute. This pumping eventually lowered the water table and changed the direction of groundwater flow from the northeast to the southeast.

In June 2003, Arcadis installed 12 monitoring wells, MW-A through MW-J and MW-L through MW-N to replace the dry monitoring wells MW-1 through MW-10. The monitoring wells went dry due to the dewatering of the aquifer by the AST West and Goff Dairy water wells. PSH was not encountered in monitoring wells MW-A through MW-N.

To remediate the petroleum hydrocarbon concentrations in groundwater and soil, a pilot low-flow biosparge well (BW-1) was installed in November 2003 by Arcadis. Additionally, three monitoring wells (MW-O, MW-P, and MW-Q) were installed to determine the extent of the petroleum hydrocarbon plume, and one monitoring well (MW-D2) was installed to investigate a potential chloride plume. Monitoring well MW-D2 was installed near monitoring well MW-D and was screened from the top of the aquifer to the bottom of the aquifer. Based on sample results, it appears that the dissolved solids release has not affected the aquifer.

A 90-day pilot test was conducted to measure the effectiveness of the biosparge well. The biosparge well was used to inject air into the saturated and vadose zones at a rate of approximately 5 cubic feet per minute (cfm). The purpose of the air injection was to stimulate aerobic biodegradation of petroleum hydrocarbons by indigenous microorganisms in the saturated and vadose zones. The biosparging process showed significant success during the 90-day pilot test.

Due to the success of the biosparge pilot test, Arcadis installed two additional biosparge wells (BW-2 and BW-3) at the Site in May 2005. After the installation of these wells, a 180-day study was conducted to monitor the effectiveness of the three biosparge wells. During the study, groundwater and soil vapor sampling was conducted, a radius of influence of approximately 85 feet was observed, and further down-gradient movement of the petroleum hydrocarbon plume was prevented. Results are summarized in a March 3, 2006 report titled *180 Day Expanded Biosparge Study*.

The biosparge study was continued by SECOR International Incorporated (SECOR) for a total of 700 days after acquiring the Site from Arcadis. Activities conducted from July 2006 through May 2007 are summarized in the *Biosparging Assessment Report* dated June 22, 2007. Discussions regarding system effectiveness triggered a detailed review of the data. SECOR personnel evaluated the groundwater data presented in the Arcadis report and determined that,

on the basis of the data presented, the assumptions made by Arcadis regarding the quantification of oxygen consumption in biomass production were incorrect, and the system may or may not be having the desired effect on the aquifer.

As part of an effort to determine the effectiveness of the biosparge system, SECOR installed two additional groundwater monitoring wells (MW-S and MW-T) in July 2006. In April 2007, MW-T was converted to a biosparge well due to failure of well BW-2. Three additional groundwater monitoring wells (MW-U, MW-V, and MW-W) were installed to better evaluate the biosparge system.

SECOR continued groundwater assessment activities in 2007. Activities conducted from May 2007 through October 2007 are included in the *Lovington Paddock Annual Groundwater Monitoring Report* dated January 20, 2008.

3.0 Field Activities

Site wells are currently monitored on a semi-annual basis. The monitoring program consists of the following:

- Gauging water levels in wells to determine groundwater elevations, groundwater flow direction, and hydraulic gradient at the Site; and
- Sampling wells to determine concentrations of BTEX, total petroleum hydrocarbons in the diesel range organics (TPH-DRO), and total petroleum hydrocarbons in the gasoline range organics (TPH-GRO) at the Site.

Groundwater monitoring events in 2009 were conducted on January 26 to February 11 and July 1 to July 17.

3.1 GROUNDWATER GAUGING

Water levels were measured in 20 monitoring wells in January and July of 2009 using an electronic oil-water interface probe accurate to the hundredths of a foot. Measurements were collected from permanent reference points marked on the top of the casing of each well, if identifiable, or from the north side of the casing.

3.2 GROUNDWATER SAMPLING

After the wells were gauged, each well was purged of at least one well volume, and parameters (turbidity, temperature, water level, oxidation-reduction potential [ORP], pH, conductivity, and dissolved oxygen [DO]) were monitored until they stabilized sufficiently (i.e., at least three parameters were within 10% for three consecutive measurements). Samples were then collected, labeled, recorded on a laboratory chain-of-custody, and placed on ice in an insulated cooler to maintain a temperature of approximately 40°F (4°C). Field equipment was decontaminated with an Alconox© wash and a distilled-water rinse prior to beginning field activities and between all wells. Samples were transmitted to Lancaster Laboratories in Lancaster, Pennsylvania for analysis. Proper chain of custody documentation was maintained throughout the sampling and analysis process.

Biosparge wells BW-1 through BW-3 and MW-T and monitoring wells MW-B through MW-S, MW-U through MW-W, and BW-2 were sampled in February and July of 2009. Well MW-A previously collapsed and was not sampled.

Sample analyses conducted in 2009 include the following:

- BTEX by United States Environmental Protection Agency (USEPA) Method 8021B; and
- TPH-DRO and TPH-GRO by USEPA Method 8015B.

4.0 Results

4.1 GROUNDWATER GAUGING

Table 1 summarizes current and historical groundwater elevation data for the Site.

4.1.1 January 2009

In January 2009, groundwater elevation at the Site ranged from 3,722.32 feet amsl in well MW-R to 3,728.39 feet amsl in well MW-M. The potentiometric surface map for January 2009 is provided in Figure 4. The groundwater flow direction was toward the east-southeast at an approximate hydraulic gradient of 0.007 feet per foot (ft/ft).

4.1.2 July 2009

In July 2009, groundwater elevation at the Site ranged from 3,705.64 feet amsl in well MW-R to 3,724.38 feet amsl in well MW-M. The potentiometric surface map for July 2009 is provided in Figure 5. The groundwater flow direction was generally toward the east-southeast at an approximate hydraulic gradient of 0.02 ft/ft.

4.2 GROUNDWATER SAMPLING

Table 2 summarizes current and historical groundwater analytical data for the Site.

4.2.1 February 2009

BTEX analytical results for February 2009 are summarized as follows:

- Benzene was detected in groundwater samples from 19 wells at concentrations ranging from 0.0002[1] milligrams per liter (mg/L) in wells BW-2 and MW-R to 0.49 mg/L in monitoring well MW-H. A total of six groundwater samples were reported at concentrations exceeding the benzene New Mexico Water Quality Control Commission (NMWQCC) groundwater standard of 0.01 mg/L (wells MW-B, MW-H, MW-I, MW-L, MW-M, and MW-S). A benzene isopleth concentration map for February 2009 is shown in Figure 6.

- Toluene was detected in groundwater samples from 24 wells at concentrations ranging from 0.0002[1] mg/L (BW-1, BW-3, and MW-F) to 0.056 mg/L (MW-H). All reported groundwater concentrations were below the toluene NMWQCC groundwater standard of 0.75 mg/L.

[1] Estimated value according to laboratory qualifier.

- Ethylbenzene was detected in groundwater samples from 21 wells at concentrations ranging from 0.0002[1] mg/L (BW-1) to 0.0075 mg/L (MW-H). All reported groundwater concentrations were below the ethylbenzene NMWQCC groundwater standard of 0.75 mg/L.

- Total xylenes were detected in groundwater samples from 20 wells at concentrations ranging from 0.0007[1] mg/L (MW-E, MW-Q, and MW-V) to 0.022 mg/L (MW-H). All reported groundwater concentrations were below the total xylenes NMWQCC groundwater standard of 0.62 mg/L.

TPH-DRO and TPH-GRO analytical results for February 2009 are summarized as follows:

- TPH-DRO was detected in groundwater samples from 14 wells at concentrations ranging from 0.033[1] mg/L (MW-T) to 0.078[1] mg/L (MW-H, MW-W). There is not a NMWQCC groundwater standard for TPH-DRO. However, all reported groundwater concentrations were below the TPH-DRO New Mexico Environment Department (NMED) groundwater screening level of 0.2 mg/L.

- TPH-GRO was detected in groundwater samples from 13 wells at concentrations ranging from 0.023[1] mg/L (MW-V) to 1.2 mg/L (MW-H). There is not a NMWQCC groundwater standard for TPH-GRO. However, one groundwater sample was reported at a concentration exceeding the TPH-GRO NMED groundwater screening level of 0.2 mg/L (well MW- H).

A TPH-DRO and TPH-GRO concentration map for February 2009 is shown in Figure 7.

4.2.2 July 2009

BTEX analytical results for July 2009 are summarized as follows:

- Benzene was detected in groundwater samples from nine wells at concentrations ranging from 0.0003[1] mg/L (MW-L) to 0.25 mg/L (MW-H). A total of five groundwater samples were reported at concentrations exceeding the benzene NMWQCC groundwater standard of 0.01 mg/L (wells BW-2, BW-3, MW-B, MW-H, and MW-I). A benzene isopleth concentration map for July 2009 is shown in Figure 8.

- Toluene was detected in groundwater samples from four wells at concentrations ranging from 0.0002[1] mg/L (BW-2, MW-C, and MW-I) to 0.0018 mg/L (MW-H). All reported groundwater concentrations were below the toluene NMWQCC groundwater standard of 0.75 mg/L.

- Ethylbenzene was detected in groundwater samples from 15 wells at concentrations ranging from 0.0002[1] mg/L (MW-E, MW-L and MW-R) to 0.0270 mg/L (MW-H). The

[1] Estimated value according to laboratory qualifier.

reported groundwater concentration was below the ethylbenzene NMWQCC groundwater standard of 0.75 mg/L.

- Total xylenes were detected in groundwater samples from six wells at concentrations ranging from 0.0006[1] mg/L (MW-C) to 0.012 mg/L (MW-H). All reported groundwater concentrations were below the total xylene NMWQCC groundwater standard of 0.62 mg/L.

TPH-DRO and TPH-GRO analytical results for July 2009 are summarized as follows:

- TPH-DRO was detected in groundwater samples from 25 wells at concentrations ranging from 0.050[1] mg/L (MW-S) to 4.7 mg/L (MW-P). There is not a NMWQCC groundwater standard for TPH-DRO. However, a total of seven groundwater samples were reported at concentrations exceeding the TPH-DRO NMED groundwater screening level of 0.2 mg/L (wells BW-2, MW-E, MW-N, MW-O, MW-P, MW-Q, and MW-W).

- TPH-GRO was detected in groundwater samples from 21 wells at concentrations ranging from 0.023[1] mg/L (MW-D2) to 0.64 mg/L (MW-H). There is not a NMWQCC groundwater standard for TPH-GRO. However, a total of two groundwater samples were reported at concentrations exceeding the TPH-GRO NMED groundwater screening level of 0.2 mg/L (wells MW-H and MW-P).

A TPH-DRO and TPH-GRO concentration map for July 2009 is shown in Figure 9.

[1] Estimated value according to laboratory qualifier.

5.0 Quality Assurance / Quality Control

Quality objectives for groundwater monitoring data include:

- Collecting data in accordance with procedures as appropriate for its intended use;
- Maintaining sufficient quality data to meet scientific and legal scrutiny;
- Generating representative data of known and acceptable precision and accuracy; and
- Evaluating data that is consistent in content and quality.

Specific quality assurance / quality control (QA/QC) procedures implemented at the Site are described below.

5.1 DUPLICATE SAMPLES

A field duplicate sample is a second sample collected at the same location as the original sample. Duplicate samples are collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The following table presents original and duplicate analytical results for wells sampled in February and July of 2009.

Date	Original Sample ID	Original Sample Analytical Results (µg/l)		Duplicate Sample ID	Duplicate Sample Analytical Result (µg/l)	
2/6/09	MW-D	Benzene	8.1	DUP-1	Benzene	8.2
		Toluene	2.3		Toluene	2.3
		Ethylbenzene	0.7[1]		Ethylbenzene	0.7[1]
		Total Xylenes	1.9[1]		Total Xylenes	1.8[1]
		TPH-GRO	34[1]		TPH-GRO	31[1]
		TPH-DRO	ND		TPH-DRO	ND
2/6/09	MW-T	Benzene	0.4[1]	DUP-2	Benzene	0.4[1]
		Toluene	0.3[1]		Toluene	0.3[1]
		Ethylbenzene	ND		Ethylbenzene	ND
		Total Xylenes	ND		Total Xylenes	ND
		TPH-GRO	ND		TPH-GRO	ND
		TPH-DRO	33[1]		TPH-DRO	31[1]
7/17/09	MW-F	Benzene	ND	DUP-1	Benzene	ND
		Toluene	ND		Toluene	ND
		Ethylbenzene	ND		Ethylbenzene	ND
		Total Xylenes	ND		Total Xylenes	ND
		TPH-GRO	ND		TPH-GRO	26[1]
		TPH-DRO	79[1]		TPH-DRO	65[1]

[1] Estimated value according to laboratory qualifier.

7/17/09	MW-B	Benzene 34 Toluene ND Ethylbenzene 1.3 Total Xylenes ND TPH-GRO 140 TPH-DRO 90[1]	DUP-2	Benzene 34 Toluene ND Ethylbenzene 1.2 Total Xylenes ND TPH-GRO 150 TPH-DRO 87[1]	

Analytical results for duplicate samples indicate acceptable laboratory precision and defendable analytical data.

5.2 HOLDING TIME LIMITS

Holding times before extraction and analysis are specified in USEPA's *Test Methods for Evaluating Solid Waste Physical/Chemical Methods*, SW-846. All laboratory analysis were performed within specified holding times. No quality control issues were identified due to lengthened holding time.

5.3 LABORATORY QA/QC

Laboratory QA/QC data is provided in the laboratory analytical reports presented as Appendix A.

[1] Estimated value according to laboratory qualifier.

6.0 Conclusions and Recommendations

The following conclusions and recommendations are based upon reviews of historical data, interviews with Site personnel familiar with operations and past remedial techniques, and data collected during January/February 2009 and July 2009 groundwater monitoring events.

6.1 CONCLUSIONS

Groundwater elevations in Site wells were, on average, approximately 8 feet higher in January 2009 than July 2009. Although the groundwater flow direction did not change between these events, the hydraulic gradient was significantly different (0.007 ft/ft in January 2009 compared with 0.02 ft/ft in July 2009).

The highest concentrations of dissolved-phase petroleum hydrocarbons appear to be located in the vicinity of the intersection of the two pipelines near well MW-H. As shown in Figure 7 and Figure 9, there were more detected concentrations of TPH, as well as more TPH concentrations above the TPH NMED groundwater screening level of 0.2 mg/L, in July 2009 than in February 2009. However, TPH concentrations in the source area (i.e. MW-H) were higher in February 2009 than in July 2009.

Trending graphs for monitoring wells exhibiting historical benzene concentrations are provided as Figures 10 through 17 (for wells BW-3, MW-B, MW-C, MW-D, MW-H, MW-I, MW-N, and MW-T, respectively). Benzene concentrations in all of these wells shows a decreasing trend. Benzene concentrations in wells MW-C, MW-D, MW-N, and MW-T have been below the benzene NMWQCC groundwater standard of 0.01 mg/L for the past three monitoring events. Benzene concentrations in wells BW-3 and MW-I are very close to the NMWQCC groundwater standard and may, if the trend continues, decrease to concentrations below the NMWQCC groundwater standard in future monitoring events. Benzene concentrations in wells MW-B and MW-H are decreasing but are currently above the NMWQCC groundwater standard.

6.2 RECOMMENDATIONS

Stantec recommends the following:

- Conduct semi-annual groundwater monitoring events in January and July 2010. These events will be similar to the 2009 semi-annual groundwater monitoring events.

- Prepare a letter to NMOCD documenting the historic chloride data generated by Arcadis in 2005. The letter will petition the NMOCD to permit Chevron to omit chloride from the 2010 sampling scope on the grounds that the 2005 Arcadis data indicates that chloride is not a groundwater constituent of concern for the Site (based on dissolved concentrations). The NMOCD requested that Chevron evaluate existing chloride data during an October 2009 meeting.

- Discontinue operation of the biosparge system on a trial basis for approximately one year in 2010. During this time:
    - Conduct reduced-scope groundwater monitoring events in April and October 2010 to evaluate potential rebounding effects following the proposed biosparge system shut-down. These events will be similar to the semi-annual groundwater monitoring events, except only wells in the immediate vicinity of the biosparge system (wells BW-1, MW-T, and BW-3) will be monitored; these wells include: BW-1, BW-2, BW-3, MW-B, MW-C, MW-D, MW-H, MW-I, MW-J, MW-L, MW-M, MW-N, MW-O, MW-S, MW-T, MW-V, MW-W.
    - If monitoring indicates unacceptable rebounding effects following the proposed biosparge system shut-down, consult with NMOCD and re-start biosparge system.
    - Evaluate effectiveness of the biosparge system and potential effectiveness of other remedial technologies. Consider expansion/upgrade of existing biosparge system or a more appropriate remedial strategy based on evaluation findings. Provide a recommendation (e.g., resume biosparging or pilot test a different technology) to the NMOCD in First Quarter 2011.
- Further evaluate trends in TPH groundwater concentrations in relation to overall remediation expectations.
- Schedule a meeting with the NMOCD in 2010 to review current status of and path forward for the Site.

7.0 Statement of Limitations

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the Site. It was prepared for the exclusive use of Chevron for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the Site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

8.0 References

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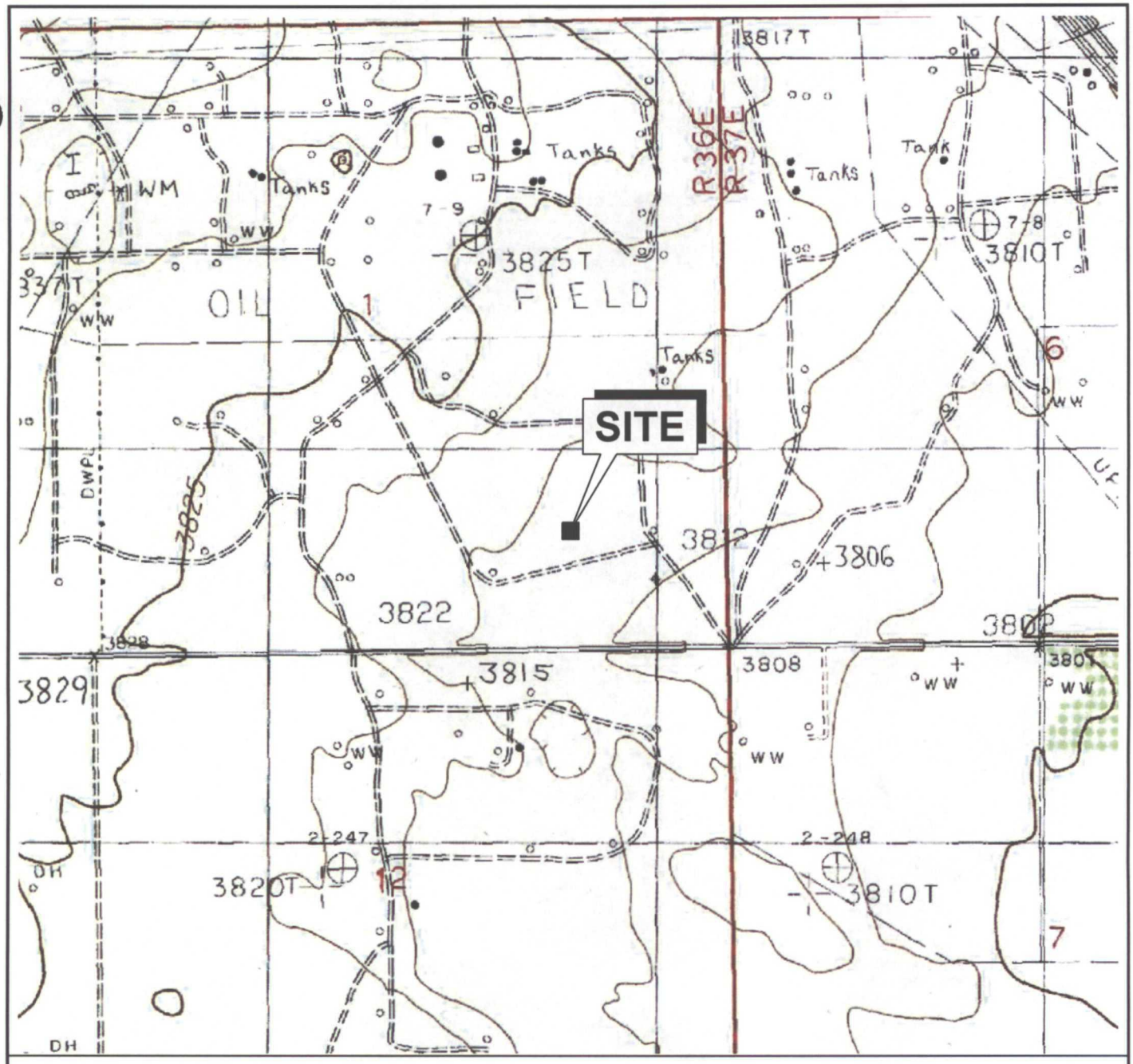

NEW MEXICO

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SCALE IN MILE

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SCALE IN FEET

REFERENCE: USGS 7.5 MINUTE QUADRANGLE; LOVINGTON SOUTHEAST, NEW MEXICO, 1985

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FOR:
LOVINGTON PADDOCK
GROUNDWATER REMEDIATION SITE
LEA COUNTY, NEW MEXICO

SITE LOCATION MAP

FIGURE: 1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
212201131	SRW	MJC	SAM	10/23/09

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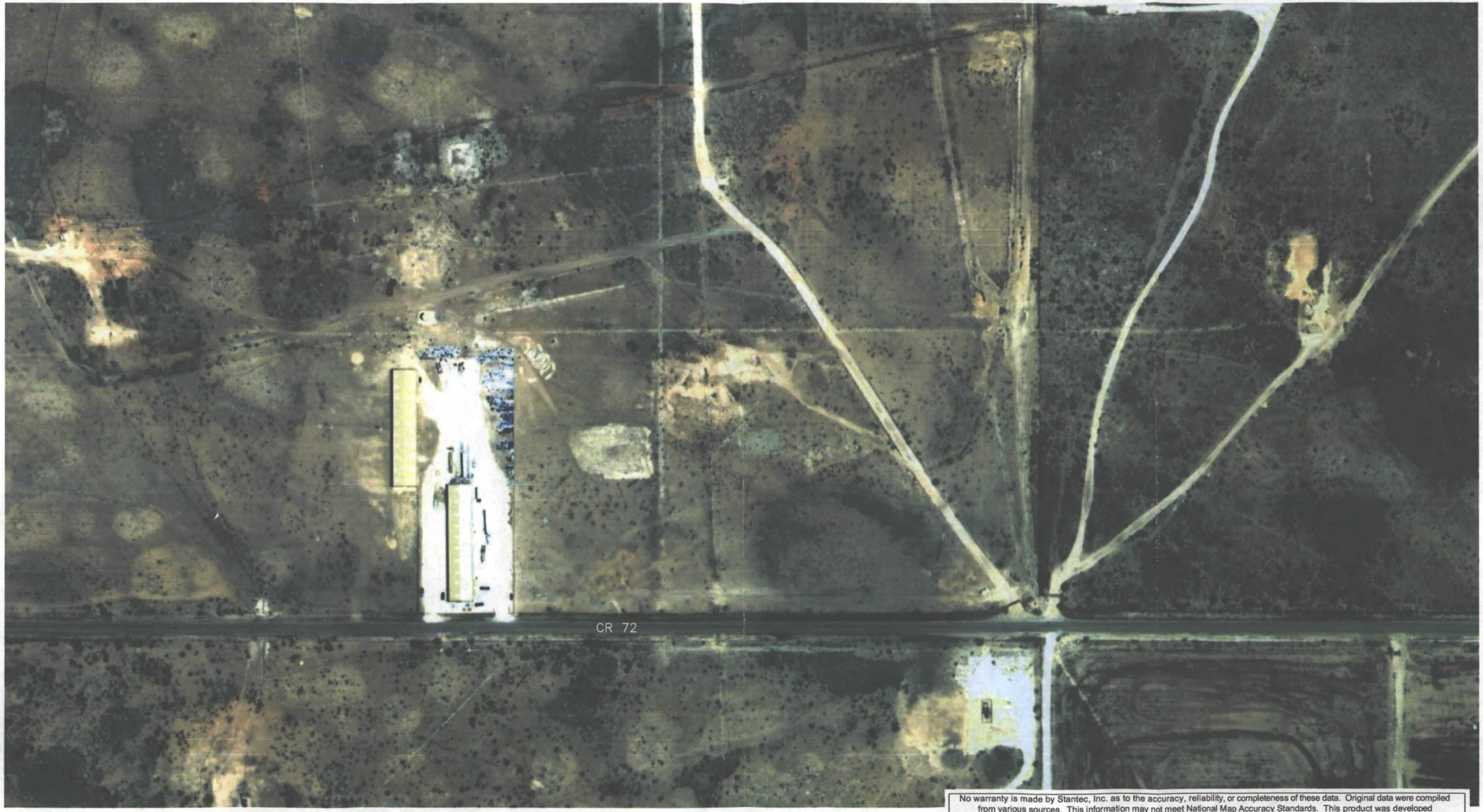

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FOR:
LOVINGTON PADDOCK
GROUNDWATER REMEDIATION SITE
LEA COUNTY, NEW MEXICO

SITE SATELLITE PHOTOGRAPH

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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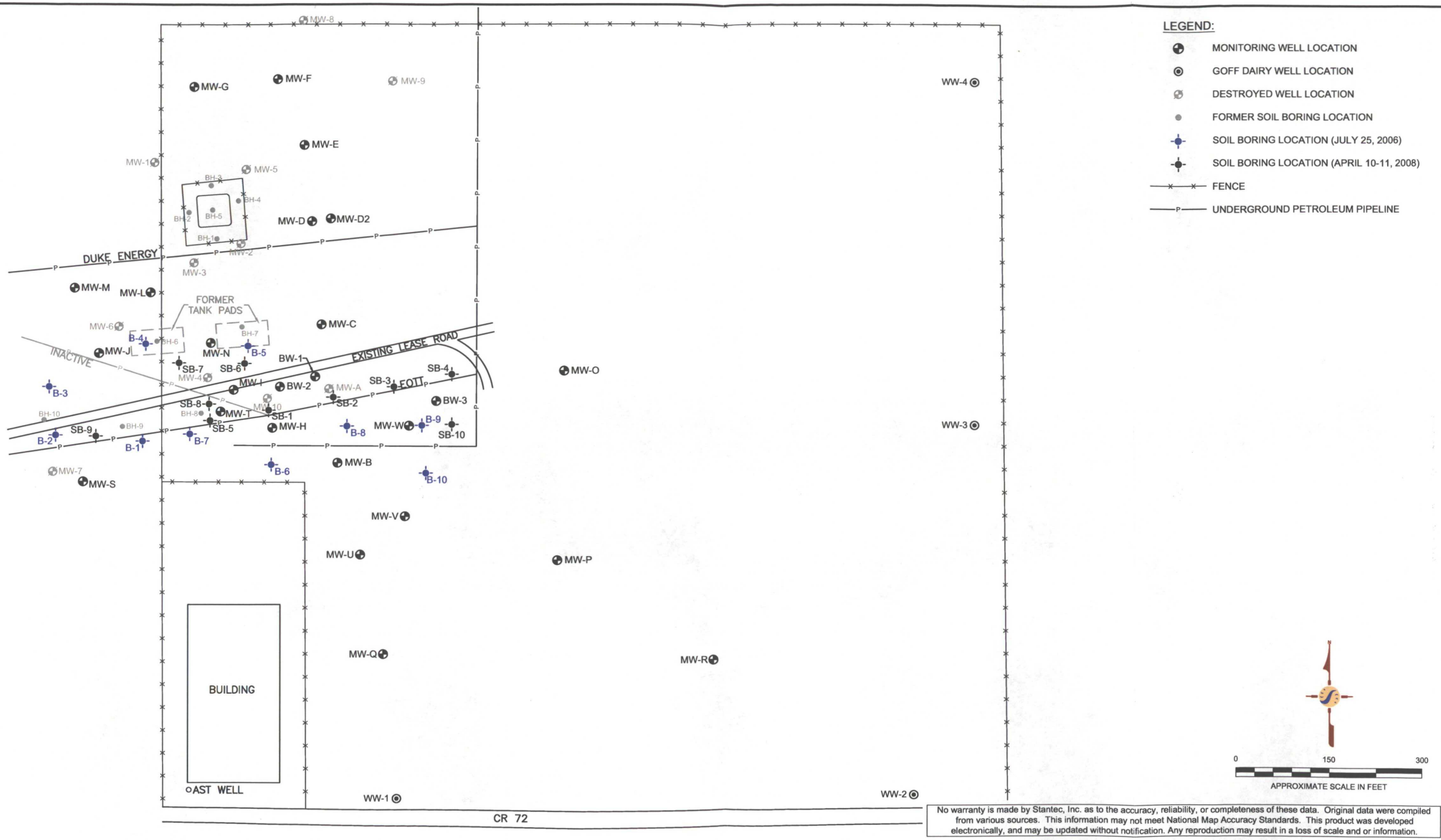

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FOR:
LOVINGTON PADDOCK
GROUNDWATER REMEDIATION SITE
LEA COUNTY, NEW MEXICO

SITE DETAILS MAP

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
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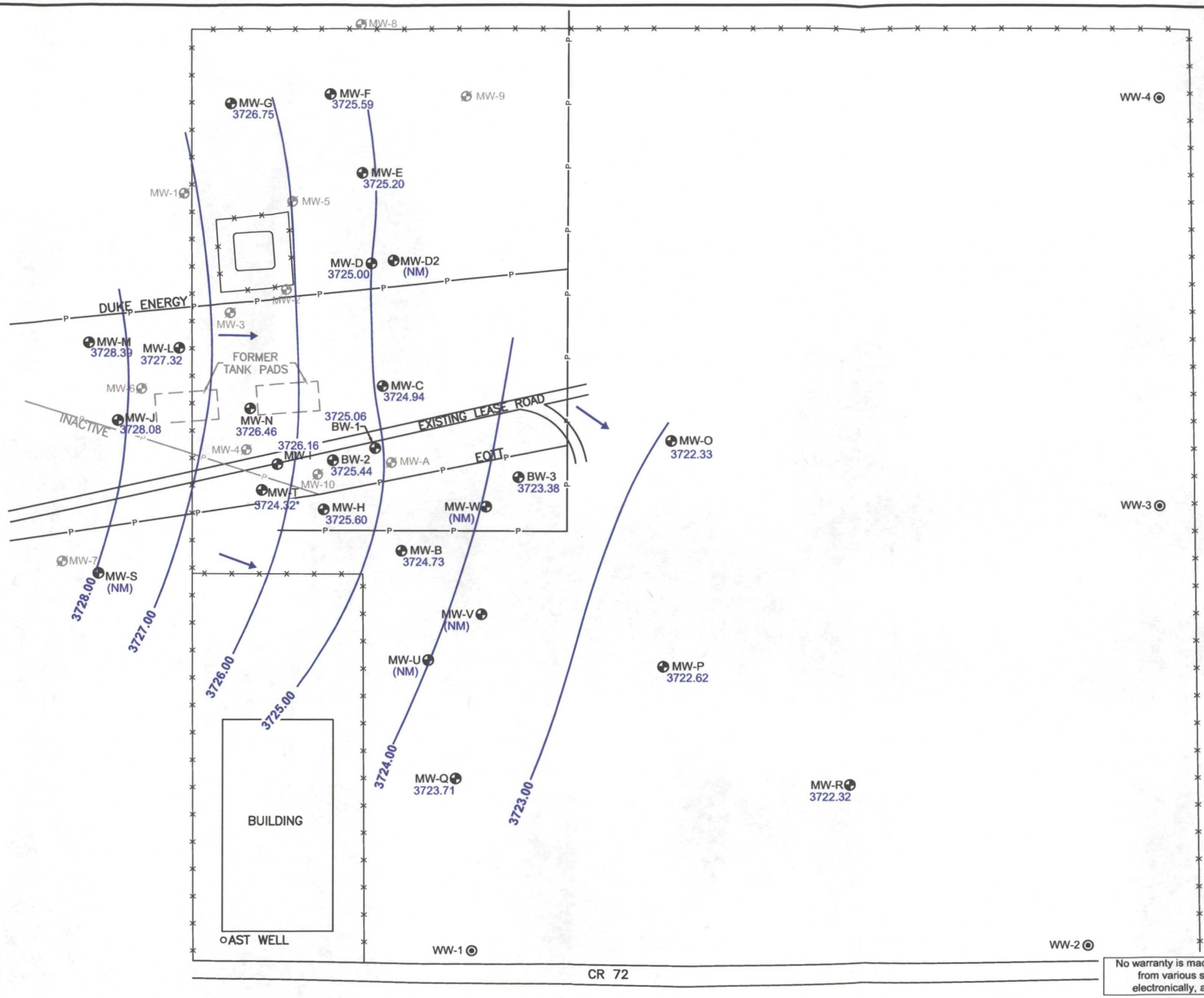


LEGEND:

- MONITORING WELL LOCATION
- GOFF DAIRY WELL LOCATION
- DESTROYED WELL LOCATION
- FENCE
- UNDERGROUND PETROLEUM PIPELINE
- 3722.33 — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- ESTIMATED GROUNDWATER FLOW DIRECTION
- (NM) — NOT MEASURED
- * — NOT USED TO GENERATE POTENTIOMETRIC SURFACE

0 150 300

APPROXIMATE SCALE IN FEET

Stantec
2321 Club Meridian Drive, Suite E
Okemos, Michigan
PHONE: (517) 349-9499 FAX: (517) 349-6863

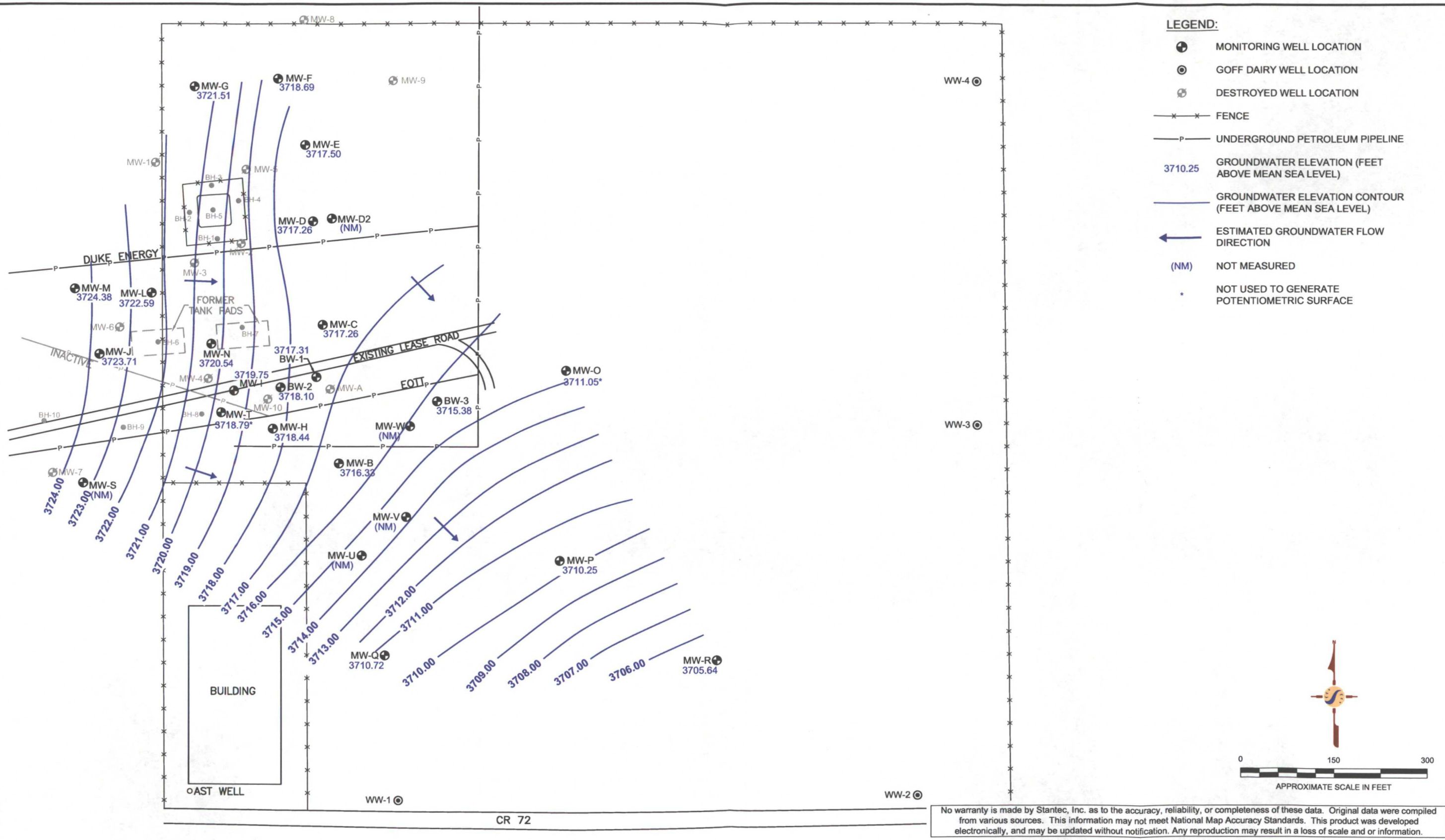
FOR: LOVINGTON PADDOCK GROUNDWATER REMEDIATION SITE LEA COUNTY, NEW MEXICO

POTENTIOMETRIC SURFACE MAP JANUARY 2009

FIGURE: 4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
212201131	SRW	MJC	SAM	10/26/09

FILEPATH:P:\Chevron\Mid-Continent Abandonment\Site Files\Lovington Paddock\Drawings\2009 Drawings\Lovington Paddock-2009 GWM Report.dwg|swhitaker|Jan 06, 2010 at 15:58|Layout: Potentiometric (Feb 2009)_Fig 4



LEGEND:

- MONITORING WELL LOCATION
- GOFF DAIRY WELL LOCATION
- DESTROYED WELL LOCATION
- FENCE
- UNDERGROUND PETROLEUM PIPELINE
- 3710.25 — GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL)
- ESTIMATED GROUNDWATER FLOW DIRECTION
- (NM) — NOT MEASURED
- * — NOT USED TO GENERATE POTENTIOMETRIC SURFACE

0 150 300

APPROXIMATE SCALE IN FEET

Stantec
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Okemos, Michigan
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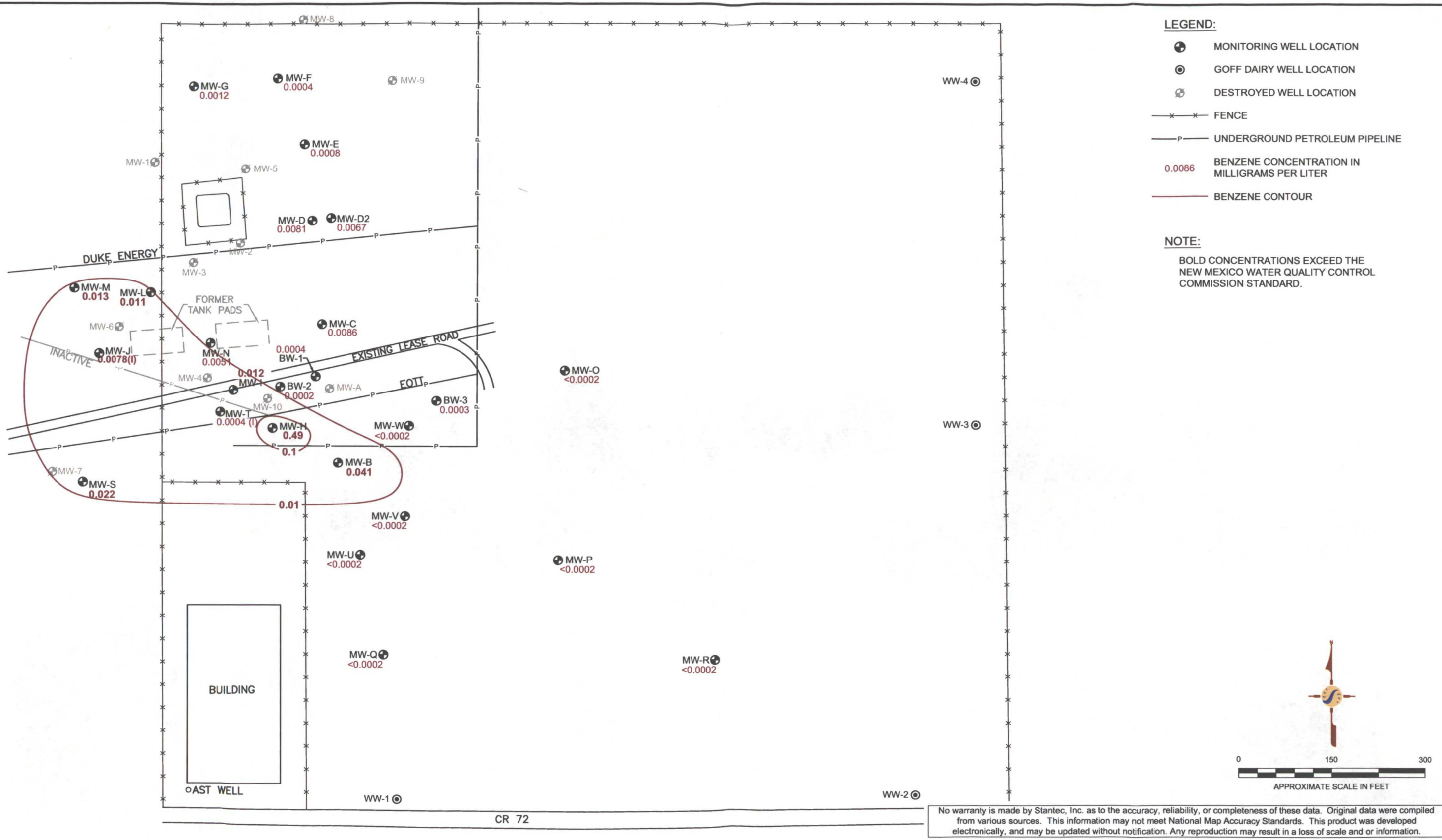
FOR:				FIGURE:
LOVINGTON PADDOCK GROUNDWATER REMEDIATION SITE LEA COUNTY, NEW MEXICO		POTENTIOMETRIC SURFACE MAP JULY 2009		5
JOB NUMBER: 212201131	DRAWN BY: SRW	CHECKED BY: MJC	APPROVED BY: SAM	DATE: 10/23/09

FILEPATH:P:\Chevron\Mid-Continent Abandonment\Site Files\Lovington Paddock\Drawings\2009 Drawings\Lovington Paddock-2009 GWM Report.dwg|swhitaker|Jan 06, 2010 at 15:59|Layout: Potentiometric (July 2009)_Fig 5



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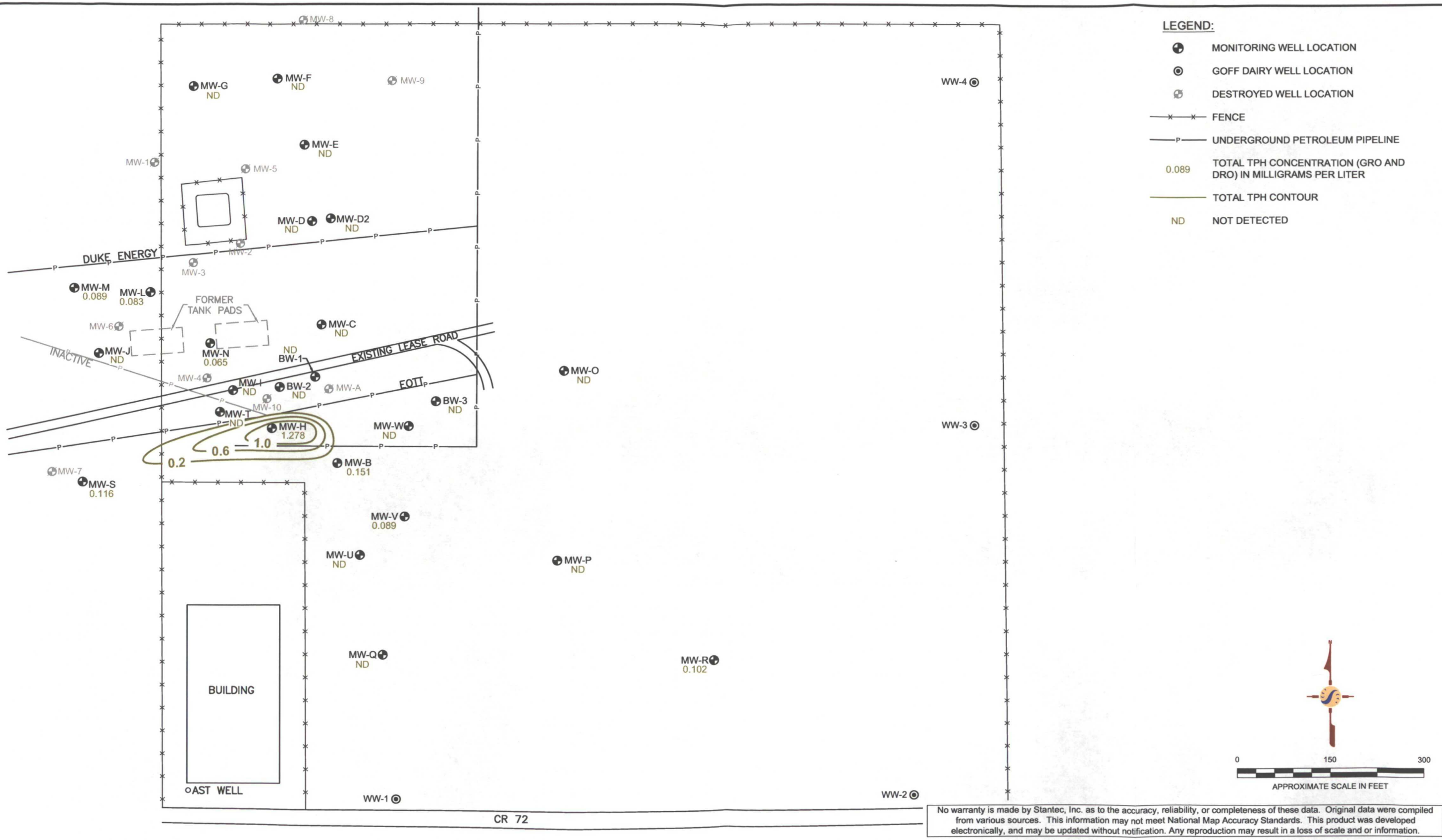
FOR:
LOVINGTON PADDOCK
GROUNDWATER REMEDIATION SITE
LEA COUNTY, NEW MEXICO

BENZENE ISOPLETH
CONCENTRATION MAP
FEBRUARY 2009

FIGURE: 6

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
212201131	SRW	MJC	SAM	10/23/09

FILEPATH:P:\Chevron\Mid-Continent Abandonment\Site Files\Lovington Paddock\Drawings\2009 Drawings\Lovington Paddock-2009 GWM Report.dwg|swhitaker|Jan 06, 2010 at 15:59|Layout: Benzene (Feb 2009)_Fig 6



Stantec
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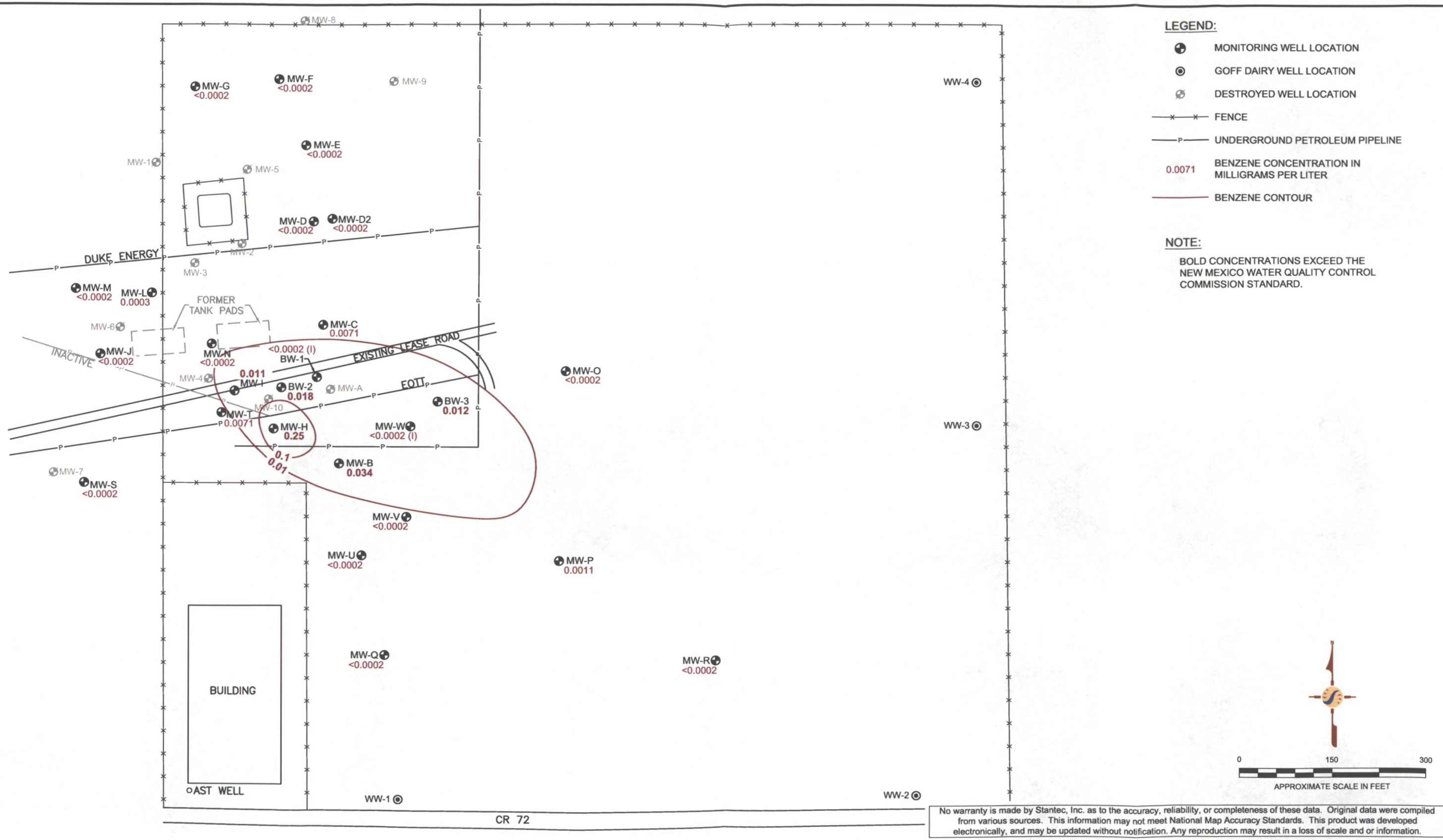
Okemos, Michigan
PHONE: (517) 349-9499 FAX: (517) 349-6863

FOR:		TPH-DRO AND TPH-GRO CONCENTRATION MAP FEBRUARY 2009		FIGURE:
LOVINGTON PADDOCK GROUNDWATER REMEDIATION SITE LEA COUNTY, NEW MEXICO				7
JOB NUMBER: 212201131	DRAWN BY: SRW	CHECKED BY: MJC	APPROVED BY: SAM	DATE: 10/26/09

FILEPATH:P:\Chevron\Mid-Continent Abandonment\Site Files\Lovington Paddock\Drawings\2009 Drawings\Lovington Paddock-2009 GWM Report.dwg|swhitaker|Jan 06, 2010 at 16:00|Layout: Total TPH (Feb 2009)_Fig 7



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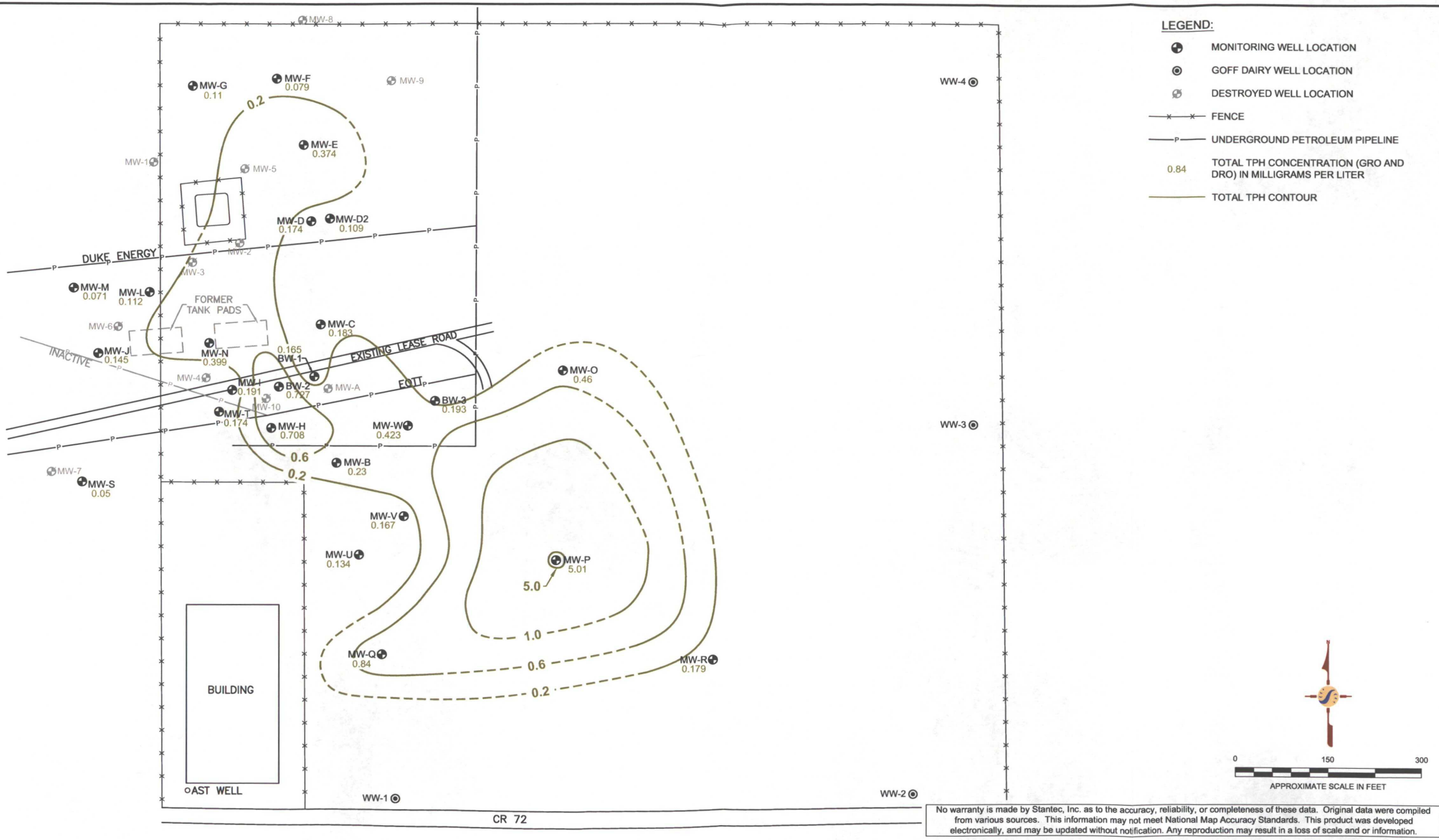
FOR:				FIGURE:
LOVINGTON PADDOCK GROUNDWATER REMEDIATION SITE LEA COUNTY, NEW MEXICO		BENZENE ISOPLETH CONCENTRATION MAP JULY 2009		8
JOB NUMBER: 212201131	DRAWN BY: SRW	CHECKED BY: MJC	APPROVED BY: SAM	DATE: 10/23/09

FILEPATH:P:\Chevron\Mid-Continent Abandonment\Site Files\Lovington Paddock\Drawings\2009 Drawings\Lovington Paddock-2009 GWM Report.dwg|swhitaker|Jan 06, 2010 at 16:01|Layout: Benzene (July 2009)_Fig 8



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FOR:
LOVINGTON PADDOCK
GROUNDWATER REMEDIATION SITE
LEA COUNTY, NEW MEXICO

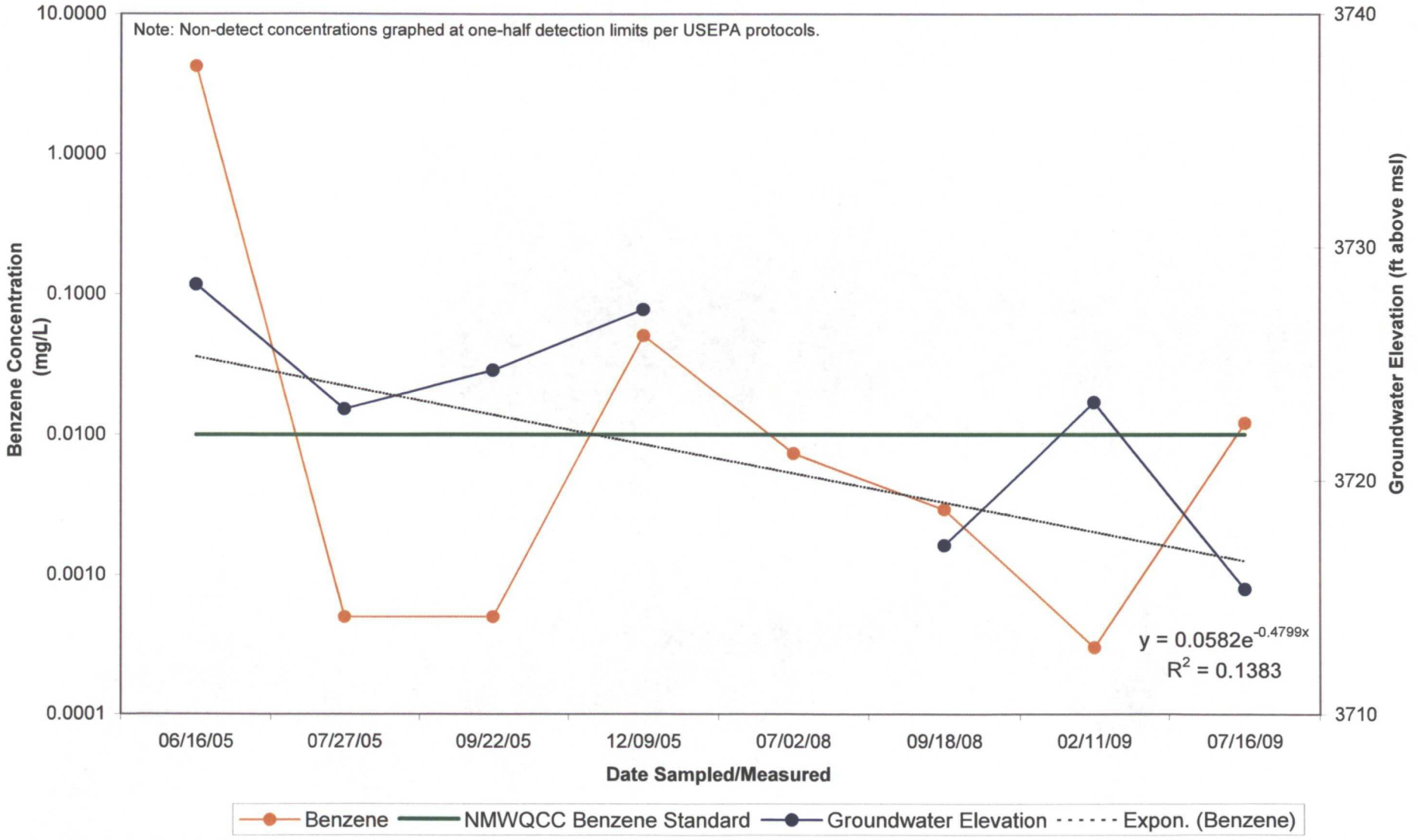
TPH-DRO AND TPH-GRO
CONCENTRATION MAP
JULY 2009

FIGURE: 9

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
212201131	SRW	MJC	SAM	10/23/09

FILEPATH:P:\Chevron\Mid-Continent Abandonment\Site Files\Lovington Paddock\Drawings\2009 Drawings\Lovington Paddock-2009 GWM Report.dwg|swhitaker|Jan 06, 2010 at 16:01|Layout: Total TPH (July 2009)_Fig 9

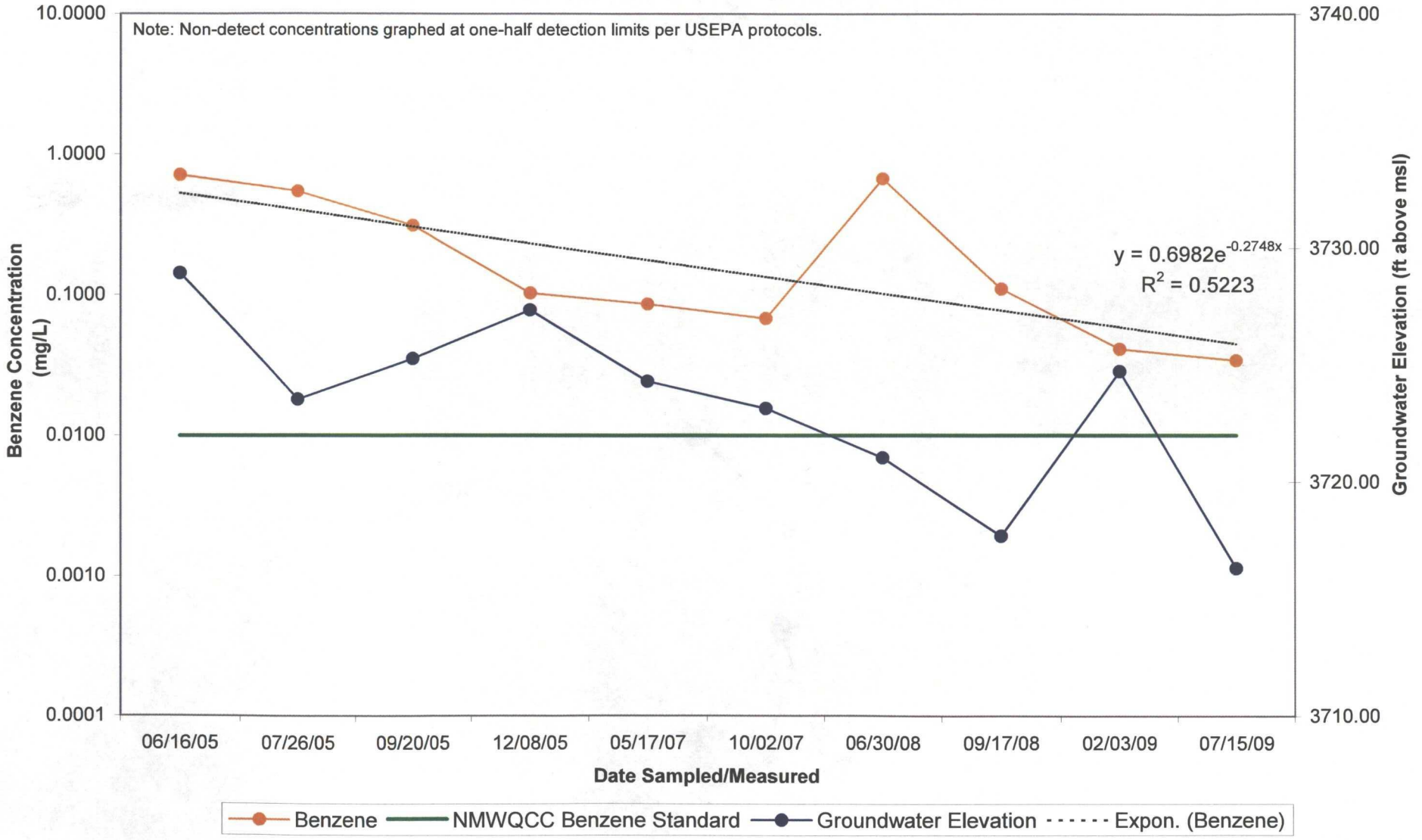
Figure 10
BW-3 Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico



Lovington Paddock GWM Tables.xls

Stantec Consulting Corporation

Figure 11
MW-B Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico



Lovington Paddock GWM Tables.xls

Stantec Consulting Corporation

Figure 12
MW-C Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico

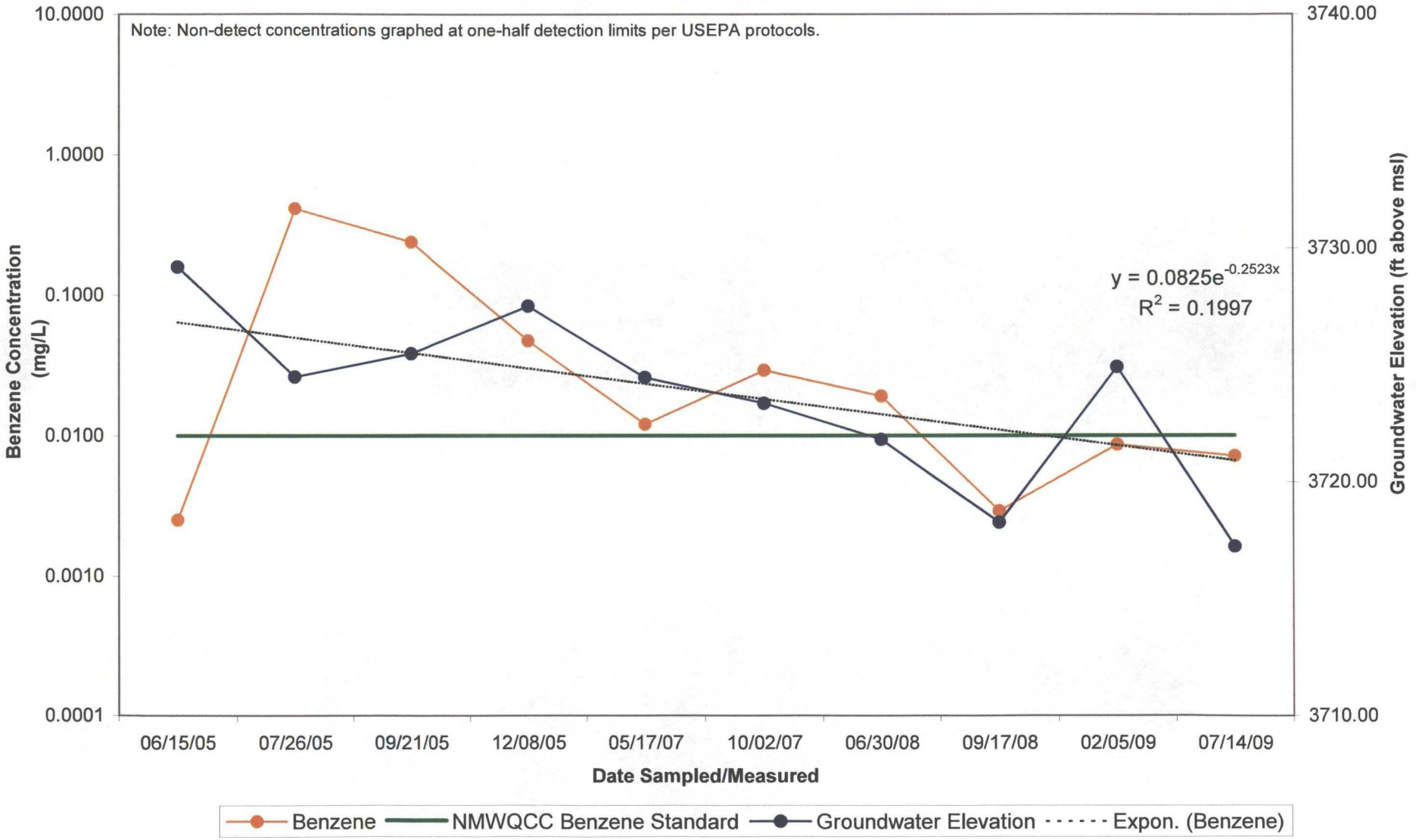
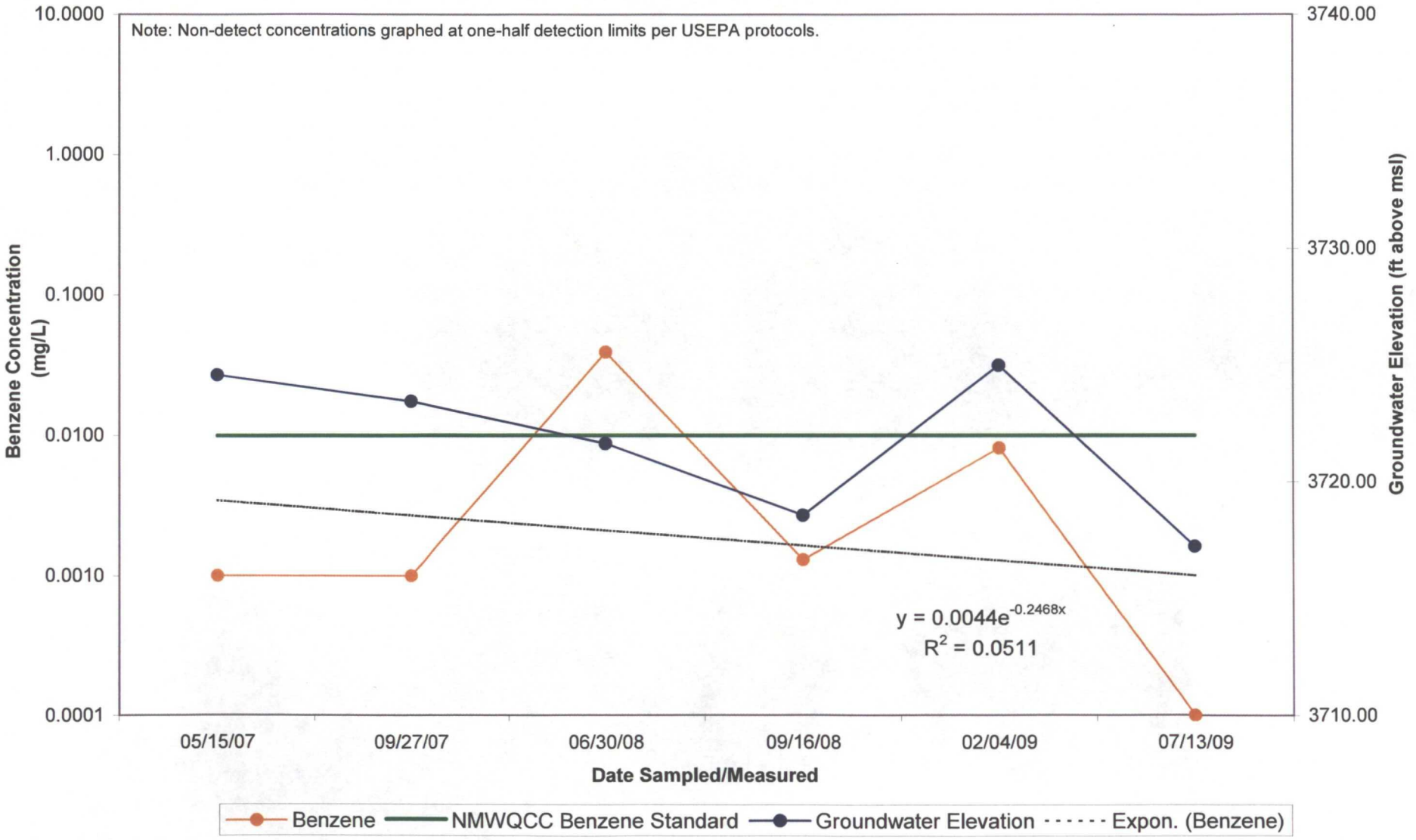


Figure 13
MW-D Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico



Lovington Paddock GWM Tables.xls

Stantec Consulting Corporation

Figure 14
MW-H Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico

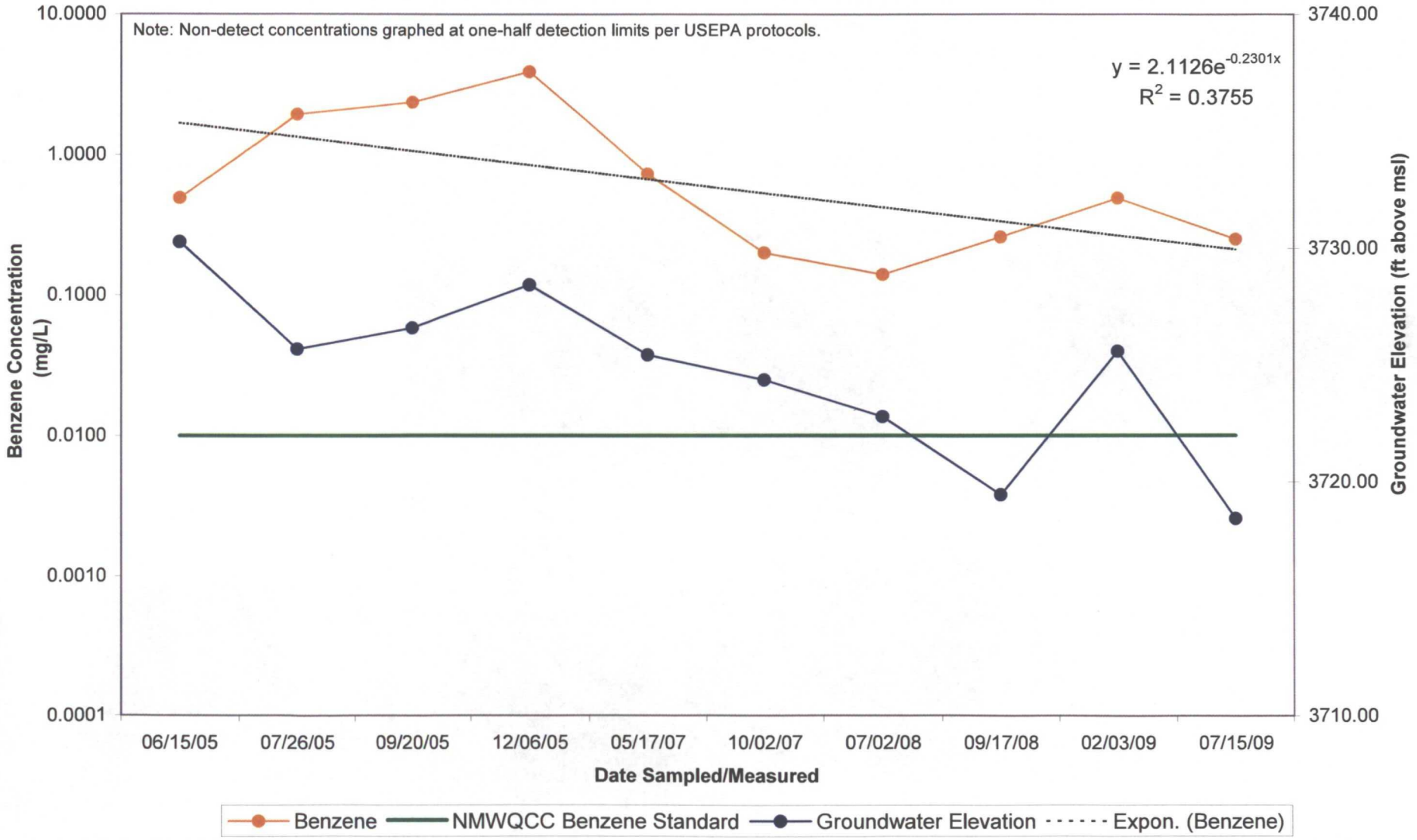


Figure 15
MW-I Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico

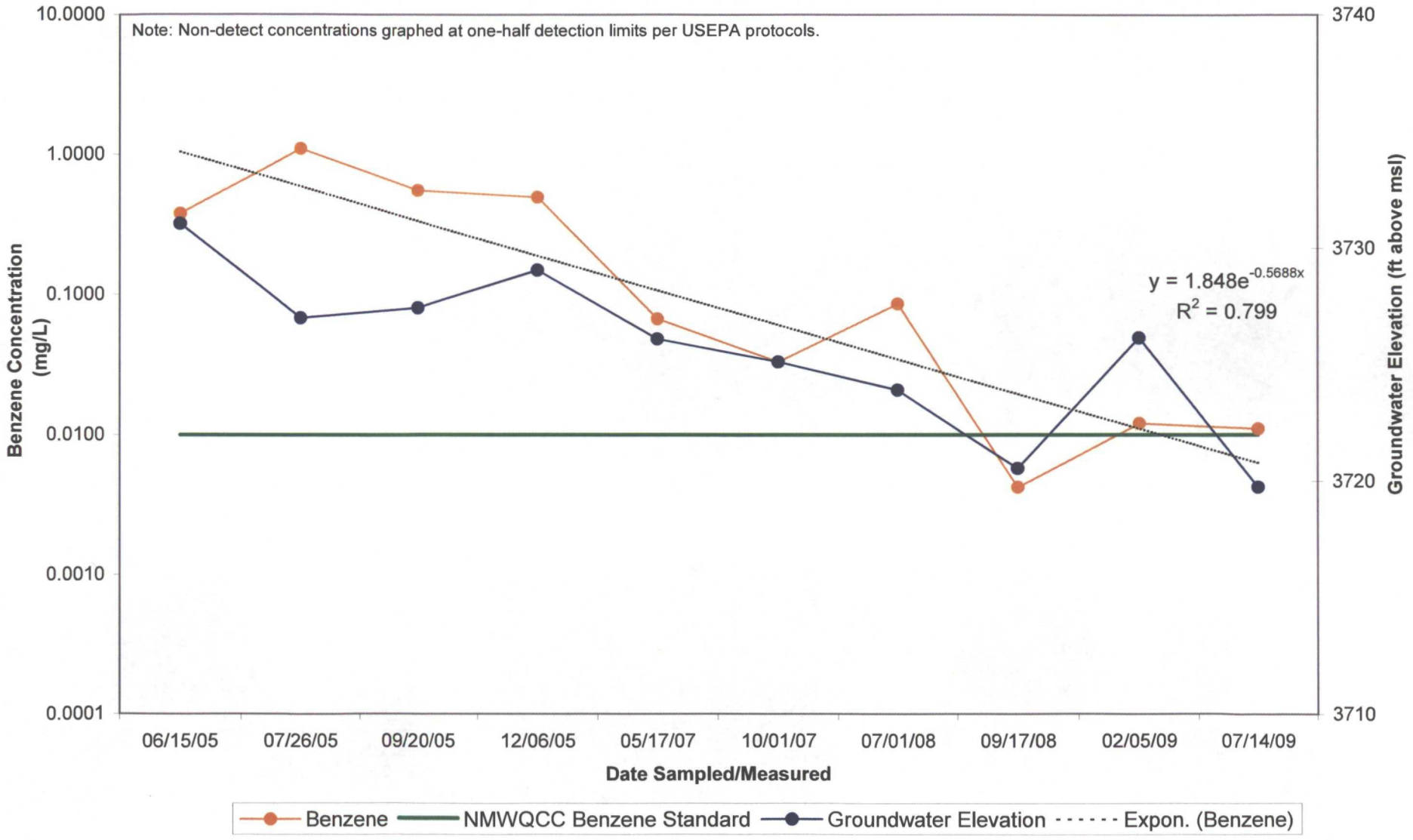
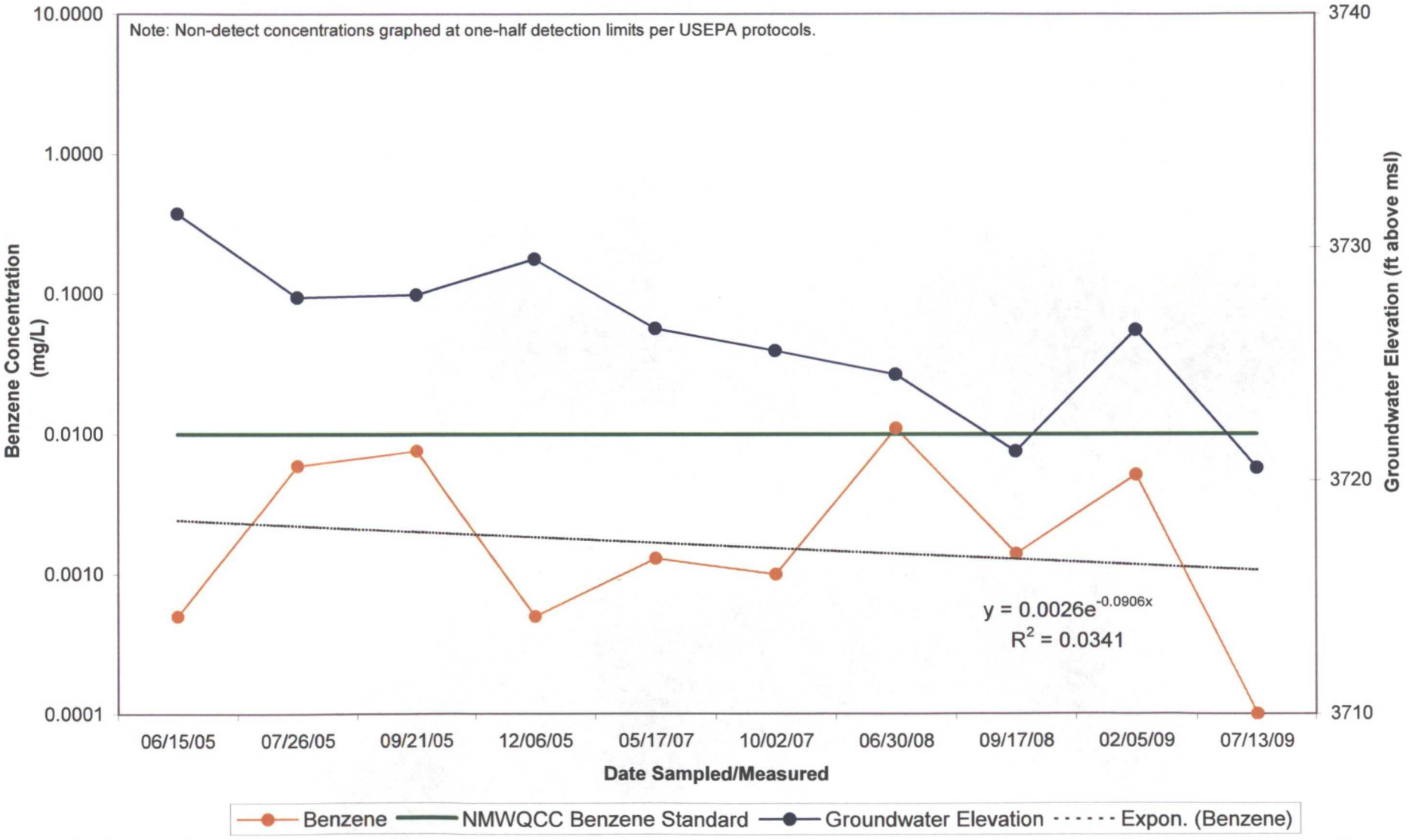


Figure 16
MW-N Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico



Lovington Paddock GWM Tables.xls

Stantec Consulting Corporation

Figure 17
MW-T Benzene Concentration and Groundwater Elevation versus Time
Lovington Paddock Site
Lea County, New Mexico

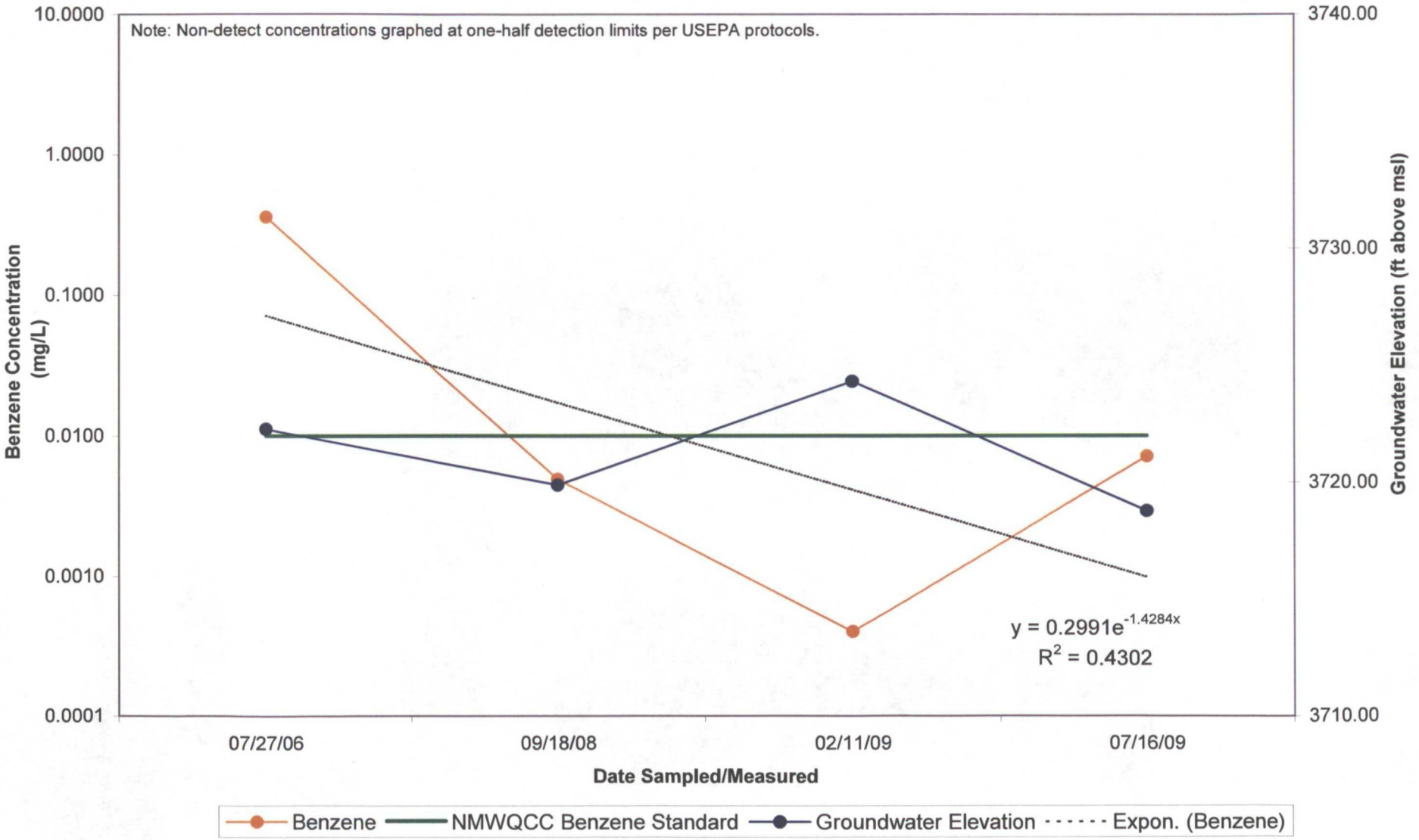


Table 1
Current and Historical Groundwater Elevation Data
Lovington Paddock Site
Lea County, New Mexico

Well ID	Date Measured	TOC Elevation (feet AMSL)	Depth to Water (feet)	Total Depth (feet)	Water Elevation (feet AMSL)
BW-1	06/16/05	3816.14	86.75	128.04	3729.39
	07/27/05	3816.14	92.32	128.04	3723.82
	09/21/05	3816.14	90.41	128.04	3725.73
	12/09/05	3816.14	88.38	128.04	3727.76
	05/09/07	3816.14	N/A[1]	128.04	--
	06/13/08	3816.14	94.25	128.04	3721.89
	09/17/08	3816.14	97.51	128.04	3718.63
	01/26/09	3816.14	91.08	128.04	3725.06
	07/09/09	3816.14	98.83	128.04	3717.31
BW-2	06/16/05	3816.57	86.38	123.04	3730.19
	07/27/05	3816.57	90.70	123.04	3725.87
	09/21/05	3816.57	89.99	123.04	3726.58
	12/09/05	3816.57	88.21	123.04	3728.36
	05/09/07	3816.57	N/A[1]	123.04	--
	06/13/08	3816.57	95.16	123.04	3721.41
	09/17/08	3816.57	96.92	123.04	3719.65
	01/26/09	3816.57	91.13	123.04	3725.44
	07/09/09	3816.57	98.47	123.04	3718.10
BW-3	06/16/05	3815.82	87.39	123.09	3728.43
	07/27/05	3815.82	92.72	123.09	3723.10
	09/22/05	3815.82	91.07	123.09	3724.75
	12/09/05	3815.82	88.46	123.09	3727.36
	05/09/07	3815.82	N/A[1]	123.09	--
	09/17/08	3815.82	98.57	123.09	3717.25
	01/26/09	3815.82	92.44	123.09	3723.38
	07/09/09	3815.82	100.44	123.09	3715.38
MW-A	06/16/05	3816.04	86.75	100.51	3729.29
	07/25/05	3816.04	DRY	100.51	DRY
	09/19/05	3816.04	90.41	100.51	3725.63
	12/05/05	3816.04	88.38	100.51	3727.66
	05/09/07	3816.04	DRY	100.51	DRY
	07/01/08	Collapsed			
MW-B	06/16/05	3816.09	87.15	108.11	3728.94
	07/25/05	3816.09	92.55	108.11	3723.54
	09/19/05	3816.09	90.82	108.11	3725.27
	12/05/05	3816.09	88.73	108.11	3727.36
	05/09/07	3816.09	91.78	108.11	3724.31
	10/02/07	3816.09	92.94	108.11	3723.15
	06/13/08	3816.09	95.05	108.11	3721.04
	09/15/08	3816.09	98.39	108.11	3717.70
	01/26/09	3816.09	91.36	108.11	3724.73
	07/09/09	3816.09	99.76	108.11	3716.33

Table 1
Current and Historical Groundwater Elevation Data
Lovington Paddock Site
Lea County, New Mexico

Well ID	Date Measured	TOC Elevation (feet AMSL)	Depth to Water (feet)	Total Depth (feet)	Water Elevation (feet AMSL)
MW-C	06/15/05	3817.04	87.83	108.05	3729.21
	07/25/05	3817.04	92.53	108.05	3724.51
	09/19/05	3817.04	91.54	108.05	3725.50
	12/05/05	3817.04	89.50	108.05	3727.54
	05/09/07	3817.04	92.56	108.05	3724.48
	10/02/07	3817.04	93.66	108.05	3723.38
	06/13/08	3817.04	95.21	108.05	3721.83
	09/15/08	3817.04	98.75	108.05	3718.29
	01/26/09	3817.04	92.10	108.05	3724.94
	07/09/09	3817.04	99.78	108.05	3717.26
MW-D	03/02/05	3816.08	82.68	107.92	3733.40
	09/19/05	3816.08	90.48	107.92	3725.60
	12/05/05	3816.08	88.44	107.92	3727.64
	05/09/07	3816.08	91.49	107.92	3724.59
	09/27/07	3816.08	92.62	107.92	3723.46
	06/13/08	3816.08	94.43	107.92	3721.65
	09/15/08	3816.08	97.49	107.92	3718.59
	01/26/09	3816.08	91.08	107.92	3725.00
	07/09/09	3816.08	98.82	107.92	3717.26
MW-E	09/19/05	3816.31	90.39	107.99	3725.92
	12/05/05	3816.31	88.40	107.99	3727.91
	05/09/07	3816.31	91.47	107.99	3724.84
	09/27/07	3816.31	92.60	107.99	3723.71
	07/01/08	3816.31	95.54	107.99	3720.77
	09/15/08	3816.31	97.21	107.99	3719.10
	01/26/09	3816.31	91.11	107.99	3725.20
	07/09/09	3816.31	98.81	107.99	3717.50
MW-F	09/19/05	3816.69	89.86	108.09	3726.83
	12/05/05	3816.69	88.09	108.09	3728.60
	05/09/07	3816.69	91.21	108.09	3725.48
	09/27/07	3816.69	92.26	108.09	3724.43
	07/01/08	3816.69	93.93	108.09	3722.76
	09/15/08	3816.69	96.49	108.09	3720.20
	01/26/09	3816.69	91.10	108.09	3725.59
	07/09/09	3816.69	98.00	108.09	3718.69
MW-G	09/19/05	3818.23	89.46	108.05	3728.77
	12/05/05	3818.23	88.18	108.05	3730.05
	05/09/07	3818.23	91.19	108.05	3727.04
	10/01/07	3818.23	92.08	108.05	3726.15
	07/01/08	3818.23	95.54	108.05	3722.69
	09/15/08	3818.23	95.70	108.05	3722.53
	01/26/09	3818.23	91.48	108.05	3726.75
	07/09/09	3818.23	96.72	108.05	3721.51

Table 1
Current and Historical Groundwater Elevation Data
Lovington Paddock Site
Lea County, New Mexico

Well ID	Date Measured	TOC Elevation (feet AMSL)	Depth to Water (feet)	Total Depth (feet)	Water Elevation (feet AMSL)
MW-H	06/15/05	3816.74	86.46	108.10	3730.28
	07/25/05	3816.74	91.05	108.10	3725.69
	09/19/05	3816.74	90.15	108.10	3726.59
	12/05/05	3816.74	88.30	108.10	3728.44
	05/09/07	3816.74	91.30	108.10	3725.44
	10/02/07	3816.74	92.37	108.10	3724.37
	06/13/08	3816.74	93.94	108.10	3722.80
	09/15/08	3816.74	97.28	108.10	3719.46
	01/26/09	3816.74	91.14	108.10	3725.60
	07/09/09	3816.74	98.30	108.10	3718.44
MW-I	06/15/05	3816.94	85.90	108.07	3731.04
	07/25/05	3816.94	89.94	108.07	3727.00
	09/19/05	3816.94	89.50	108.07	3727.44
	12/05/05	3816.94	87.88	108.07	3729.06
	05/09/07	3816.94	90.83	108.07	3726.11
	10/01/07	3816.94	91.82	108.07	3725.12
	06/13/08	3816.94	93.03	108.07	3723.91
	09/15/08	3816.94	96.38	108.07	3720.56
	01/26/09	3816.94	90.78	108.07	3726.16
	07/09/09	3816.94	97.19	108.07	3719.75
MW-J	09/19/05	3817.66	87.24	108.05	3730.42
	12/05/05	3817.66	86.23	108.05	3731.43
	05/09/07	3817.66	89.07	108.05	3728.59
	10/01/07	3817.66	89.86	108.05	3727.80
	06/13/08	3817.66	90.51	108.05	3727.15
	09/15/08	3817.66	93.44	108.05	3724.22
	01/26/09	3817.66	89.58	108.05	3728.08
	07/09/09	3817.66	93.95	108.05	3723.71
MW-L	09/19/05	3818.35	86.95	108.07	3731.40
	12/05/05	3818.35	87.80	108.07	3730.55
	05/09/07	3818.35	90.70	108.07	3727.65
	10/01/07	3818.35	91.54	108.07	3726.81
	06/13/08	3818.35	92.29	108.07	3726.06
	09/15/08	3818.35	95.36	108.07	3722.99
	01/26/09	3818.35	91.03	108.07	3727.32
	07/09/09	3818.35	95.76	108.07	3722.59
MW-M	09/19/05	3817.88	86.95	108.04	3730.93
	12/05/05	3817.88	86.06	108.04	3731.82
	05/09/07	3817.88	88.89	108.04	3728.99
	10/01/07	3817.88	89.63	108.04	3728.25
	06/13/08	3817.88	90.18	108.04	3727.70
	09/15/08	3817.88	92.97	108.04	3724.91
	01/26/09	3817.88	89.49	108.04	3728.39
	07/09/09	3817.88	93.50	108.04	3724.38

Table 1
Current and Historical Groundwater Elevation Data
Lovington Paddock Site
Lea County, New Mexico

Well ID	Date Measured	TOC Elevation (feet AMSL)	Depth to Water (feet)	Total Depth (feet)	Water Elevation (feet AMSL)
MW-N	06/16/05	3817.70	86.25	108.08	3731.45
	07/25/05	3817.70	89.85	108.08	3727.85
	09/19/05	3817.70	89.73	108.08	3727.97
	12/05/05	3817.70	88.19	108.08	3729.51
	05/09/07	3817.70	91.17	108.08	3726.53
	10/02/07	3817.70	92.12	108.08	3725.58
	06/13/08	3817.70	93.14	108.08	3724.56
	09/15/08	3817.70	96.44	108.08	3721.26
	01/26/09	3817.70	91.24	108.08	3726.46
	07/09/09	3817.70	97.16	108.08	3720.54
MW-O	07/25/05	3814.74	96.58	113.05	3718.16
	09/19/05	3814.74	93.71	113.05	3721.03
	12/05/05	3814.74	90.80	113.05	3723.94
	05/09/07	3814.74	93.97	113.05	3720.77
	10/02/07	3814.74	95.44	113.05	3719.30
	06/13/08	3814.74	92.82	113.05	3721.92
	09/15/08	3814.74	102.30	113.05	3712.44
	01/26/09	3814.74	92.41	113.05	3722.33
	07/09/09	3814.74	103.69	113.05	3711.05
MW-P	06/15/05	3814.24	88.88	113.05	3725.36
	07/25/05	3814.24	96.83	113.05	3717.41
	09/19/05	3814.24	92.73	113.05	3721.51
	12/05/05	3814.24	89.84	113.05	3724.40
	05/09/07	3814.24	93.07	113.05	3721.17
	09/27/07	3814.24	94.58	113.05	3719.66
	06/13/08	3814.24	98.30	113.05	3715.94
	09/15/08	3814.24	101.73	113.05	3712.51
	01/26/09	3814.24	91.62	113.05	3722.62
	07/09/09	3814.24	103.99	113.05	3710.25
MW-Q	07/25/05	3814.23	96.81	108.07	3717.42
	09/19/05	3814.23	90.00	108.07	3724.23
	12/05/05	3814.23	87.53	108.07	3726.70
	05/09/07	3814.23	90.43	108.07	3723.80
	09/27/07	3814.23	92.23	108.07	3722.00
	06/13/08	3814.23	98.61	108.07	3715.62
	09/15/08	3814.23	98.08	108.07	3716.15
	01/26/09	3814.23	90.52	108.07	3723.71
	07/09/09	3814.23	103.51	108.07	3710.72
MW-R	09/19/05	3810.89	91.19	152.93	3719.70
	12/05/05	3810.89	87.71	152.93	3723.18
	05/09/07	3810.89	90.83	152.93	3720.06
	09/27/07	3810.89	92.83	152.93	3718.06
	06/13/08	3810.89	98.18	152.93	3712.71
	09/15/08	3810.89	100.76	152.93	3710.13
	01/26/09	3810.89	88.57	152.93	3722.32
	07/09/09	3810.89	105.25	152.93	3705.64

Table 1
Current and Historical Groundwater Elevation Data
Lovington Paddock Site
Lea County, New Mexico

Well ID	Date Measured	TOC Elevation (feet AMSL)	Depth to Water (feet)	Total Depth (feet)	Water Elevation (feet AMSL)
MW-S	05/09/07	3816.52	87.07	122.73	3729.45
	10/01/07	3816.52	87.85	122.73	3728.67
	06/13/08	3816.52	88.58	122.73	3727.94
	09/15/08	3816.52	91.27	122.73	3725.25
	01/26/09	3816.52	87.74	122.73	--
	07/09/09	3816.52	91.86	122.73	--
MW-T	05/09/07	3816.71	N/A[2]	--	N/A[2]
	07/07/08	3816.71	94.43	--	3722.28
	09/15/08	3816.71	96.81	--	3719.90
	01/26/09	3816.71	92.39	122.17	3724.32
	07/09/09	3816.71	97.92	122.17	3718.79
MW-U	05/09/07	3814.94	91.76	123.10	3723.18
	09/27/07	3814.94	93.09	123.10	3721.85
	06/13/08	3814.94	96.34	123.10	3718.60
	09/15/08	3814.94	99.07	123.10	3715.87
	01/26/09	3814.94	91.19	123.10	--
	07/09/09	3814.94	101.27	123.10	--
MW-V	05/09/07	3815.04	92.17	122.79	3722.87
	09/27/07	3815.04	93.48	122.79	3721.56
	06/13/08	3815.04	96.14	122.79	3718.90
	09/15/08	3815.04	99.61	122.79	3715.43
	01/26/09	3815.04	91.31	122.79	--
	07/09/09	3815.04	101.25	122.79	--
MW-W	05/09/07	3815.09	92.76	122.05	3722.33
	09/27/07	3815.09	94.06	122.05	3721.03
	06/13/08	3815.09	96.37	122.05	3718.72
	09/15/08	3815.09	100.23	122.05	3714.86
	01/26/09	3815.09	91.72	122.05	--
	07/09/09	3815.09	101.58	122.05	--
MW-D2	05/09/07	3815.93	91.63	204.0+	N/A[3]
	09/26/07	3815.93	92.79	--	--
	06/13/08	3815.93	94.93	--	--
	09/15/08	3815.93	97.77	204.0+	N/A[3]
	01/26/09	3815.93	91.12	204.0+	--
	07/09/09	3815.93	99.30	204.0+	--

Notes and Abbreviations:
feet AMSL = feet above mean sea level
1. Wells with treatment equipment present were not gauged.
2. Well was converted to a biosparge well.
3. Wells were not surveyed.

Table 2
Current and Historical Groundwater Analytical Results
Lovington Paddock Site
Lea County, New Mexico

Sample Location	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylebenzene (mg/L)	Total Xylenes (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	TPH (mg/L)
NMWQCC GS[1] / NMED GSL[2]		**0.01**	**0.75**	**0.75**	**0.62**	**0.2**	**0.2**	**0.2**
BW-1	06/16/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	07/27/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	09/21/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	12/09/05	**0.184**	0.24	0.0458	0.172	----	----	----
	07/02/08	0.0052	0.0018	0.0007	0.0018	0.077	0.027	----
	09/18/08	0.0022	0.0014	0.0007J	0.0015J	0.076J	<0.02	----
	02/11/09	0.0004J	0.0002J	0.0002J	<0.0006	<0.031	<0.020	----
	07/14/09	<0.0002	<0.0002	0.0003J	<0.0006	0.13	0.035J	----
BW-2	06/16/05	0.0039	0.0026	<0.001	0.001	----	----	----
	07/27/07	<0.001	<0.001	<0.001	<0.001	----	----	----
	09/21/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	12/09/05	**0.076**	0.117	0.0272	0.0981	----	----	----
	07/02/08	0.0099	0.0025	0.0009	0.0022	0.110	0.043	----
	09/18/08	0.0016	0.0011	0.0003J	0.0009J	<0.033	<0.02	----
	02/11/09	0.0002J	<0.0002	<0.0002	<0.0006	<0.031	<0.020	----
	07/16/09	**0.018**	0.0002J	0.0019	0.0009J	**0.64**	0.087	----
BW-3	06/16/05	**4.25**	0.11	<0.1	<0.1	----	----	----
	07/27/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	09/22/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	12/09/05	**0.0508**	0.0769	0.0182	0.0724	----	----	----
	07/02/08	0.0073	0.0024	0.001	0.0023	0.095	0.035	----
	09/18/08	0.0029	0.0017	0.0004J	0.0012J	<0.033	<0.02	----
	02/11/09	0.0003J	0.0002J	<0.0002	<0.0006	<0.031	<0.020	----
	07/16/09	**0.012**	<0.0002	0.0016	0.0007J	0.13	0.063	----
MW-A	06/16/05	**0.0348**	0.0034	<0.001	<0.001	----	----	----
	07/26/05	Well Dry	Well Dry	Well Dry	Well Dry	Well Dry	Well Dry	Well Dry
	09/20/05	Well Dry	Well Dry	Well Dry	Well Dry	Well Dry	Well Dry	Well Dry
	12/08/05	**0.0206**	0.0887	0.0159	0.0858	----	----	----
	07/01/08	Collapsed	Collapsed	Collapsed	Collapsed	Collapsed	Collapsed	Collapsed
MW-B	06/16/05	**0.713**	0.0266	<0.02	<0.02	----	----	----
	07/26/05	**0.546**	**0.917**	0.0902	0.485	----	----	----
	09/20/05	**0.312**	0.454	0.0344	0.236	----	----	----
	12/08/05	**0.103**	0.172	<0.02	0.115	----	----	----
	05/17/07	**0.086**	0.0076	0.0005	0.003	0.088	**0.300**	----
	10/02/07	**0.068**	0.003	0.0003	0.0009	----	----	**1.3**
	06/30/08	**0.670**	0.025	0.0028	0.020	0.087**	**1.7**	----
	09/17/08	**0.11**	0.0041J	0.0019J	0.0081J	<0.032	**0.34**	----
	02/03/09	**0.041**	0.0019	0.0004J	0.0014J	0.056J	0.095	----
	07/15/09	**0.034**	<0.0002	0.0013	<0.0006	0.090J	0.14	----
MW-C	06/15/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	07/26/05	**0.414**	0.543	0.0885	0.266	----	----	----
	09/21/05	**0.239**	0.317	0.0599	0.17	----	----	----
	12/08/05	**0.0472**	0.0741	0.0162	0.0592	----	----	----
	05/17/07	**0.012**	0.0049	0.0006	0.0019	0.095	0.062	----
	10/02/07	**0.029**	0.011	0.0011	0.003	----	----	<0.095
	06/30/08	**0.019**	0.0053	0.0011	0.0016	**0.260**	0.075	----
	09/17/08	0.0029	0.0014	0.0006J	0.0015J	0.068J	0.025J	----
	02/05/09	0.0086	0.0036	0.0007J	0.0019J	<0.032	0.039J	----
	07/14/09	0.0071	0.0002J	0.0014	0.0006J	0.090J	0.093	----

Table 2
Current and Historical Groundwater Analytical Results
Lovington Paddock Site
Lea County, New Mexico

Sample Location	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylebenzene (mg/L)	Total Xylenes (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	TPH (mg/L)
NMWQCC GS[1] / NMED GSL[2]		**0.01**	**0.75**	**0.75**	**0.62**	**0.2**	**0.2**	**0.2**
MW-D	05/15/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.02	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.094
	06/30/08	**0.039**	0.0073	0.0013	0.0013	0.130	0.095	----
	09/16/08	0.0013	0.001J	0.0005J	0.0012J	0.088J	<0.02	---
	02/04/09	0.0081	0.0023	0.0007J	0.0019J	<0.031	0.034J	---
	07/13/09	<0.0002	<0.0002	<0.0002	<0.0006	0.13	0.044J	---
MW-E	06/15/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	05/16/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.020	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.094
	07/01/08	**0.017**	0.005	0.0010	0.0011	0.041	0.049	----
	09/17/08	**0.01**	0.0059	0.0006J	0.0034	<0.03	0.055	----
	02/11/09	0.0008J	0.0004J	0.0003J	0.0007J	<0.031	<0.020	----
	07/15/09	<0.0002	<0.0002	0.0002J	<0.0006	**0.33**	0.044J	----
MW-F	06/15/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	05/16/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.02	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.096
	07/02/08	**0.013**	0.0036	0.0007	0.0008	0.044	0.039	----
	09/17/08	0.0074	0.0042	0.0005J	0.0025J	<0.031	0.039J	----
	02/11/09	0.0004J	0.0002J	<0.0002	<0.0006	<0.031	<0.020	----
	07/14/09	<0.0002	<0.0002	<0.0002	<0.0006	0.079J	<0.020	----
MW-G	06/15/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	05/16/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.02	----
	10/01/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.096
	07/02/08	0.0081	0.0025	0.0006	0.0006	<0.029	0.026	----
	09/17/08	**0.024**	0.013	0.00J	0.0057	<0.031	0.11	----
	02/11/09	0.0012	0.0005J	0.0003J	0.0009J	<0.031	<0.020	----
	07/15/09	<0.0002	<0.0002	<0.0002	<0.0006	0.11	<0.020	----
MW-H	06/15/05	**0.492**	0.0219	<0.02	<0.02	----	----	----
	07/26/05	**1.93**	**2.01**	0.144	**0.677**	----	----	----
	09/20/05	**2.35**	**2.54**	0.188	**0.932**	----	----	----
	12/06/05	**3.89**	**2.72**	0.202	**0.815**	----	----	----
	05/17/07	**0.730**	0.082	0.0089	0.031	**0.200**	**2.400**	----
	10/02/07	**0.200**	0.037	0.0027	0.010	----	----	<0.094
	07/02/08	**0.140**	0.022	0.0018	0.006	0.036	**0.360**	----
	09/17/08	**0.26**	0.077	0.0032	0.022	0.036J	**0.86**	----
	02/03/09	**0.49**	0.056	0.0075	0.022	0.078J	**1.2**	----
	07/15/09	**0.25**	0.0018	0.027	0.012	0.068J	**0.64**	----
MW-I	06/15/05	**0.378**	0.0124	<0.01	<0.01	----	----	----
	07/26/05	**1.1**	**1.4**	0.067	0.491	----	----	----
	09/20/05	**0.555**	**0.801**	0.0253	0.375	----	----	----
	12/06/05	**0.496**	0.611	0.0287	0.238	----	----	----
	05/17/07	**0.067**	0.032	0.0009	0.007	0.053	**0.260**	----
	10/01/07	**0.033**	0.010	<0.002	0.002	----	----	<0.097
	07/01/08	**0.086**	0.034	0.0017	0.0059	0.063	**0.300**	----
	09/17/08	0.0042	0.0022	0.0007J	0.0019J	0.091J	0.029J	----
	02/05/09	**0.012**	0.0056	0.0005J	0.0021J	<0.031	0.058	----
	07/14/09	**0.011**	0.0002J	0.004	0.001J	0.1	0.091	----

Table 2
Current and Historical Groundwater Analytical Results
Lovington Paddock Site
Lea County, New Mexico

Sample Location	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylebenzene (mg/L)	Total Xylenes (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	TPH (mg/L)
NMWQCC GS[1] / NMED GSL[2]		**0.01**	**0.75**	**0.75**	**0.62**	**0.2**	**0.2**	**0.2**
MW-J	12/06/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	05/15/07	0.0015	<0.002	<0.002	<0.006	<0.028	<0.02	----
	10/01/07	0.0005	<0.002	<0.002	<0.006	----	----	<0.096
	06/30/08	**0.038**	0.0073	0.0014	0.0014	**0.280**	0.093	----
	09/16/08	0.0012	0.0008J	0.0005J	0.0011J	0.093J	<0.02	----
	02/04/09	0.0078	0.0022	0.0007J	0.0019J	<0.031	0.032J	----
	07/13/09	<0.0002	<0.0002	<0.0002	<0.0006	0.11	0.035J	----
MW-L	06/15/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	05/15/07	<0.002	<0.002	<0.002	<0.006	0.038	<0.02	----
	10/01/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.093
	07/01/08	**0.018**	0.0031	0.001	0.0025	0.089	0.063	----
	09/16/08	0.0019	0.0012	<0.0006	<0.0015	0.13	<0.02	---
	02/04/09	**0.011**	0.003	0.0009J	0.0024J	0.042J	0.041J	---
	07/14/09	0.0003J	<0.0002	0.0002J	<0.0006	0.079J	0.033J	---
MW-M	06/15/05	<0.005	<0.005	<0.005	<0.005	----	----	----
	05/15/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.02	----
	10/01/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.096
	06/30/08	**0.042**	0.004	0.0011	0.0032	0.034**	0.110	----
	09/16/08	0.0023	0.0013	0.0006J	0.0014J	0.13	0.022	---
	02/04/09	**0.013**	0.0031	0.001J	0.0025J	0.036J	0.053	---
	07/15/09	<0.0002	<0.0002	<0.0002	<0.0006	0.071J	<0.020	---
MW-N	06/15/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	07/26/05	0.0059	<0.005	<0.005	<0.005	----	----	----
	09/21/05	0.0076	<0.001	<0.001	<0.001	----	----	----
	12/06/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	05/17/07	0.0013	0.0007	0.0002	<0.006	0.067	0.032	----
	10/02/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.095
	06/30/08	**0.011**	0.0031	0.0008	0.0009	0.050	0.056	----
	09/17/08	0.0014	0.0011	0.0007J	0.0016J	0.073	<0.02	----
	02/05/09	0.0051	0.0025	0.0006J	0.0014J	0.034J	0.031J	----
	07/13/09	<0.0002	<0.0002	<0.0002	<0.0006	**0.32**	0.079	----
MW-O	07/25/05	0.0035	<0.001	<0.001	<0.001	----	----	----
	09/21/05	**0.0102**	<0.001	<0.001	<0.001	----	----	----
	12/08/05	0.0045	<0.001	<0.001	<0.001	----	----	----
	05/14/07	0.0072	<0.002	<0.002	<0.006	0.130	0.043	----
	10/02/07	0.0012	0.001	<0.002	<0.006	----	----	<0.093
	06/30/08	**0.040**	0.010	0.0065	0.011	**0.280****	0.150	----
	09/16/08	<0.0002	<0.0002	<0.0002	<0.0006	<0.031	<0.02	----
	02/02/09	<0.0002	0.0012	0.0005J	0.0011J	0.063J	<0.02	----
	07/13/09	<0.0002	<0.0002	0.0003J	<0.0006	**0.36**	0.1	----
MW-P	06/15/05	**1.92**	<0.05	<0.05	<0.05	----	----	----
	07/25/05	**0.179**	<0.001	<0.001	<0.001	----	----	----
	09/19/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	12/08/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	05/14/07	<0.002	<0.002	<0.002	<0.006	0.028	<0.02	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.094
	06/17/08	<0.002	0.003	<0.002	<0.006	<0.062	<0.037	----
	09/16/08	<0.0002	<0.0002	<0.0002	<0.0006	<0.031	<0.02	----
	02/02/09	<0.0002	0.0033	0.0005J	0.0011J	0.049J	<0.02	----
	07/13/09	0.0011	<0.0002	0.0003J	<0.0006	**4.7**	**0.31**	----

Table 2
Current and Historical Groundwater Analytical Results
Lovington Paddock Site
Lea County, New Mexico

Sample Location	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylebenzene (mg/L)	Total Xylenes (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	TPH (mg/L)
NMWQCC GS[1] / NMED GSL[2]		**0.01**	**0.75**	**0.75**	**0.62**	**0.2**	**0.2**	**0.2**
MW-Q	07/25/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	09/21/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	12/06/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	05/14/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.02	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.094
	06/17/08	0.005	0.006	0.003	0.006	<0.062	<0.043	----
	09/16/08	<0.0002	<0.0002	<0.0002	<0.0006	<0.031	<0.02	----
	02/02/09	<0.0002	0.0021	0.0003J	0.0007J	0.048J	<0.02	----
	07/14/09	<0.0002	<0.0002	0.0003J	<0.0006	**0.68**	0.16	----
MW-R	08/12/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	09/19/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	12/08/05	<0.001	<0.001	<0.001	<0.001	----	----	----
	05/14/07	<0.002	<0.002	<0.002	<0.006	0.028	<0.02	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.095
	06/17/08	<0.002	0.002	<0.002	<0.006	<0.110	<0.061	----
	09/15/08	<0.0002	0.000**	<0.0002	<0.0006	<0.039	<0.02	----
	02/02/09	0.0002J	0.0005J	0.0008J	0.0016J	0.074J	0.028J	----
	07/14/09	<0.0002	<0.0002	0.0002J	<0.0006	0.13	0.049J	----
MW-S	07/27/06	<0.0005	<0.0007	<0.0008	<0.0008	0.053	0.028	
	05/14/07	<0.002	<0.002	<0.002	<0.006	**0.390**	<0.02	----
	10/01/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.095
	06/30/08	**0.039**	0.0032	0.0005	0.0021	<0.043	0.110	----
	09/16/08	0.004	0.0018	0.0008J	0.0019J	**0.35**	0.029J	----
	02/04/09	**0.022**	0.0048	0.0011	0.0031	0.044J	0.072	----
	07/15/09	<0.0002	<0.0002	<0.0002	<0.0006	0.050J	<0.020	----
MW-T	07/27/06	**0.36**	0.12	0.037	0.15	**0.86**	**1.3**	
	09/18/08	0.0049	0.0028	0.0008J	0.002J	0.11	0.027J	----
	02/11/09	0.0004J	0.0003J	<0.0002	<0.0006	0.033J	<0.020	----
	07/16/09	0.0071	<0.0002	0.0013	0.0008J	0.13	0.044J	----
MW-U	04/24/07	<0.005	0.009	<0.008	<0.008	0.180*	0.027	----
	05/16/07	<0.0002	<0.0002	<0.0002	<0.0006	0.180	0.027	
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.093
	06/30/08	0.004	0.0018	0.0009	0.0019	0.057**	0.028	----
	09/17/08	<0.0002	0.0003J	0.0002J	<0.0006	<0.032	0.025J	----
	02/03/09	<0.0002	0.0021	0.0006J	0.0013J	0.060J	<0.020	----
	07/14/09	<0.0002	<0.0002	<0.0002	<0.0006	0.1	0.034J	----
MW-V	04/24/07	<0.005	<0.007	<0.008	<0.008	**0.310***	0.028*	----
	05/16/08	<0.001	<0.0002	<0.0002	<0.0006	**0.310**	0.028	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.094
	06/30/08	**0.011**	0.0027	0.0012	0.0025	0.093**	0.044	----
	09/16/08	0.0045	<0.0002	<0.0002	<0.0006	0.064J	0.023J	----
	02/02/09	<0.0002	0.0078	0.0003J	0.0007J	0.066J	0.023J	----
	07/13/09	<0.0002	<0.0002	<0.0002	<0.0006	0.14	0.027J	----
MW-W	04/24/07	<0.005	<0.007	<0.008	<0.008	**0.450***	0.037*	----
	05/16/07	<0.001	<0.0002	<0.0002	<0.0006	**0.450**	0.037	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.094
	06/30/08	**0.031**	0.0035	0.0015	0.0032	0.130**	0.092	----
	09/16/08	0.0025	<0.0002	<0.0002	<0.0002	0.068J	0.021J	----
	02/02/09	<0.0002	0.0029	0.0004J	0.0009J	0.078J	<0.020	----
	07/13/09	<0.0002	<0.0002	0.0003J	<0.0006	**0.33**	0.093	----

Table 2
Current and Historical Groundwater Analytical Results
Lovington Paddock Site
Lea County, New Mexico

Sample Location	Date	Benzene (mg/L)	Toluene (mg/L)	Ethylebenzene (mg/L)	Total Xylenes (mg/L)	TPH-DRO (mg/L)	TPH-GRO (mg/L)	TPH (mg/L)
NMWQCC GS[1] / NMED GSL[2]		**0.01**	**0.75**	**0.75**	**0.62**	**0.2**	**0.2**	**0.2**
MW-D2	05/15/07	<0.002	<0.002	<0.002	<0.006	<0.028	<0.02	----
	09/27/07	<0.002	<0.002	<0.002	<0.006	----	----	<0.096
	06/30/08	**0.026**	0.0046	0.0009	0.0009	0.036	0.061	----
	09/17/08	0.0011	0.0008J	0.0007J	0.0015J	0.052J	<0.02	----
	02/04/09	0.0067	0.0031	0.0006J	0.0016J	<0.031	0.030J	----
	07/13/09	<0.0002	<0.0002	<0.0002	<0.0006	0.086J	0.023J	----

Notes and Abbreviations:
< = Reported concentration is below analytical detection limit
GS = groundwater standard
GSL = groundwater screening level
J = Estimated value
mg/L = milligrams per liter
NMED = New Mexico Environment Department
NMWQCC = New Mexico Water Quality Control Commission
TPH = Total petroleum hydrocarbons
TPH-DRO = Total petroleum hydrocarbons in the diesel range organics
TPH-GRO = Total petroleum hydrocarbons in the gasoline range organics
Bold = concentration exceeds the NMWQCC GS or NMED GSL
1. Source of NMWQCC GSs is NMWQCC document 20.6.2 New Mexico Administrative Code, 1/15/2001.
2. Source of NMED GSLs is NMED's October 2006 TPH Screening Guidelines, Table 2a, Concentration in Groundwater value for "Unknown oil".

APPENDIX A

Groundwater Monitoring Field Data Sheets

First Half 2009

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/2/09 WELL NO. MW-R

FACILITY NAME: Lovington Paddock TEMPERATURE: 45 °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny / clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 07G100513

Spec. Conductivity: Standard: 1,413 Reading: 1,413 ;**pH** Standard: 7 Reading 7.00 ;Standard 4 Reading: 4.00

Standard 10 Reading: 10.00 ; **ORP:** Standard: 240 Reading: 240 ; **DO:** T°C: 17.9 mmHg: 8.34 DO Conc.: 85.0 %

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	88.57 FT.
B. Thickness of Free Product, if present: _____ Inches	_____ FT.
C. Total Depth of well (TD) from top of casing/piezometer:	152.36 FT.
D. Height of Water Column in casing (h = TD - SWL):	63.79 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1037

OBSERVATIONS: **Purging Start Time:** 1037

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1038	10.46	187.1	6.93	14.15	0.694	88.92	
	1043	7.59	162.0	7.27	17.41	0.666	88.63	
	1048	6.92	155.6	7.30	18.87	0.666	88.64	
	1053	6.83	153.7	7.31	19.34	0.664	88.64	
	1058	6.79	152.9	7.30	19.53	0.663	88.65	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1058	40 mL 3	HCl
TPH GRO	1058	40 mL 3	HCl
TPH DRO	1058	1000 mL. 2	HCl

COMMENTS:

Lock was on well
235 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 63.79 x 0.80 = --(Total Depth of Well) 101.32

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/2/09 WELL NO. MW-P

FACILITY NAME: Lovington Paddock TEMPERATURE: 45 °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny / clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.62 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 112.90 FT.

D. Height of Water Column in casing (h = TD - SWL): 21.28 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1117

OBSERVATIONS: **Purging Start Time:** 1117

Time	DO	ORP	pH	Temp.	Conduct.	SWL	
1120	9.93	161.5	7.36	18.21	0.656	91.95	
1125	8.08	154.2	7.28	19.29	0.645	91.61	
1130	7.62	151.6	7.27	19.83	0.644	91.62	
1135	7.54	150.9	7.27	19.95	0.644	91.61	
1140	7.46	150.5	7.27	19.96	0.641	91.61	
1145							

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX	1140	40 ml 3	HCl
TPHGRO	1140	40 ml 3	HCl
TPHDRO	1140	1000 mL 2	HCl

COMMENTS:

Lock was on well
235 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 21.28 x 0.80 = -- (Total Depth of Well) 95.87

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/2/09 WELL NO. MW-0

FACILITY NAME: Lovington Paddock TEMPERATURE: 55 °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny/clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 92.41 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 112.50 FT.

D. Height of Water Column in casing (h = TD - SWL): 20.09 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1301

OBSERVATIONS: **Purging Start Time:** 1301

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1302	8.69	165.5	7.37	16.62	0.657	96.78	
	1307	7.70	155.9	7.30	19.15	0.633	92.56	
	1312	6.90	152.7	7.25	20.10	0.655	92.57	
	1317	6.75	151.5	7.25	20.39	0.660	92.57	
	1322	6.76	150.5	7.27	20.44	0.660	92.57	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1322	40 mL 3	HCl
TPH GRO	1322	40 mL 3	HCl
TPH DRO	1322	1000 mL 2	HCl

COMMENTS:

Lock was on well
235 Hq

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 20.09 x 0.80 = -- (Total Depth of Well) 96.42

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/2/09 WELL NO. MW-W

FACILITY NAME: Lovington Paddock TEMPERATURE: 55 °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny/clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.72 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.05 FT.

D. Height of Water Column in casing (h = TD - SWL): 30.33 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1335

OBSERVATIONS: **Purging Start Time:** 1335

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1336	8.53	145.6	7.39	19.90	0.667	92.03	
	1341	5.50	147.4	7.30	19.99	0.592	91.75	
	1346	4.23	146.9	7.27	20.53	0.590	91.75	
	1351	3.65	146.6	7.26	20.58	0.586	91.75	
	1356	3.30	145.8	7.25	2062	0.585	91.75	
	1401	3.15	145.6	7.23	20.59	0.587	91.75	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1401	40 mL 3	HCl
TPHGRO	1401	40 mL 3	HCl
TPHDRO	1401	1000 mL 2	HCl

COMMENTS:

Lock was on Well.
235 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 30.33 x 0.80 = --(Total Depth of Well) 97.78

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/2/09 WELL NO. MW-V

FACILITY NAME: Lovington Paddock TEMPERATURE: 55 °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny / clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.31 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.79 FT.

D. Height of Water Column in casing (h = TD - SWL): 31.48 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1417

OBSERVATIONS: **Purging Start Time:** 1417

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1418	9.67	141.5	7.40	20.76	0.594	91.52	
	1423	3.92	140.0	7.13	19.90	0.614	91.21	
	1428	3.33	146.9	7.13	20.46	0.614	91.22	
	1433	3.53	145.7	7.15	20.59	0.612	91.22	
	1438	3.86	144.7	7.16	20.61	0.609	91.22	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1438	40 ml. 3	Hcl
TPH GRO	1438	40 ml 3	Hcl
TPH DRO	1438	1000 ml 2	Hcl

COMMENTS:

Lock was on well
232 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 31.48 x 0.80 = --(Total Depth of Well) 97.60

Signature:

8/2008

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GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/2/09 WELL NO. MW-Q

FACILITY NAME: Lovington Paddock TEMPERATURE: 55 °F

FIELD PERSONNEL: JL.JI WEATHER: Sunny / clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 90.52 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 108.23 FT.

D. Height of Water Column in casing (h = TD - SWL): 17.71 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1447

OBSERVATIONS: **Purging Start Time:** 1447

Time	DO	ORP	pH	Temp.	Conduct.	SWL	
1449	6.45	143.4	7.23	20.05	0.626	90.23	
1454	8.11	147.5	7.25	19.31	0.684	89.90	
1459	7.70	146.7	7.24	20.05	0.692	89.90	
1504	7.70	145.3	7.26	20.14	0.693	89.89	
1509	7.67	144.9	7.25	20.25	0.691	89.89	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1509	40 ml 3	Hcl
TPHGRO	1509	40 ml 3	Hcl
TPHDRO	1509	1000 ml 2	Hcl

COMMENTS:

Lock was on well
227 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 17.71 x 0.80 = -- (Total Depth of Well) 94.06

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/3/09 WELL NO.: MW-U

FACILITY NAME: Lovington Paddock TEMPERATURE: °F

FIELD PERSONNEL: JL.JI WEATHER: Sunny / clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 07G100513

Spec. Conductivity: Standard: 1,413 Reading: 1,413 **;pH** Standard: 7 Reading 7.00 ;Standard 4 Reading: 4.00

Standard 10 Reading: 9.95 ; **ORP:** Standard: 240 Reading: 240 ; **DO:** T°C: 13.76 mmHg: 9.14 DO Conc.: 88.1%

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.19 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 123.10 FT.

D. Height of Water Column in casing (h = TD - SWL): 31.91 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1107

OBSERVATIONS: **Purging Start Time:** 1107

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1109	8.37	169.4	7.35	16.45	0.545	91.26	
	1114	6.25	156.4	7.31	18.88	0.526	90.90	
	1119	5.77	151.7	7.32	20.65	0.526	90.81	
	1124	5.58	151.0	7.32	21.09	0.531	90.81	
	1129	5.50	148.8	7.32	21.31	0.534	90.84	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1129	40 ml 3	HCl
TPH GRO	1129	40 ml 3	HCl
TPH DRO	1129	1000 ml 2	HCl

COMMENTS:

Lock was on well

227 Hz

g Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 31.91 x 0.80 = -- (Total Depth of Well) 97.57

Signature: _____

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/3/09 WELL NO. MW-B

FACILITY NAME: Lovington Paddock TEMPERATURE: °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny/clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.36 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 107.65 FT.

D. Height of Water Column in casing (h = TD - SWL): 16.29 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1326

OBSERVATIONS: **Purging Start Time:** 1326

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1327	8.59	144.3	7.58	19.74	0.537	91.71	
	1332	3.64	142.2	6.93	19.98	0.540	91.45	
	1337	2.69	138.6	6.97	20.89	0.533	91.48	
	1342	3.37	136.3	7.03	21.33	0.528	91.48	
	1347	3.75	133.3	7.04	21.46	0.524	91.49	
	1352	4.02	128.1	7.07	21.55	0.520	91.49	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1352	40 ml 3	HCl
TPHGRO	1352	40 ml 3	HCl
TPHDRO	1352	1000 ml 2	HCl

COMMENTS:

Lock was on well
227 Hz

ing Capacities:
2-inch hole.....0.16 gal/lin ft. .
4-inch hole.....0.65 gal/lin ft. .
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 16.29 x 0.80 = (Total Depth of Well) 94.61

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/3/09 WELL NO. MW-H

FACILITY NAME: Lovington Paddock TEMPERATURE: °F

FIELD PERSONNEL: JL,JI WEATHER: Sunny/clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.14 FT.
B. Thickness of Free Product, if present: _____ Inches _____ FT.
C. Total Depth of well (TD) from top of casing/piezometer: 105.55 FT.
D. Height of Water Column in casing (h = TD - SWL): 14.41 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1401

OBSERVATIONS: **Purging Start Time:** 1401

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1403	5.88	120.0	7.14	21.76	0.513	91.83	
	1408	0.55	-1.6	6.70	20.80	0.641	91.59	
	1413	1.42	-27.5	6.85	21.71	0.609	91.51	
	1418	2.93	-24.1	6.92	22.07	0.591	91.52	
	1423	3.82	-12.6	6.99	22.16	0.557	91.51	
	1428	4.38	0.1	7.05	22.19	0.542	91.47	
	1433	4.54	3.8	7.08	22.27	0.539	91.48	
	1438	4.56	10.6	7.03	22.30	0.542	91.48	
	1443	4.66	14.0	7.06	22.29	0.540	91.48	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1448	40 ml 3	HCl
TPHGRO	1448	40 ml 3	HCl
TPHDRO	1448	1000 ml 2	HCl

COMMENTS:

ing Capacities:
2-inch hole.....0.16 gal/lin ft. .
4-inch hole.....0.65 gal/lin ft. .
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 14.41 x 0.80 = (Total Depth of Well) 94.02

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2/3/09 WELL NO. MW-14

FACILITY NAME: Lovington Paddock TEMPERATURE: °F

FIELD PERSONNEL: JL.JI WEATHER: Sunny / clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading :Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: FT.

B. Thickness of Free Product, if present: Inches FT.

C. Total Depth of well (TD) from top of casing/piezometer: FT.

D. Height of Water Column in casing (h = TD - SWL): FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: 1401

OBSERVATIONS: **Purging Start Time:** 1401

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	1448	4.77	17.3	7.07	22.15	0.536	91.48	
	1453							
	1458							

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1448	40 mL 3	HCl
TPH GRO	1448	40 mL 3	HCl
TPH DRO	1448	1000 mL 2	HCl

COMMENTS:

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: x 0.80 = -- (Total Depth of Well)

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-4-09 WELL NO. MW-5

FACILITY NAME: Lovington Paddock TEMPERATURE: 60 °F

FIELD PERSONNEL: JL, JM WEATHER: Clear / Slight Breeze

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 07G100513

Spec. Conductivity: Standard: 1413 Reading: 1416 **;pH** Standard: 7 Reading 7.02 ;Standard 4 Reading: 4.01

Standard 10 Reading: 10.03 ; **ORP:** Standard: 240 Reading: 240.4; **DO:** T°C: 10.66 mmHg: 10.65 psi DO Conc.: 9.14 %

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	87.74	FT.
B. Thickness of Free Product, if present: _____ Inches	_____	FT.
C. Total Depth of well (TD) from top of casing/piezometer:	122.73	FT.
D. Height of Water Column in casing (h = TD - SWL):	34.99	FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: _____

OBSERVATIONS: **Purging Start Time:** 1241

Time	DO mg/L	ORP mV	pH	Temp. °C	Conduct. mS/cm	SWL	
1243	6.64	273.4	7.10	17.32	0.587	88.43	
1248	5.34	243.1	7.29	19.38	0.573	87.86	
1253	5.34	232.1	7.26	20.08	0.567	87.85	
1258	5.03	221.9	7.33	20.41	0.564	87.86	
1303	5.09	219.5	7.37	20.47	0.561	87.86	
1308	5.03	218.3	7.36	20.49	0.560	87.86	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1308	40 ml 3	HCl
TPHGRO	1308	40 ml 3	HCl
TPHDRO	1308	1000 ml 2	HCl

COMMENTS:

Clear / No Odor / No Color 226.4

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 34.99 x 0.80 = -- (Total Depth of Well) 94.73

Signature: JL JM

8/2008

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GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-4-09 WELL NO. MW-M

FACILITY NAME: Lovington Paddock TEMPERATURE: 60° °F

FIELD PERSONNEL: JL, JR, JM WEATHER: Wind / Clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading :Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 89.49 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 108.08 FT.

D. Height of Water Column in casing (h = TD - SWL): 18.59 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 13:25

Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL	
13:25	7.05	211.0	7.51	19.74	0.610	90.12	
13:30	5.83	216.4	7.46	19.41	0.569	89.65	
13:35	5.43	204.9	7.46	20.18	0.565	89.66	
13:40	5.03	198.4	7.47	20.38	0.569	89.66	
13:45	4.94	194.8	7.46	20.43	0.572	89.66	
13:50	5.07	191.5	7.45	20.43	0.572	89.67	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	13:50	40 ml 3	HCl
TPHGRO	13:50	40 ml 3	HCl
TPHDRO	13:50	1000 ml 2	HCl

COMMENTS:

No Color, No odor, Clear 226 Hz

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 18.59 x 0.80 = --(Total Depth of Well) 93.20

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-4-09 WELL NO. MW-L

FACILITY NAME: Lovington Paddock TEMPERATURE: 65 °F

FIELD PERSONNEL: JL, JM WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.03 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 102.30 FT.

D. Height of Water Column in casing (h = TD - SWL): 11.27 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 14:08

	Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL	
14:10	~~14:08~~	~~6.16~~	187.9	7.61	20.96	0.579	92.16	
14:15		5.60	188.0	7.34	19.83	0.592	91.53	
14:20		5.32	186.2	7.35	20.26	0.579	91.55	
14:25		5.19	181.1	7.39	20.79	0.574	91.55	
14:30		5.13	179.0	7.40	20.89	0.572	91.56	
14:35		5.13	176.6	7.41	20.86	0.571	91.57	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	14:35	40 ml 3	HCl
TPH GRO	14:35	40 ml 3	HCl
TPH DRO	14:35	1000 ml 2	HCl

COMMENTS:

14:10 Water is Silty 226 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 11.27 x 0.80 = -- (Total Depth of Well) 93.28

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-4-09 WELL NO. MW-5

FACILITY NAME: Lovington Paddock TEMPERATURE: 60 °F

FIELD PERSONNEL: JL, JM WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	89.58	FT.
B. Thickness of Free Product, if present: _____ Inches		FT.
C. Total Depth of well (TD) from top of casing/piezometer:	106.46	FT.
D. Height of Water Column in casing (h = TD - SWL):	16.88	FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 14:48

	Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL	
	14:50	6.80	171.6	7.60	21.13	0.574	90.18	
	14:55	5.40	160.4	7.30	19.94	0.559	89.76	
	~~14:60~~							
15:00	~~14:65~~ PM	5.38	161.6	7.33	20.21	0.560	89.78	
	15:05	5.22	161.1	7.32	20.44	0.561	89.77	
	15:10	4.88	159.8	7.31	20.55	0.562	89.77	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	15:10	40 ml 3	HCl
TPH GRO	15:10	40 ml 3	HCl
TPH DRO	15:10	1000 ml 2	HCl

COMMENTS:

14:50 Water is Silty, no odor

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 16.88 x 0.80 = --(Total Depth of Well) 92.95

Signature:

8/2008

* DUP - 1 *

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-4-09 WELL NO. MW-D

FACILITY NAME: Lovington Paddock TEMPERATURE: 60 °F

FIELD PERSONNEL: JL,JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	91.08 FT.
B. Thickness of Free Product, if present: _____ Inches	_____ FT.
C. Total Depth of well (TD) from top of casing/piezometer:	107.20 FT.
D. Height of Water Column in casing (h = TD - SWL):	16.12 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 15:36

Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL	
15:36	6.42	166.9	7.48	20.31	0.604	91.43	
15:41	5.78	165.2	7.29	19.83	0.605	90.97	
15:46	5.11	162.8	7.30	20.64	0.603	90.98	
15:51	5.10	162.3	7.30	20.79	0.605	90.99	
15:56	4.74	161.5	7.31	20.89	0.607	90.98	
16:01	4.93	160.6	7.31	20.93	0.606	90.98	
16:06	4.96	160.5	7.30	20.95	0.606	90.99	
16:11	5.02	160.1	7.31	20.96	0.605	90.99	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	16:11	40 ml 3	HCl
TPH GRO	16:11	40 ml 3	HCl
TPH DRO	16:11	1000 mL 2	HCl

COMMENTS:

Lock was on well Water clear / odor less * DUP-1 *

235 Hz

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 16.12 x 0.80 = --(Total Depth of Well) 94.30

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-4-09 WELL NO. MW-D2

FACILITY NAME: Lovington Paddock TEMPERATURE: 60 °F

FIELD PERSONNEL: JL,JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;pH Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; ORP: Standard: Reading: ; DO: T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.12 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 240 FT.

D. Height of Water Column in casing (h = TD - SWL): 148.88 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 16:30

	Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL	
	16:30	7.61	166.6	7.42	19.64	0.775	92.35	
	16:35	3.56	166.1	7.37	19.75	0.849	92.08	
	16:40	3.47	164.4	7.38	19.90	0.851	92.08	
	16:45	3.39	163.3	7.38	19.88	0.849	92.10	
	16:50	3.36	161.5	7.38	19.88	0.843	92.10	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1650	40 ml 3	HCl
TPHGRO	1650	40 ml 3	HCl
TPHDRO	1650	1000 ml 2	HCl

COMMENTS:

16:30 Water Silty / no odor 275 Hz

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 148.88 x 0.80 = --(Total Depth of Well) 120.89

Signature: JM

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-5-09 WELL NO. MW-C

FACILITY NAME: Lovington Paddock TEMPERATURE: 57 °F

FIELD PERSONNEL: JL,JI WEATHER: Cold / Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 07G100513

Spec. Conductivity: Standard: 14.13 Reading: 1.413 **;pH** Standard: 7 Reading 6.98 :Standard 4 Reading: 4.06

Standard 10 Reading: 10.01 **; ORP:** Standard: 240. Reading: 240.0 **; DO:** T°C: 12.29 mmHg: 9.33 DO Conc.: 88.0

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	92.10	FT.
B. Thickness of Free Product, if present: _____ Inches		FT.
C. Total Depth of well (TD) from top of casing/piezometer:	106.28	FT.
D. Height of Water Column in casing (h = TD - SWL):	14.18	FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 10:48

	Time	DO mg/l	ORP MV	pH	Temp.	Conduct.	SWL	
	10:50	10.09	192.5	7.50	12.71	0.744	93.29	
	10:55	1.96	171.8	6.82	17.77	0.629	92.50	
	11:00	2.81	162.2	6.96	19.85	0.629	92.50	
	11:05	3.55	155.9	7.04	20.74	0.614	92.50	
	11:10	4.12	150.3	7.12	20.94	0.607	92.51	
	11:15	4.21	146.4	7.12	21.04	0.604	92.52	
	11:20	4.44	142.4	7.19	21.10	0.602	92.52	
	11:25	4.49	138.4	7.17	21.15	0.602	92.52	
	11:30	4.72	135.2	7.21	21.20	0.602	92.52	
	11:35	4.89	133.0	7.20	21.22	0.601	92.52	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1145	40 ml 3	HCl
TPH GRO	1145	40 ml 3	HCl
TPH DRO	1145	1000 ml 2	HCl

COMMENTS:

10:50 Water Silty with no odor

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures Less than or equal to:

Original Water Column: 14.18 x 0.80 = -- (Total Depth of Well) 94.93

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-5-09 WELL NO. MW-C

FACILITY NAME: Lovington Paddock TEMPERATURE: 67 °F

FIELD PERSONNEL: JSC / JM WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: YSI QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	92.10 FT.
B. Thickness of Free Product, if present: _____ Inches	_____ FT.
C. Total Depth of well (TD) from top of casing/piezometer:	106.28 FT.
D. Height of Water Column in casing (h = TD - SWL):	14.18 FT.

PURGING METHOD: Grundfos Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:**

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	11:40	4.89	130.3	7.25	21.26	0.603	92.52	
	11:45	4.92	129.8	7.26	21.19	0.602	92.52	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	11:45	40 ml 3	
TPH GRO	11:45	40 ml 3	
TPH GRO	11:45	1000 ml 2	

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 14.18 x 0.80 = – (Total Depth of Well) 94.93

Signature: JM

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-5-09 WELL NO. MW-N

FACILITY NAME: Lovington Paddock TEMPERATURE: 60 °F

FIELD PERSONNEL: JL,JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.24 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 108.60 FT.

D. Height of Water Column in casing (h = TD - SWL): 17.36 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 13:48

Time	DO	ORP	pH	Temp.	Conduct.	SWL
13:48	8.34	135.1	7.54	21.92	0.604	91.91
13:53	5.38	126.2	7.11	21.39	0.605	91.25
13:58	5.24	125.9	7.17	21.78	0.607	91.23
14:03	4.87	125.0	7.18	22.29	0.604	91.24
14:08	4.95	124.6	7.19	22.72	0.604	91.23
14:13	5.17	123.9	7.20	22.93	0.602	91.24
14:18	5.58	127.1	7.14	22.35	0.604	91.25
14:23	5.53	126.4	7.22	22.33	0.604	91.25
14:28	5.56	126.4	7.18	22.30	0.604	91.25

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	14:28	40 ml 3	HCl
TPH GRO	14:28	40 ml 3	HCl
TPH DRO	14:28	1000 ml 2	HCl

COMMENTS:

13:52 Water Clear 226 Hz

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 17.36 x 0.80 = --(Total Depth of Well) 94.71

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-5-09 WELL NO. MW-I

FACILITY NAME: Lovington Paddock TEMPERATURE: 72 °F

FIELD PERSONNEL: JL,JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 90.78 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 106.84 FT.

D. Height of Water Column in casing (h = TD - SWL): 16.06 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 14:45

Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL
14:45	8.37	125.5	7.48	23.20	0.608	91.16
14:50	1.84	129.8	6.91	20.67	0.521	91.46
14:55	3.35	128.0	7.17	20.73	0.520	91.43
15:00	4.22	125.9	7.24	20.71	0.523	91.44
15:05	4.48	125.2	7.26	20.66	0.525	91.44
15:10	4.52	124.5	7.26	20.68	0.526	91.42
15:15	4.59	123.2	7.27	20.67	0.528	91.40

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	15:15	40 ml 3	HCl
TPHGRO	15:15	40 ml 3	HCl
TPHDRO	15:15	1000 ml 2	HCl

COMMENTS:

water Silty

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 16.06 x 0.80 = (Total Depth of Well) 93.99

Signature: JM

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. BW-1

FACILITY NAME: Lovington Paddock TEMPERATURE: 50 °F

FIELD PERSONNEL: JL.JI WEATHER: Clear/Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.08 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 120.00 FT.

D. Height of Water Column in casing (h = TD - SWL): 28.92 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 14:30

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	14:30	7.36	230.9	7.44	26.98	0.004	91.22	
	14:35	7.48	128.8	7.18	20.77	0.609	91.01	
	14:40	6.67	132.4	7.20	20.72	0.591	91.02	
	14:45	6.60	134.9	7.21	20.53	0.583	91.01	
	14.50	6.60	134.7	7.21	20.69	0.578	91.02	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	14.50	40 ml 3	HCl
TPHGRO	14.50	40 ml. 3	HCl
TPHDRO	14:50	1000 ml 2	HCl

COMMENTS:

ing Capacities:
2-inch hole.....0.16 gal/lin ft. .
4-inch hole.....0.65 gal/lin ft. .
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 28.92 x 0.80 = –(Total Depth of Well) 96.86

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 7-11-09 WELL NO. MW-6

FACILITY NAME: Lovington Paddock TEMPERATURE: 45 °F

FIELD PERSONNEL: JL.JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 07G100513

Spec. Conductivity: Standard: 1413 Reading: 1413 **;pH** Standard: 7 Reading 7.00 ;Standard 4 Reading: 3.99

Standard 10 Reading: 9.96 ; **ORP:** Standard: 240 Reading: 240.0 **; DO:** T°C: 19.37 mmHg: 8.04 DO Conc.: 87.4

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	91.48	FT.
B. Thickness of Free Product, if present: _____ Inches	_____	FT.
C. Total Depth of well (TD) from top of casing/piezometer:	107.02	FT.
D. Height of Water Column in casing (h = TD - SWL):	15.54	FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: _____

OBSERVATIONS: **Purging Start Time:** 10:32

Time	DO mg/L	ORP mv	pH	Temp.	Conduct.	SWL	
10:32	11.51	145.4	7.13	10.35	0.570	90.72	
10:37	8.27	133.0	7.19	15.68	0.652	91.30	
10:42	7.09	124.0	7.26	19.53	0.673	91.41	
10:47	7.04	123.8	7.26	19.98	0.675	91.41	
10:52	7.00	123.9	7.26	20.13	0.672	91.41	
10:57							

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	10:52	40 ml 3	HCl
TPH GRO	10:52	40 ml 3	HCl
TPH DRO	10:52	1000 ml 2	HCl

COMMENTS:

ing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 15.54 x 0.80 = -- (Total Depth of Well) 94.58

Signature: _____

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. MW-E

FACILITY NAME: Lovington Paddock TEMPERATURE: 50 °F

FIELD PERSONNEL: JL.JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.11 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 107.02 FT.

D. Height of Water Column in casing (h = TD - SWL): 15.91 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 11:05

	Time	DO mg/l	ORP mV	pH	Temp.	Conduct.	SWL	
	11:05	9.39	124.8	7.36	19.83	0.668	91.10	
	11:10	7.83	126.5	7.82	19.64	0.607	91.34	
	11:15	7.23	126.4	7.26	20.07	0.602	90.90	
	11:20	7.17	126.3	7.27	20.22	0.607	90.90	
	11:25	7.17	126.7	7.26	20.26	0.607	90.91	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	11:25	40 ml 3	HCl
TPHGRO	11:25	40 ml 3	HCl
TPH DRO	11:25	1000 ml 2	HCl

COMMENTS:

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 15.91 x 0.80 = (Total Depth of Well) 94.29

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. MW-F

FACILITY NAME: Lovington Paddock TEMPERATURE: 50 °F

FIELD PERSONNEL: JL,JI WEATHER:

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	91.10 FT.
B. Thickness of Free Product, if present: _____ Inches	_____ FT.
C. Total Depth of well (TD) from top of casing/piezometer:	106.60 FT.
D. Height of Water Column in casing (h = TD - SWL):	15.50 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 12:33

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	12:33	9.48	134.4	7.54	18.49	0.605	91.00	
	12:38	8.02	132.0	7.28	19.77	0.701	90.89	
	12:43	7.37	129.4	7.30	20.67	0.715	90.89	
	12:48	7.15	130.2	7.25	20.96	0.707	90.64	
	12:53	6.93	131.3	7.17	* See notes	0.720	90.63	
	12:58	6.75	130.4	7.21	22.44	0.711	90.63	
	13:03	6.77	133.0	7.28	22.96	0.705	90.64	
13:50	~~13:08~~ 911	8.21	134.5	7.30	22.89	0.705	91.00	
	13:55	7.65	134.1	7.28	20.62	.617	91.07	
	14:00							

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	1415	40 ml 3	Hcl
TPH GRO	1415	40 ml 3	Hcl
TPH DRO	1415	1000 ml 2	Hcl

COMMENTS:

* Not recorded / 13:05 Pump Problems

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 15.50 x 0.80 = (Total Depth of Well) 94.20

Signature:

2052

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. MW-F

FACILITY NAME: Lovington Paddock TEMPERATURE: 50 °F

FIELD PERSONNEL: _____ WEATHER: Clear/Breezy

EQUIPMENT CALIBRATION: YSI QED Serial No.: _____

Spec. Conductivity: Standard: _____ Reading: _____ ;**pH** Standard: 7 Reading _____ ;Standard 4 Reading: _____

Standard 10 Reading: _____ ; **ORP:** Standard: _____ Reading: _____ ; **DO:** T°C: _____ mmHg: _____ DO Conc.: _____

End-of-Day Recheck: Spec.Cond: _____ ;pH 7: _____ ;pH 4: _____ ;pH: 10 _____ ;ORP: _____

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.10 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 106.60 FT.

D. Height of Water Column in casing (h = TD - SWL): 15.50 FT.

PURGING METHOD: Grundfos Bladder Peristaltic Fultz DURATION: _____

OBSERVATIONS: **Purging Start Time:** 14:00

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	14:00	7.40	136.4	7.23	20.41	0.684	91.08	
	14:05	7.27	135.5	7.29	20.38	0.704	91.10	
	14:10	7.20	134.6	7.29	20.50	0.704	91.10	
	14:15	7.26	136.7	7.26	20.45	0.706	91.11	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX	14:15	40 ml / 3	HCL
TPH GRO	14:15	40 ml / 3	HCL
TPH DRO	14:15	1000 ml / 2	HCL

COMMENTS:

Casing Capacities:
...ch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 15.50 x 0.80 = --(Total Depth of Well) 94.20

Signature: _____

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. BW-2

FACILITY NAME: Lovington Paddock TEMPERATURE: 50 °F

FIELD PERSONNEL: JM / JS WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: YSI QED Serial No.:

Spec. Conductivity: Standard: Reading: ;pH Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.13 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 119.00 FT.

D. Height of Water Column in casing (h = TD - SWL): 27.87 FT.

PURGING METHOD: Grundfos Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 18:35

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	18:35	8.32	130.4	7.42	18.97	0.569	92.03	
	18:40	8.80	131.9	7.59	18.94	0.546	91.98	
	18:45	7.69	128.4	7.39	19.39	0.551	91.92	
	18:50	7.43	129.0	7.36	19.41	0.549	91.92	
	18:55	7.27	129.5	7.35	19.38	0.550	92.00	
	19:00	7.24	129.6	7.35	19.39	0.549	92.01	
	19:05	7.25	129.9	7.35	19.39	0.549	92.01	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	19:05	40 ml 3	HCl
TPHGRO	19:05	40ml 3	HCl
TPHDRO	19:05	1000 ml 2	HCl

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 27.87 x 0.80 = --(Total Depth of Well) 96.70

Signature:

DUP-2

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. MW-T

FACILITY NAME: Lovington Paddock TEMPERATURE: 45 °F

FIELD PERSONNEL: JL,JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 :ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 92.39 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 120.00 FT.

D. Height of Water Column in casing (h = TD - SWL): 27.61 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 19:15

	Time	DO	ORP	pH	Temp.	Conduct.	SWL	
	19:15	25.35	126.3	7.70	18.09	0.521	92.40	
	19:20	8.50	131.4	7.44	18.85	0.513	93.48	
	19:25	7.71	130.2	7.42	19.15	0.511	93.54	
	19:30	7.32	132.2	7.31	19.29	0.550	93.61	
	19:35	7.24	132.7	7.30	19.29	0.553	93.61	
	19:40	7.28	133.0	7.35	19.33	0.554	93.61	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX & BCL	19:40	40 ml 6 ~~3~~	HCl
TPH GRO	19:40	40 ml 6 ~~3~~	HCl
TPH DRO	19:40	1000 ml 4 ~~2~~	HCl

COMMENTS:

DUP 2

ng Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 27.61 x 0.80 = -- (Total Depth of Well) 97.91

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 89CH.49521.08.1000 DATE: 2-11-09 WELL NO. BW-3

FACILITY NAME: Lovington Paddock TEMPERATURE: 50 °F

FIELD PERSONNEL: JL.JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading :Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 92.44 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 121.00 FT.

D. Height of Water Column in casing (h = TD - SWL): 28.56 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 18:00

Time	DO	ORP	pH	Temp.	Conduct.	SWL	
18:00	9.11	145.5	7.56	16.73	0.587	91.92	
18:05	8.20	129.2	7.39	19.24	0.535	91.98	
18:10	7.54	126.2	7.32	19.49	0.541	91.91	
18:15	7.30	123.6	7.34	19.52	0.540	91.92	
18:20	7.28	123.7	7.34	19.52	0.540	91.92	
18:25	7.29	124.2	7.34	19.50	0.539	91.92	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021	18:25	40 ml 3	HCl
TPH GRO	18:25	40 ml 3	HCl
TPH DRO	18:25	1000 ml 2	HCl

COMMENTS:

ng Capacities:
2-inch hole.....0.16 gal/lin ft. .
4-inch hole.....0.65 gal/lin ft. .
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 28.56 x 0.80 = (Total Depth of Well) 98.15

Signature:

Second Half 2009

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-13-09 WELL NO. MW-P

FACILITY NAME: Lovington Paddock TEMPERATURE: 74 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 06F1362 AB

Spec. Conductivity: Standard: 1,413 Reading: 1,413 ;**pH** Standard: 7 Reading 7.00 ;Standard 4 Reading: 4.00

Standard 10 Reading: 10.00 ; **ORP:** Standard: 240 Reading: 240 ; **DO:** T°C: 26.22 mmHg: 7.32 DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 103.99 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 112.90 FT.

D. Height of Water Column in casing (h = TD - SWL): 8.91 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: _____

OBSERVATIONS: **Purging Start Time:** 1039

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1049	3.93	89.3	7.12	27.18	654	104.43	
	1054	3.58	84.8	7.12	27.11	651	104.43	
	1059	3.29	80.3	7.12	27.54	649	104.43	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
8015 BTEX 8021/TPH-GRO	1059	40 ml 3	HCl
TPH-DRO 8015	1059	1000 ml 2	HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 8.91 x 0.80 = -- (Total Depth of Well) 105.77

Signature: _____

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-13-09 WELL NO. MW-0

FACILITY NAME: Lovington Paddock TEMPERATURE: 86 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 103.69 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 112.47 FT.

D. Height of Water Column in casing (h = TD - SWL): 8.78 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1115

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1125	3.38	74.4	7.53	31.68	662	104.06	
	1130	2.95	78.3	7.19	30.34	814	104.06	
	1135	2.67	79.3	7.13	29.36	817	104.07	
	1140	2.55	78.9	7.15	29.31	815	104.07	
	1145	2.55	78.8	7.15	29.71	814	104.07	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
8015 BTEX 8021/TPH-GRO	1145	40 ml 3	HCl
TPH-DRO 8015	1145	1000 ml 2	HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 8.78 x 0.80 = --(Total Depth of Well) 105.44

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-13-09 WELL NO. MW-W

FACILITY NAME: Lovington Paddock TEMPERATURE: 94 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 101.58 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.15 FT.

D. Height of Water Column in casing (h = TD - SWL): 20.57 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1315

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1325	2.88	68.1	6.99	32.75	808	101.90	
	1330	2.70	68.1	6.95	32.62	811	101.90	
	1335	2.53	70.9	6.94	32.04	806	101.90	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO 8015	1335	40 ml 3	HCl
TPH - DRO 8015	1335	1000 ml 2	HCl

COMMENTS:

235 H2

sing Capacities:
-inch hole.....0.16 gal/lin ft. .
4-inch hole.....0.65 gal/lin ft. .
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 20.57 x 0.80 = -- (Total Depth of Well) 105.69

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-13-09 WELL NO. MW-V

FACILITY NAME: Lovington Paddock TEMPERATURE: 95 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 101.25 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.84 FT.

D. Height of Water Column in casing (h = TD - SWL): 21.59 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1349

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1359	3.40	53.4	7.19	29.32	610	101.65	
	1404	3.45	57.1	7.16	28.74	608	101.65	
	1409	3.30	62.9	7.17	28.90	605	101.65	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1409	40 ml 3	HCl
TPH-DRO 8015	1409	1000 ml 2	1-HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 21.59 x 0.80 = --(Total Depth of Well) 105.56

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO. MW-Q

FACILITY NAME: Lovington Paddock TEMPERATURE: 85 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 06F1362 AB

Spec. Conductivity: Standard: 1,413 Reading: 1413 ;**pH** Standard: 7 Reading 7.00 ;Standard 4 Reading: 4.00

Standard 10 Reading: 10.02 ; **ORP:** Standard: 240 Reading: 240 ; **DO:** T°C: 26.39 mmHg: 728 DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 103.51 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 108.41 FT.

D. Height of Water Column in casing (h = TD - SWL): 4.90 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: _____

OBSERVATIONS: **Purging Start Time:** 0953

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1003	4.04	69.2	7.17	26.40	697	103.04	
	1008	4.04	68.1	7.17	26.43	699	103.04	
	1013	4.01	68.0	7.18	27.14	703	103.04	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO 8015	1013	40 ml 3	HCl
TPH-DRO 8015	1013	1000 ml 2	HCl

COMMENTS:

235 Hz

sing Capacities:
-inch hole.....0.16 gal/lin ft.
-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 4.90 x 0.80 = -- (Total Depth of Well) 104.49

Signature: _____

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO. MW-U

FACILITY NAME: Lovington Paddock TEMPERATURE: 86 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 101.27 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 123.09 FT.

D. Height of Water Column in casing (h = TD - SWL): 21.82 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1028

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1038	5.16	67.2	7.27	24.59	577	101.60	
	1043	5.03	68.2	7.27	24.89	575	101.60	
	1048	4.91	69.1	7.27	25.30	576	101.60	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1048	40 ml 3	HCl
TPH-DRO 8015	1048	1000 ml 2	HCl

COMMENTS:

235 H2

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 21.82 x 0.80 = --(Total Depth of Well) 105.63

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO. MW-R

FACILITY NAME: Lovington Paddock TEMPERATURE: 86 °F

FIELD PERSONNEL: SB, JI WEATHER: clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 105.25 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 152.29 FT.

D. Height of Water Column in casing (h = TD - SWL): 47.04 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1106

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1116	4.45	65.4	7.37	30.60	590	105.42	
	1121	4.54	69.1	7.33	30.97	587	105.42	
	1126	4.38	71.2	7.32	31.28	587	105.44	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s) 8015	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO	1126	40 ml 3	HCl
TPH-DRO 8015	1126	1000 ml 2	HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 47.04 x 0.80 = (Total Depth of Well) 114.65

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO. BW-1

FACILITY NAME: Lovington Paddock TEMPERATURE: 95 °F

FIELD PERSONNEL: SB, JI WEATHER: Clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	98.83 FT.
B. Thickness of Free Product, if present: _____ Inches	_____ FT.
C. Total Depth of well (TD) from top of casing/piezometer:	118.80 FT.
D. Height of Water Column in casing (h = TD - SWL):	19.97 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1311

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1321	3.04	64.6	7.14	28.37	601	99.20	
	1326	3.22	66.7	7.14	28.14	595	99.20	
	1331	3.42	67.8	7.16	28.24	590	99.20	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1331	40 ml 3	HCl
TPH-DRO 8015	1331	1000 ml 2	HCl

COMMENTS:

235 Hz

sing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 19.97 x 0.80 = -- (Total Depth of Well) 102.82

Signature:

Dup #1

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO.: MW-F

FACILITY NAME: Lovington Paddock TEMPERATURE: 96 °F

FIELD PERSONNEL: SB, JI WEATHER: clear

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 98.00 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 106.70 FT.

D. Height of Water Column in casing (h = TD - SWL): 8.70 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1348

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1358	5.57	60.1	7.27	27.63	672	97.78	
	1403	5.43	64.8	7.26	27.05	658	97.78	
	1408	5.37	67.7	7.26	26.98	659	97.78	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO 8015	1408	40 ml 3	HCl
TPH-DRO 8015	1408	1000 ml 2	HCl

COMMENTS:

235 Hz Dup #1

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 8.70 x 0.80 = -- (Total Depth of Well) 99.74

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-15-09 WELL NO. MW-E

FACILITY NAME: Lovington Paddock TEMPERATURE: 78 °F

FIELD PERSONNEL: SB, JL WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 06F1362 AB

Spec. Conductivity: Standard: 1,413 Reading: 1,413 ;**pH** Standard: 7 Reading 7.00 ;Standard 4 Reading: 4.00

Standard 10 Reading: 10.02 ; **ORP:** Standard: 240 Reading: 240 ; **DO:** T°C: 26.34 mmHg: 729 DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 98.81 FT.
B. Thickness of Free Product, if present: _____ Inches _____ FT.
C. Total Depth of well (TD) from top of casing/piezometer: 107.01 FT.
D. Height of Water Column in casing (h = TD - SWL): 8.20 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION: _____

OBSERVATIONS: **Purging Start Time:** 0933

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	0943	5.99	88.7	7.25	23.47	614	98.52	
	0948	6.17	82.5	7.25	23.65	619	98.52	
	0953	6.25	78.7	7.25	23.72	613	98.52	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: _____

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	0953	40 mL 3	HCl
TPH-DRO 8015	0953	1000 ml 2	HCl

COMMENTS:

235 1/2

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 8.20 x 0.80 = -(Total Depth of Well) 100.45

Signature: _____

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-15-09 WELL NO. MW-6

FACILITY NAME: Lovington Paddock TEMPERATURE: 79 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 96.72 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 106.55 FT.

D. Height of Water Column in casing (h = TD - SWL): 9.83 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1005

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1015	6.03	68.5	7.26	23.51	677	96.91	
	1020	6.11	69.3	7.26	23.31	676	96.91	
	1025	6.15	69.6	7.26	23.26	676	96.91	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO 8015	1025	40 ml 3	HCl
TPH-DRO 8015	1025	1000 ml 2	HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 9.83 x 0.80 = -- (Total Depth of Well) 98.68

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-13-09 WELL NO. MW-N

FACILITY NAME: Lovington Paddock TEMPERATURE: 85 °F

FIELD PERSONNEL: JM / JC WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.: 0713

Spec. Conductivity: Standard: 1413 @ 0740 @ 27.48 Reading: 1413 **;pH** Standard: 7 @ 0742 @ 27.65 Reading 7.00 ;Standard 4 @ 0743 @ 27.62 Reading: 4.00

Standard 10 @ 0745 @ 27.34 Reading: 9.99 ; **ORP:** Standard: 240.0 @ 0747 @ 27.24 Reading: 240.1 ; **DO:** T°C: 26.79 @ 0754 mmHg: 727 DO Conc.: 9.08

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	97.16	FT.
B. Thickness of Free Product, if present: _____ Inches		FT.
C. Total Depth of well (TD) from top of casing/piezometer:	108.67	FT.
D. Height of Water Column in casing (h = TD - SWL):	11.51	FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1025

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1026	5.61	160.4	6.89	28.00	1.654	98.15	
	1031	4.54	102.6	6.79	25.15	0.944	97.59	
	1036	4.48	91.3	6.87	24.86	0.791	97.58	
	1041	4.57	93.0	6.88	24.04	0.727	97.82	
	1046	4.66	91.2	6.91	23.76	0.714	98.19	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: 30 gallons Poly tank at CVX tank Battery

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX / TPH GRO	1046		
TPH DRO	"		

COMMENTS:

230 Hz Start @ 1037 240 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 11.51 x 0.80 = --(Total Depth of Well) 99.46

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-13-09 WELL NO. MW-D2

FACILITY NAME: Lovington Paddock TEMPERATURE: 85 °F

FIELD PERSONNEL: [illegible] WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 99.30 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 204+ FT.

D. Height of Water Column in casing (h = TD - SWL): 104.70 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1102

Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL
1103	8.00	59.5	7.12	22.50	0.759	101.20
1108	6.20	66.1	7.17	21.21	0.753	98.57
1113	4.99	67.0	7.19	21.62	0.753	100.50
1118	4.59	67.3	7.19	21.64	0.753	100.52
1123	4.45	65.1	7.15	21.72	0.752	100.41
1128	4.43	65.0	7.20	21.79	0.750	100.41

PURGE WATER STORED/DISPOSED OF WHERE/HOW: 40 gallons Poly tanks at CVX tank battery

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX/TPHGRO	1128		
TPH DRO	"		

COMMENTS:

Water Slightly silty 250 Hz

Start at 280 Hz changed to 250 Hz at 1108

sing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 104.70 x 0.80 = --(Total Depth of Well) 120.24

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/13/09 WELL NO. MW-J

FACILITY NAME: Lovington Paddock TEMPERATURE: 100 °F

FIELD PERSONNEL: JL / JM WEATHER: Clear / calm

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 93.95 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 105.97 FT.

D. Height of Water Column in casing (h = TD - SWL): 12.02 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1316

Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL
1318	4.91	-93.6	7.41	31.45	0.770	94.70
1323	6.85	-5.5	7.16	22.51	0.568	94.80
1328	6.32	-3.9	7.27	22.47	0.566	94.83
1333	6.39	10.5	7.21	22.36	0569	94.80
1338	6.28	21.0	7.18	23.02	0.573	94.40
1343	5.58	26.0	7.20	24.51	0.568	94.48
1348	5.48	33.4	7.21	24.76	0.571	94.37
1353						

PURGE WATER STORED/DISPOSED OF WHERE/HOW: 35 gallons Poly tanks at CVX tanks battery

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX/TPHGRO	1348	3 - 40ml	HCl
TPH DRO	"	2 - 1000ml	HCl

COMMENTS:

Started at 050 Hz went to 230 Hz at 1333

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:

Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 12.02 x 0.80 = (Total Depth of Well) 96.35

Signature: JM

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/13/09 WELL NO. MW-D

FACILITY NAME: Lovington Paddock TEMPERATURE: 100 °F

FIELD PERSONNEL: VL / JM WEATHER: Clear / Calm

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 98.82 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 106.90 FT.

D. Height of Water Column in casing (h = TD - SWL): 8.08 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1406

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	~~1407~~	~~X.XX~~	~~XX.X~~	~~X.XX~~	~~XX.XX~~	~~X.XXX~~	~~XX.XX~~	
		6.67	-13.6	7.26	27.89	0.609	99.10	
	1412	6.48	3.8	7.14	26.07	0.645	98.96	
	1417	5.76	11.9	7.14	25.76	0.641	98.93	
	1422	5.66	16.6	7.16	26.57	0.637	98.89	
	1427	5.59	19.1	7.19	26.95	0643	98.84	

PURGE WATER STORED/DISPOSED OF WHERE/HOW: 20 gallons Poly tanks at CVX tanks battery

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX / TPH GRO	1427	3 - 40ml	HCl
TPH DRO	"	2 - 1000ml	HCl
	"		

COMMENTS:

@ 30Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 8.08 x 0.80 = -- (Total Depth of Well) 106.43

Signature: JM

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO. MW-C

FACILITY NAME: Lovington Paddock TEMPERATURE: 80 °F

FIELD PERSONNEL: JM / JL WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

0725 27.56
Spec. Conductivity: Standard: 1413 Reading: 1413 ;pH 0727 27.91 Standard: 7 Reading 7.00 ;Standard 4 Reading: 0728 28.41 4.00

0730 28.40
Standard 10 Reading: 9.99 ; ORP: 0732 28.38 Standard: 240.0 Reading: 240.1 ; DO: 0742 27.59 T°C: mmHg: 90.3 DO Conc.: 7.12

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 :ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer:	99.78	FT.
B. Thickness of Free Product, if present: _____ Inches		FT.
C. Total Depth of well (TD) from top of casing/piezometer:	106.35	FT.
D. Height of Water Column in casing (h = TD - SWL):	6.57	FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 0942

Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL
947	3.80	138.3	6.54	27.60	0.697	100.75
952	5.31	65.1	6.72	25.71	0.691	*101.25*
957	5.08	60.7	6.78	22.61	0.664	101.17
1002	5.55	68.7	6.92	22.38	0.645	101.00
1007	5.72	72.6	6.94	22.55	0.637	101.19
1012	5.85	77.9	6.95	22.65	0.644	101.12
1017	5.88	81.8	6.98	22.70	0.645	101.12

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX / TPH GRO		3 - 40ml	HCl
TPH DRO		2 - 1000ml	HCl

COMMENTS:

Start at 235 Hz went up to 250 Hz at 950
* Pump flow rate as slow as possible

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures Less than or equal to:

Original Water Column: 6.57 x 0.80 = --(Total Depth of Well) 101.09

Signature:

8/2008

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-14-09 WELL NO.: MW-L

FACILITY NAME: Lovington Paddock TEMPERATURE: 85 °F

FIELD PERSONNEL: JM / JL WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 95.96 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 107.20 FT.

D. Height of Water Column in casing (h = TD - SWL): 11.24 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1039

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1040	6.89	73.7	7.24	26.32	0.643	96.55	
	1045	6.26	75.4	7.28	25.64	0.643	96.92	
	1050	5.72	78.3	7.17	24.38	0.610	96.86	
	1055	6.15	75.6	7.20	24.89	0.608	96.75	
	1100	6.18	75.0	7.25	25.07	0.604	96.76	
	1105	6.19	79.3	7.20	25.10	0.605	96.76	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX / TPH GRO	1105	3 - 40ml	HCl
TPH DRO		2 - 1000ml	HCl

COMMENTS:

Started at 240 Hz Went to 235 Hz at 1048

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 11.24 x 0.80 = -- (Total Depth of Well) 98.20

Signature: JM

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/14/09 WELL NO. MW-I

FACILITY NAME: Lovington Paddock TEMPERATURE: 95 °F

FIELD PERSONNEL: JM / JL WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 97.19 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 106.79 FT.

D. Height of Water Column in casing (h = TD - SWL): 9.60 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1307

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1308	4.32	-13.1	7.29	33.49	0.646	88.39	
	1313	2.80	-31.5	6.97	30.04	0.564	91.77	
	1318	1.99	-20.1	7.02	27.49	0.544	93.67	
	1323	2.50	-19.2	7.06	27.76	0.537	93.72	
	1328	2.86	-15.4	7.15	27.98	0.532	93.67	
	1333	3.20	12.8	6.99	27.85	0.525	93.58	
	1338	3.42	-0.3	7.12	27.89	0.524	92.95	
	1343	3.64	15.3	7.07	27.11	0.524	92.27	
	1348	3.72	5.9	7.14	27.06	0.523	92.21	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX / TPH GRO	1358	3 - 40ml	HCl
TPH DRO	"	2 - 1000ml	HCl

COMMENTS:

Started a 25 Hz turned down to 22 Hz at 1308

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 9.60 x 0.80 = -- (Total Depth of Well) 99.11

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/14/09 WELL NO.: MW-I

FACILITY NAME: Lovington Paddock TEMPERATURE: 95 °F

FIELD PERSONNEL: JM/JL WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 97.19 FT.
B. Thickness of Free Product, if present: _____ Inches _____ FT.
C. Total Depth of well (TD) from top of casing/piezometer: 106.79 FT.
D. Height of Water Column in casing (h = TD - SWL): 9.60 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:**

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1353	4.06	4.4	7.18	27.24	0.521	92.27	
	*1358	4.06	28.4	6.92	27.18	0.520	92.32	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
	1358		

COMMENTS:

* Collected more than 1 casing volume and took sample

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 9.60 x 0.80 = -- (Total Depth of Well) 99.11

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-15-09 WELL NO. MW-M

FACILITY NAME: Lovington Paddock TEMPERATURE: 81 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading :Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 :ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 93.50 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 108.13 FT.

D. Height of Water Column in casing (h = TD - SWL): 14.63 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1047

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1057	6.26	63.8	7.46	23.63	580	94.02	
	1102	6.32	65.6	7.46	23.34	575	94.02	
	1107	6.25	67.1	7.45	23.39	574	94.02	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO	1107	40 ml 3	HCl
TPH-DRO	1107	1000 ml 2	HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 14.63 x 0.80 = -- (Total Depth of Well) 96.42

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-15-09 WELL NO. MW-5

FACILITY NAME: Lovington Paddock TEMPERATURE: 83 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 91.86 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.77 FT.

D. Height of Water Column in casing (h = TD - SWL): 30.91 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1119

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1129	6.75	69.9	7.25	22.69	545	92.39	
	1134	6.75	72.9	7.26	22.64	545	92.40	
	1139	6.70	75.2	7.26	22.62	543	92.39	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1139	40 mL 3	HCl
TPH-DRO 8015	1139	1000 mL 2	HCl

COMMENTS:

235 H2

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 30.91 x 0.80 = -- (Total Depth of Well) 98.04

Signature:

Stantec

Dup #2

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-15-09 WELL NO. MW-B

FACILITY NAME: Lovington Paddock TEMPERATURE: 87 °F

FIELD PERSONNEL: SB, JI WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 99.76 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 107.65 FT.

D. Height of Water Column in casing (h = TD - SWL): 7.89 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1244

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1254	1.10	54.4	6.73	28.19	752	100.53	
	1259	1.29	55.2	6.80	27.61	704	100.53	
	1304	1.59	52.8	6.86	27.62	670	100.53	
	1309	1.89	51.4	6.91	27.62	648	100.53	
	1314	2.12	52.3	6.95	27.69	631	100.53	
	1319	2.32	53.8	6.99	27.61	617	100.53	
	1324	2.50	55.2	7.02	27.65	608	100.53	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO 8015	1324	40 ml 3	HCl
TPH - DRO 8015	1324	1000 ml 2	HCl

COMMENTS:

235 Hz Dup #2

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 7.89 x 0.80 = -- (Total Depth of Well) 101.33

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7-15-09 WELL NO. MW-H

FACILITY NAME: Lovington Paddock TEMPERATURE: 90 °F

FIELD PERSONNEL: SB, JT WEATHER: PC

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: **;pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: **; ORP:** Standard: Reading: **; DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 98.30 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 105.53 FT.

D. Height of Water Column in casing (h = TD - SWL): 7.23 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1340

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1350	0.48	-173.2	6.69	28.03	836	99.29	
	1355	0.85	-143.2	6.72	27.10	789	99.28	
	1400	1.59	-109.3	6.78	27.00	750	99.28	
	1405	2.72	-53.6	6.90	26.76	680	99.28	
	1410	3.71	-5.0	6.97	25.10	660	99.73	
	1415	4.49	18.3	7.07	24.15	622	99.73	
	1420	4.75	21.3	7.10	24.17	619	99.73	
	1425	4.74	16.6	7.10	24.17	620	99.73	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1425	40 ml 3	HCl
TPH-DRO 8015	1425	1000 ml 2	HCl

COMMENTS:

235 Hz

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to**:

Original Water Column: 7.23 x 0.80 = (Total Depth of Well) 99.74

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/16/09 WELL NO. BW-2

FACILITY NAME: Lovington Paddock TEMPERATURE: 87 °F

FIELD PERSONNEL: SA, SL WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: 1413 Reading: 1413 ; **pH** Standard: 7 Reading 7.00; Standard 4 Reading: 4.00

Standard 10 Reading: 10.00 ; **ORP:** Standard: 240.0 Reading: 240.0; **DO:** T°C: 26.57 mmHg: 702 DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 98.47 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.16 FT.

D. Height of Water Column in casing (h = TD - SWL): 23.69 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1124

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1134	7.52	90.0	7.57	23.82	0.469	98.91	
	1139	7.58	97.8	7.52	24.08	0.474	98.91	
	1144	7.57	101.6	7.49	04.12	476	98.91	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021 / TPH-GRO 8015	1144	40 mL 3	HCl
TPH-DRO 8015	"	1000 mL 2	HCl

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 23.69 x 0.80 = (Total Depth of Well) 103.20

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/16/09 WELL NO. BW-3

FACILITY NAME: Lovington Paddock TEMPERATURE: 90 °F

FIELD PERSONNEL: SB, JI WEATHER: Clear / Breezy

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 100.44 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 120.30 FT.

D. Height of Water Column in casing (h = TD - SWL): 19.86 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1305

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1315	7.37	67.6	7.71	25.90	478	99.73	
	1320	7.43	70.0	7.65	25.52	477	100.71	
	1325	7.46	77.6	7.60	25.15	480	100.71	

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1325	40 ml 3	HCl
TPH-DRO 8015	"	1000 ml 2	HCl

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft.
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 19.86 x 0.80 = -- (Total Depth of Well) 104.41

Signature:

Stantec

GROUNDWATER SAMPLING FIELD DATA SHEET

PROJECT NO.: 212201131 201.250 DATE: 7/16/09 WELL NO. MW-T

FACILITY NAME: Lovington Paddock TEMPERATURE: 95 °F

FIELD PERSONNEL: SB, JI WEATHER: Clear / Calm

EQUIPMENT CALIBRATION: (YSI) QED Serial No.:

Spec. Conductivity: Standard: Reading: ;**pH** Standard: 7 Reading ;Standard 4 Reading:

Standard 10 Reading: ; **ORP:** Standard: Reading: ; **DO:** T°C: mmHg: DO Conc.:

End-of-Day Recheck: Spec.Cond: ;pH 7: ;pH 4: ;pH: 10 ;ORP:

FIELD MEASUREMENTS:

A. Static Water Level (SWL) below top of casing/piezometer: 97.92 FT.

B. Thickness of Free Product, if present: _____ Inches _____ FT.

C. Total Depth of well (TD) from top of casing/piezometer: 122.17 FT.

D. Height of Water Column in casing (h = TD - SWL): 24.25 FT.

PURGING METHOD: (Grundfos) Bladder Peristaltic Fultz DURATION:

OBSERVATIONS: **Purging Start Time:** 1409

	Time	DO (±10%)	ORP(±10mV)	pH(±0.1)	Temp.(±3%)	Conduct.(±3%)	SWL	
	1419	7.90	47.5	7.97	26.12	523	99.08	
	1424	8.00	63.1	7.92	25.89	513	99.08	
	1429	8.30	70.6	7.86	25.61	520	99.08	
	1434	8.26	76.7	7.80	25.49	523		

PURGE WATER STORED/DISPOSED OF WHERE/HOW:

SAMPLES COLLECTED:

Sample Number(s)	Time	Size/Number of Container(s)	Preservative
BTEX 8021/TPH-GRO 8015	1434	40 ml 3	HCl
TPH-DRO 8015	"	1000 ml 2	HCl

COMMENTS:

Casing Capacities:
2-inch hole.....0.16 gal/lin ft.
4-inch hole.....0.65 gal/lin ft.
6.5-inch hole.....1.70 gal/lin ft
8-inch hole.....2.60 gal/lin ft
10-inch hole.....4.10 gal/lin ft.

Recharge Calculation at Time of Sample Collection:
Collect sample when Depth to Water measures **Less than or equal to:**

Original Water Column: 24.25 x 0.80 = -- (Total Depth of Well) 102.77

Signature:

APPENDIX B

Laboratory Analytical Reports

First Half 2009

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax:717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared for:

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

713-937-7973

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1131184. Samples arrived at the laboratory on Friday, February 06, 2009. The PO# for this group is 89CH.49521.08.1000 and the release number is LOVINGTON.

Client Description	Lancaster Labs Number
MW-R Grab Water Sample	5594403
MW-P Grab Water Sample	5594404
MW-O Grab Water Sample	5594405
MW-W Grab Water Sample	5594406
MW-V Grab Water Sample	5594407
MW-Q Grab Water Sample	5594408
MW-U Grab Water Sample	5594409
MW-B Grab Water Sample	5594410
MW-H Grab Water Sample	5594411
MW-S Grab Water Sample	5594412
MW-M Grab Water Sample	5594413
MW-L Grab Water Sample	5594414
MW-J Grab Water Sample	5594415
MW-D Grab Water Sample	5594416
MW-D2 Grab Water Sample	5594417
MW-C Grab Water Sample	5594418
MW-N Grab Water Sample	5594419
MW-I Grab Water Sample	5594420
Trip_Blank Water Sample	5594421
DUP-1 Grab Water Sample	5594422

ELECTRONIC STANTEC International, Inc. Attn: Steve Bell

Lancaster Laboratories

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Analysis Report

COPY TO
ELECTRONIC COPY TO STANTEC International, Inc. Attn: Bill Goldsby

Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300

Respectfully Submitted,

Sarah Snyder
Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5594403 **Group No. 1131184**

MW-R Grab Water Sample

Lovington Paddock, NM
Collected:02/02/2009 10:58 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-R

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	74	J	30	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	28	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.2	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.5	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.8	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.6	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 02:05	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 20:12	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 20:12	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 20:12	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5594404 **Group No. 1131184**

MW-P Grab Water Sample

Lovington Paddock, NM
Collected:02/02/2009 11:40 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-P

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	49	J	30	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	3.3		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.5	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.1	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 02:25	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 20:36	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 20:36	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 20:36	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594405 **Group No. 1131184**

MW-O Grab Water Sample

Lovington Paddock, NM
Collected:02/02/2009 13:22 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-O

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	63	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	1.2		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.5	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.1	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 02:46	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 21:01	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 21:01	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 21:01	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594406 **Group No. 1131184**

MW-W Grab Water Sample

Lovington Paddock, NM
Collected:02/02/2009 14:01 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-W

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	78	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	2.9		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.4	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	0.9	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 03:06	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 21:25	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 21:25	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 21:25	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594407 **Group No. 1131184**

MW-V Grab Water Sample

Lovington Paddock, NM
Collected:02/02/2009 14:38 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-V

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	66	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	23	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	7.8		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.3	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	0.7	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 03:26	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 21:49	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 21:49	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 21:49	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594408 **Group No. 1131184**

MW-Q Grab Water Sample

Lovington Paddock, NM
Collected: 02/02/2009 15:09 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-Q

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	48	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	2.1		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.3	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	0.7	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 03:46	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 22:14	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 22:14	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 22:14	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594409 **Group No. 1131184**

MW-U Grab Water Sample

Lovington Paddock, NM
Collected: 02/03/2009 11:29 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-U

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	60	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	N.D.		0.2	ug/l	1
00777	Toluene	108-88-3	2.1		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.6	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.3	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 04:06	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 22:38	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 22:38	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 22:38	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594410 **Group No. 1131184**

MW-B Grab Water Sample

Lovington Paddock, NM
Collected:02/03/2009 13:52 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
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Houston TX 77040

LVP-B

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	56	J	30	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	95		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	41		0.2	ug/l	1
00777	Toluene	108-88-3	1.9		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.4	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.4	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 04:26	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/09/2009 23:02	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/09/2009 23:02	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/09/2009 23:02	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594411 **Group No. 1131184**

MW-H Grab Water Sample

Lovington Paddock, NM
Collected: 02/03/2009 14:48 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-H

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	78	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	1,200		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	490		1.0	ug/l	5
00777	Toluene	108-88-3	56		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	7.5		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	22		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 04:46	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 00:15	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 00:15	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 09:21	Carrie E Youtzy	5
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 00:15	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	2	02/10/2009 09:21	Carrie E Youtzy	5
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594412 **Group No. 1131184**

MW-S Grab Water Sample

Lovington Paddock, NM
Collected: 02/04/2009 13:08 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

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LVP-S

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	44	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	72		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	22		0.2	ug/l	1
00777	Toluene	108-88-3	4.8		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	1.1		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	3.1		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 05:07	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 19:11	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 19:11	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 19:11	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594413 **Group No. 1131184**

MW-M Grab Water Sample

Lovington Paddock, NM
Collected:02/04/2009 13:50 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

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LVP-M

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	36	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	53		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	13		0.2	ug/l	1
00777	Toluene	108-88-3	3.1		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	1	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	2.5	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 05:27	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 19:35	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 19:35	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 19:35	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594414 **Group No. 1131184**

MW-L Grab Water Sample

Lovington Paddock, NM
Collected:02/04/2009 14:35 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

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Houston TX 77040

LVP-L

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	42	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	41	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	11		0.2	ug/l	1
00777	Toluene	108-88-3	3.0		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.9	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	2.4	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 05:47	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 20:48	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 20:48	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 20:48	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594415 **Group No. 1131184**

MW-J Grab Water Sample

Lovington Paddock, NM
Collected:02/04/2009 15:10 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

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Houston TX 77040

LVP-J

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	32	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	7.8		0.2	ug/l	1
00777	Toluene	108-88-3	2.2		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.7	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.9	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 06:07	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 21:12	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 21:12	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 21:12	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594416 **Group No. 1131184**

MW-D Grab Water Sample

Lovington Paddock, NM
Collected: 02/04/2009 16:11 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-D

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	34	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	8.1		0.2	ug/l	1
00777	Toluene	108-88-3	2.3		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.7	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.9	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 07:11	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 21:37	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 21:37	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 21:37	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594417 **Group No. 1131184**

MW-D2 Grab Water Sample

Lovington Paddock, NM
Collected:02/04/2009 16:50 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
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Houston TX 77040

LVPD2

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	30	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	6.7		0.2	ug/l	1
00777	Toluene	108-88-3	3.1		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.6	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.6	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 07:31	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 22:01	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 22:01	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 22:01	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594418 **Group No. 1131184**

MW-C Grab Water Sample

Lovington Paddock, NM
Collected: 02/05/2009 11:45 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-C

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		32	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	39	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	8.6		0.2	ug/l	1
00777	Toluene	108-88-3	3.6		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.7	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.9	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 18:05	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 22:25	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 22:26	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 22:25	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	2	02/10/2009 22:26	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/10/2009 08:10	Kerrie A Freeburn	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594419 **Group No. 1131184**

MW-N Grab Water Sample

Lovington Paddock, NM
Collected:02/05/2009 14:28 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-N

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	34	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	31	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	5.1		0.2	ug/l	1
00777	Toluene	108-88-3	2.5		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.6	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.4	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 18:25	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 22:50	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 22:50	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 22:50	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/10/2009 08:10	Kerrie A Freeburn	1

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Analysis Report

Lancaster Laboratories Sample No. WW5594420 **Group No. 1131184**

MW-I Grab Water Sample

Lovington Paddock, NM
Collected:02/05/2009 15:15 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVP-I

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	58		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	12		0.2	ug/l	1
00777	Toluene	108-88-3	5.6		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.5	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	2.1	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 20:39	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 23:14	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 23:14	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 23:14	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/10/2009 08:10	Kerrie A Freeburn	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5594421 **Group No. 1131184**

Trip_Blank Water Sample

Lovington Paddock, NM
Collected:02/02/2009

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVPTB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 15:18	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 15:18	Carrie E Youtzy	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5594422 **Group No. 1131184**

DUP-1 Grab Water Sample

Lovington Paddock, NM
Collected: 02/04/2009 by JSL

Account Number: 11842

Submitted: 02/06/2009 09:00
Reported: 02/17/2009 at 21:41
Discard: 03/20/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LVPFD

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	31	J	20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	8.2		0.2	ug/l	1
00777	Toluene	108-88-3	2.3		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.7	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	1.8	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/10/2009 07:51	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/10/2009 23:38	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/10/2009 23:38	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/10/2009 23:38	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/09/2009 03:15	Sherry L Morrow	1

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1131184
Reported: 02/17/09 at 09:41 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 090380003A	Sample number(s): 5594403-5594417,5594422							
TPH-DRO water C10-C28	N.D.	32.	ug/l	80	81	63-119	2	20
Batch number: 090400025A	Sample number(s): 5594418-5594420							
TPH-DRO water C10-C28	N.D.	32.	ug/l	80	90	63-119	12	20
Batch number: 09040A13A	Sample number(s): 5594421							
Benzene	N.D.	0.2	ug/l	110	110	80-120	0	30
Toluene	N.D.	0.2	ug/l	110	110	80-120	0	30
Ethylbenzene	N.D.	0.2	ug/l	110	110	80-120	0	30
Total Xylenes	N.D.	0.6	ug/l	113	113	80-120	0	30
Batch number: 09040A53A	Sample number(s): 5594403-5594411							
Benzene	N.D.	0.2	ug/l	104	105	80-120	1	30
Toluene	N.D.	0.2	ug/l	104	105	80-120	1	30
Ethylbenzene	N.D.	0.2	ug/l	104	105	80-120	1	30
Total Xylenes	N.D.	0.6	ug/l	105	106	80-120	1	30
TPH-GRO water C6-C10	N.D.	20.	ug/l	102	107	75-135	4	30
Batch number: 09041A53A	Sample number(s): 5594412-5594420,5594422							
Benzene	N.D.	0.2	ug/l	103	99	80-120	3	30
Toluene	N.D.	0.2	ug/l	104	101	80-120	3	30
Ethylbenzene	N.D.	0.2	ug/l	105	101	80-120	4	30
Total Xylenes	N.D.	0.6	ug/l	106	103	80-120	3	30
TPH-GRO water C6-C10	N.D.	20.	ug/l	83	89	75-135	7	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 09040A13A	Sample number(s): 5594421 UNSPK: P593411								
Benzene	110		70-152						
Toluene	115		78-129						
Ethylbenzene	114		75-133						
Total Xylenes	115		67-155						
Batch number: 09040A53A	Sample number(s): 5594403-5594411 UNSPK: P591750, P593610								
Benzene	105		70-152						
Toluene	106		78-129						
Ethylbenzene	108		75-133						

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1131184
Reported: 02/17/09 at 09:41 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Total Xylenes	109		67-155						
TPH-GRO water C6-C10	111	120	63-154	7	30				
Batch number: 09041A53A	Sample number(s): 5594412-5594420,5594422 UNSPK: 5594413, 5594414								
Benzene	110		70-152						
Toluene	110		78-129						
Ethylbenzene	113		75-133						
Total Xylenes	114		67-155						
TPH-GRO water C6-C10	112		63-154						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-DRO water C10-C28
Batch number: 090380003A

	Orthoterphenyl
5594403	89
5594404	67
5594405	88
5594406	86
5594407	83
5594408	82
5594409	88
5594410	84
5594411	81
5594412	85
5594413	78
5594414	85
5594415	88
5594416	87
5594417	88
5594422	85
Blank	86
LCS	92
LCSD	92
Limits:	54-127

Analysis Name: TPH-DRO water C10-C28
Batch number: 090400025A

	Orthoterphenyl
5594418	66
5594419	103
5594420	101
Blank	106
LCS	108

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1131184
Reported: 02/17/09 at 09:41 PM

Surrogate Quality Control

LCSD	118	
Limits:	54-127	

Analysis Name: BTEX (8021)
Batch number: 09040A13A

	Trifluorotoluene-P
5594421	119
Blank	119
LCS	118
LCSD	118
MS	118
Limits:	69-129

Analysis Name: BTEX (8021)
Batch number: 09040A53A

	Trifluorotoluene-F	Trifluorotoluene-P
5594403	78	91
5594404	77	88
5594405	79	87
5594406	77	87
5594407	79	86
5594408	77	86
5594409	76	86
5594410	77	87
5594411	89	90
Blank	79	88
LCS	90	87
LCSD	85	87
MS	89	86
MSD	87	
Limits:	63-135	69-129

Analysis Name: BTEX (8021)
Batch number: 09041A53A

	Trifluorotoluene-F	Trifluorotoluene-P
5594412	80	88
5594413	79	88
5594414	78	87
5594415	77	87
5594416	77	86
5594417	77	87
5594418	78	87
5594419	78	88
5594420	80	87
5594422	78	87
Blank	79	85
LCS	95	86
LCSD	96	86
MS	91	88
Limits:	63-135	69-129

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1131184
Reported: 02/17/09 at 09:41 PM

Surrogate Quality Control

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only
Acct. # 11842 Group# 1131184 Sample # 5594403-22

COC # 202029

Please print. Instructions on reverse side correspond with circled numbers. Cooler temp 0.3 2.9°C

For Lab Use Only
FSC:
SCR#: 71042

(1)
Client: Chevron Acct. #:
Project Name/#: 89C1149521.01.1000 PWSID #:
Project Manager: Bill Golsby P.O.#:
Sampler: JSL / JM Quote #:
Name of state where samples were collected: NM

(4) Matrix: ☒ Potable ☐ NPDES (Check if Applicable)

(5) Analyses Requested

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

(6) Temperature of samples upon receipt (if requested)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Soil	Water	Other	Total # of Containers	BTEX (8021) (H)	TPH GRO (H)	TPH DRO (H)						Remarks
MW-R	2-2-09	1058	X			X		8	3	3	2						
MW-P	2-2-09	1140	X			X		8	3	3	2						
MW-O	2-2-09	1322	X			X		8	3	3	2						
MW-N	2-2-09	1401	X			X		8	3	3	2						
MW-V	2-2-09	1438	X			X		8	3	3	2						
MW-Q	2-2-09	1509	X			X		8	3	3	2						
MW-U	2-3-09	1129	X			X		8	3	3	2						
MW-B	2-3-09	1352	X			X		8	3	3	2						
MW-H	2-3-09	1448	X			X		8	3	3	2						
MW-S	2-4-09	1308	X			X		8	3	3	2						

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg) TX TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by	Date	Time	Received by	Date	Time
[signature]	1-20-09	1030			
[signature]	2-5-09	1348			
			[signature]	2/6/09	508

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
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2102.03

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 11842 Group# 1131184 Sample # 5594403-22

COC # 202030

Please print. Instructions on reverse side correspond with circled numbers. Cooler temp 0.3-2.9°C

(1)

Client: Chevron Acct. #:

Project Name/#: 890149521.08.1000 PWSID #:

Project Manager: Bill Colsby P.O.#:

Sampler: JSL / JM Quote #:

Name of state where samples were collected: NM

(2) (3) (4) (5) (6)

Sample Identification	Date Collected	Time Collected	(3) Grab	(3) Composite	(4) Matrix: Soil	(4) Matrix: Water (Potable / NPDES)	(4) Matrix: Other	(4) Total # of Containers	(5) Preservation Codes	(5) Preservation Codes	(5) Preservation Codes							(5) Analyses Requested: BTEX (8021)	(5) Analyses Requested: TPH GRO	(5) Analyses Requested: TPH DRO	Remarks
									#	#	#										
MW-M	2-4-09	1350	X			X		8										3	3	2	
MW-L	2-4-09	1435	X			X		8										3	3	2	
MW-J	2-4-09	1510	X			X		8										3	2	2	
MW-D	2-4-09	1611	X			X		8										3	2	2	
MW-D2	2-4-09	1650	X			X		8										3	2	2	
MW-C	2-5-09	1145	X			X		8										3	2	2	
MW-N	2-5-09	1428	X			X		8										3	2	2	
MW-E	2-5-09	1515	X			X		8										3	2	2	
Trip Blank	—	—	—			X		6										6			
DUP-1	2-4-09	—	X			X		8										3	2	2	

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): Normal Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed:

Rush results requested by (please circle): Phone Fax E-mail

Phone #: Fax #:

E-mail address:

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg) TX TRRP-13

Type II (Tier II) MA MCP CT RCP

Type III (Reduced NJ)

Type IV (CLP SOW)

Type VI (Raw Data Only)

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
	2-5-09	1748			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	2/6/09	900

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Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102.03

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quatitated on a diluted sample	**N**	Spike amount not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
J	Estimated value	**U**	Compound was not detected
N	Presumptive evidence of a compound (TICs only)	**W**	Post digestion spike out of control limits
P	Concentration difference between primary and confirmation columns >25%	*	Duplicate analysis not within control limits
U	Compound was not detected	+	Correlation coefficient for MSA <0.995
X,Y,Z	Defined in case narrative		

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

713-937-7973

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

SAMPLE GROUP

The sample group for this submittal is 1132248. Samples arrived at the laboratory on Friday, February 13, 2009. The PO# for this group is 89CH.49521.08.1000 and the release number is LOVINGTON.

Client Description	Lancaster Labs Number
BW-1 Grab Water Sample	5600180
MW-G Grab Water Sample	5600181
MW-E Grab Water Sample	5600182
MW-F Grab Water Sample	5600183
BW-2 Grab Water Sample	5600184
MW-T Grab Water Sample	5600185
BW-3 Grab Water Sample	5600186
Trip_Blank Water Sample	5600187
DUP-2 Grab Water Sample	5600188

ELECTRONIC COPY TO	STANTEC International, Inc.	Attn: Steve Bell
ELECTRONIC COPY TO	STANTEC International, Inc.	Attn: Bill Goldsby

Lancaster Laboratories

Analysis Report

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Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300

Respectfully Submitted,

Sarah Snyder
Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5600180 **Group No. 1132248**

BW-1 Grab Water Sample

Lovington Paddock, NM
Collected:02/11/2009 14:50 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOVB1

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.4	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.2	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.2	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 12:27	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 19:19	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 19:19	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 19:19	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW5600181 **Group No. 1132248**

MW-G Grab Water Sample

Lovington Paddock, NM
Collected: 02/11/2009 10:52 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOV-G

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	1.2		0.2	ug/l	1
00777	Toluene	108-88-3	0.5	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.3	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	0.9	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 12:47	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 19:44	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 19:44	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 19:44	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600182 **Group No. 1132248**

MW-E Grab Water Sample

Lovington Paddock, NM
Collected: 02/11/2009 11:25 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOV-E

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.8	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.4	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	0.3	J	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	0.7	J	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 13:08	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 20:08	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 20:08	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 20:08	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600183 **Group No. 1132248**

MW-F Grab Water Sample

Lovington Paddock, NM
Collected:02/11/2009 14:15 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOV-F

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.4	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.2	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 13:28	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 20:32	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 20:32	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 20:32	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600184 **Group No. 1132248**

BW-2 Grab Water Sample

Lovington Paddock, NM
Collected:02/11/2009 19:05 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOVB2

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.2	J	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.		0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 13:49	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 20:57	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 20:57	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 20:57	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600185 **Group No. 1132248**

MW-T Grab Water Sample

Lovington Paddock, NM
Collected:02/11/2009 19:40 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOV-T

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	33	J	31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.4	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.3	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 14:09	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 22:10	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 22:10	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 22:10	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600186 **Group No. 1132248**

BW-3 Grab Water Sample

Lovington Paddock, NM
Collected:02/11/2009 18:20 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOVB3

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.3	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.2	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 14:30	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 22:34	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 22:34	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 22:34	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600187 **Group No. 1132248**

Trip_Blank Water Sample

Lovington Paddock, NM
Collected:02/11/2009

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOVTR

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
08213	BTEX (8021)					
00776	Benzene	71-43-2	N.D.	0.2	ug/l	1
00777	Toluene	108-88-3	N.D.	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.	0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.	0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 22:59	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 22:59	Carrie E Youtzy	1

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Analysis Report

Lancaster Laboratories Sample No. WW5600188 **Group No. 1132248**

DUP-2 Grab Water Sample

Lovington Paddock, NM
Collected: 02/11/2009 by JSL

Account Number: 11842

Submitted: 02/13/2009 09:15
Reported: 02/20/2009 at 12:46
Discard: 03/23/2009

STANTEC International, Inc.
10235 West Little York Road
Houston TX 77040

LOFD2

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Units	Dilution Factor
08269	TPH-DRO water C10-C28	n.a.	N.D.		31	ug/l	1
01636	TPH-GRO water C6-C10						
01640	TPH-GRO water C6-C10	n.a.	N.D.		20	ug/l	1
08213	BTEX (8021)						
00776	Benzene	71-43-2	0.4	J	0.2	ug/l	1
00777	Toluene	108-88-3	0.3	J	0.2	ug/l	1
00778	Ethylbenzene	100-41-4	N.D.		0.2	ug/l	1
00779	Total Xylenes	1330-20-7	N.D.		0.6	ug/l	1

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
08269	TPH-DRO water C10-C28	SW-846 8015B	1	02/17/2009 14:50	Diane V Do	1
01636	TPH-GRO water C6-C10	SW-846 8015B	1	02/17/2009 23:23	Carrie E Youtzy	1
08213	BTEX (8021)	SW-846 8021B	1	02/17/2009 23:23	Carrie E Youtzy	1
01146	GC VOA Water Prep	SW-846 5030B	1	02/17/2009 23:23	Carrie E Youtzy	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	02/17/2009 03:15	Sherry L Morrow	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1132248
Reported: 02/20/09 at 12:46 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 090470009A	Sample number(s): 5600180-5600186,5600188							
TPH-DRO water C10-C28	N.D.	32.	ug/l	80	78	63-119	3	20
Batch number: 09048A53A	Sample number(s): 5600180-5600188							
Benzene	N.D.	0.2	ug/l	105	109	80-120	3	30
Toluene	N.D.	0.2	ug/l	106	109	80-120	3	30
Ethylbenzene	N.D.	0.2	ug/l	105	109	80-120	4	30
Total Xylenes	N.D.	0.6	ug/l	107	111	80-120	4	30
TPH-GRO water C6-C10	N.D.	20.	ug/l	88	82	75-135	8	30

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 09048A53A	Sample number(s): 5600180-5600188 UNSPK: P600723, P600725								
Benzene	112		70-152						
Toluene	111		78-129						
Ethylbenzene	112		75-133						
Total Xylenes	113		67-155						
TPH-GRO water C6-C10	97		63-154						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-DRO water C10-C28
Batch number: 090470009A

	Orthoterphenyl
5600180	80
5600181	77
5600182	75
5600183	79
5600184	78
5600185	91
5600186	96
5600188	82

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1132248
Reported: 02/20/09 at 12:46 PM

Surrogate Quality Control

Blank	87
LCS	100
LCSD	95
Limits:	54-127

Analysis Name: TPH-GRO water C6-C10
Batch number: 09048A53A

	Trifluorotoluene-F	Trifluorotoluene-P
5600180	76	87
5600181	78	87
5600182	77	87
5600183	76	87
5600184	76	87
5600185	78	87
5600186	77	87
5600187		87
5600188	78	87
Blank	78	88
LCS	87	87
LCSD	88	86
MS	103	87
Limits:	63-135	69-129

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request / Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 11842 Group# 1132248 Sample # 5600180-88

COC # 202112

Please print. Instructions on reverse side correspond with circled numbers. cooler temp 2.5-3.0°C

For Lab Use Only
FSC:
SCR#: 70691

(1)
Client: Chevron Paddock
Project Name/#: 89CH49521.08.1000
Project Manager: Bill Colsby
Sampler: JL / JM
Name of state where samples were collected: New Mexico
Acct. #:
PWSID #:
P.O.#:
Quote #:

(2) Sample Identification | Date Collected | Time Collected | (3) Grab | Composite | (4) Matrix: Soil | Water | Other | Total # of Containers | (5) Analyses Requested: Preservation Codes H H A | BTEX 8021 | TPH GRO | TPH DRO

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Other	Total # of Containers	H	H	A	BTEX 8021	TPH GRO	TPH DRO
BW-1	2-11-09	1450	X			X		8				3	3	2
MW-G	2-11-09	1052	X			X		8				3	3	2
MW-E	2-11-09	1125	X			X		8				3	3	2
MW-F	2-11-09	1415	X			X		8				3	3	2
BW-2	2-11-09	1905	X			X		8				3	3	2
MW-I	2-11-09	1840	X			X		8				3	3	2
~~BW-2~~ BW-3 Per Paul 2/17/09	2-11-09	~~1825~~ 1820	X			X		8				3	3	2
								56						
Trip Blank	—	—	—			X		2				2		
DUP-2	2-11-09	—	X			X		8				3	3	2

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: Fax #:
E-mail address:

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
TX TRRP-13
MA MCP CT RCP
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	2/12/09	850			
[signature]	2-12-09	1703			
			[signature]	2/13/09	915

(9)

Lancaster Laboratories, Inc., 2425 New Holland Pike, Lancaster, PA 17601 (717) 656-2300 Fax: (717) 656-6766
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

2102.03

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Second Half 2009

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

517-349-9499

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

July 27, 2009

SAMPLE GROUP

The sample group for this submittal is 1153900. Samples arrived at the laboratory on Friday, July 17, 2009. The PO# for this group is 89CH.49521.08 and the release number is LOVINGTON.

Client Description	Lancaster Labs Number
MW-N Grab Water Sample	5725704
MW-D2 Grab Water Sample	5725705
MW-J Grab Water Sample	5725706
MW-D Grab Water Sample	5725707
MW-C Grab Water Sample	5725708
MW-L Grab Water Sample	5725709
MW-I Grab Water Sample	5725710

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	STANTEC International, Inc.	Attn: Seth Maher
ELECTRONIC COPY TO	STANTEC International, Inc.	Attn: Steve Bell

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300

Respectfully Submitted,

Valerie L. Tomayko
Group Leader

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5725704

Group No. 1153900
NM

MW-N Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 10:46 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVMN

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**	**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	79	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**	**ug/l**	
08213	Benzene	71-43-2	N.D.	0.2	1
08213	Ethylbenzene	100-41-4	N.D.	0.2	1
08213	Toluene	108-88-3	N.D.	0.2	1
08213	Total Xylenes	1330-20-7	N.D.	0.6	1
[illegible]-846 8015B	**GC Extractable TPH**		**ug/l**	**ug/l**	
[illegible]269	TPH-DRO water C10-C28	n.a.	320	30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 18:18	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 18:18	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 18:18	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 19:49	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725705

Group No. 1153900
NM

MW-D2 Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 11:28 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVD2

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	23	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	86	J	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 18:41	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 18:41	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 18:41	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 20:09	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725706

Group No. 1153900
NM

MW-J Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 13:48 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVMJ

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	35	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	110		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 19:05	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 19:05	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 19:05	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 20:30	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725707

Group No. 1153900
NM

MW-D Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 14:27 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVMD

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	44	J	20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	130		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 19:28	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 19:28	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 19:28	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 20:50	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725708

Group No. 1153900
NM

MW-C Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 10:17 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVMC

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	93		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	7.1		0.2	1
08213	Ethylbenzene	100-41-4	0.2	J	0.2	1
08213	Toluene	108-88-3	1.4		0.2	1
08213	Total Xylenes	1330-20-7	0.6	J	0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	90	J	30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 19:52	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 19:52	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 19:52	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 06:02	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725709

Group No. 1153900
NM

MW-L Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 11:05 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVML

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	33	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	0.3	J	0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.2	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	79	J	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 20:15	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 20:15	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 20:15	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 06:23	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725710

Group No. 1153900
NM

MW-I Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 13:58 by JS

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/27/2009 at 12:44
Discard: 08/27/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOVMI

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	91		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	11		0.2	1
08213	Ethylbenzene	100-41-4	0.2	J	0.2	1
08213	Toluene	108-88-3	4.0		0.2	1
08213	Total Xylenes	1330-20-7	1.0	J	0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	100		30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 20:39	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 20:39	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 20:39	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 06:43	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1153900
Reported: 07/27/09 at 12:44 PM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 09201A54B	Sample number(s): 5725704-5725710							
Benzene	N.D.	0.2	ug/l	95	100	80-120	5	30
Ethylbenzene	N.D.	0.2	ug/l	90	100	80-120	11	30
Toluene	N.D.	0.2	ug/l	95	100	80-120	5	30
TPH-GRO water C6-C10	N.D.	20.	ug/l	109	91	75-135	18	30
Total Xylenes	N.D.	0.6	ug/l	93	100	80-120	7	30
Batch number: 091990007A	Sample number(s): 5725704-5725707							
TPH-DRO water C10-C28	N.D.	32.	ug/l	91	96	56-122	5	20
Batch number: 091990010A	Sample number(s): 5725708-5725710							
TPH-DRO water C10-C28	N.D.	32.	ug/l	90	96	56-122	7	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 09201A54B	Sample number(s): 5725704-5725710 UNSPK: 5725707, 5725708								
Benzene	90		70-152						
Ethylbenzene	95		75-133						
Toluene	90		78-129						
TPH-GRO water C6-C10	82		63-154						
Total Xylenes	97		67-155						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TPH-GRO water C6-C10
Batch number: 09201A54B

	Trifluorotoluene-F	Trifluorotoluene-P
5725704	109	106
5725705	106	110
5725706	105	110
5725707	107	110
5725708	95	111

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1153900
Reported: 07/27/09 at 12:44 PM

Surrogate Quality Control

5725709	103	112
5725710	101	112
Blank	108	110
LCS	118	109
LCSD	116	110
MS	111	112
Limits:	63-135	69-129

Analysis Name: TPH-DRO water C10-C28
Batch number: 091990007A

	Orthoterphenyl
5725704	86
5725705	85
5725706	81
5725707	85
Blank	88
LCS	98
LCSD	103
Limits:	54-127

Analysis Name: TPH-DRO water C10-C28
Batch number: 091990010A

	Orthoterphenyl
5725708	90
5725709	87
5725710	87
Blank	88
LCS	102
LCSD	108
Limits:	54-127

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

013782

Acct. #: 11842 For Lancaster Laboratories use only Sample #: 5725704-10 SCR#:

Group# 1153900

Facility #: Lovington Paddock / 212201132.201.250
Site Address: Lovington, NM
Chevron PM: Mavi Hudson Lead Consultant: Scott Mehaar
Consultant/Office: Stantec / Midland, TX.
Consultant Prj. Mgr.: Scott Mehaar
Consultant Phone #: 512-450-7962 Fax #:
Sampler: Terry S. Lowwell / Jeremy Morrow
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	Analyses Requested / Preservation Codes: BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	TPH G	TPH D (☐ Extended Rng. ☐ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	TPH GRO 8015B BTEX 8021B	TPH DRO 8015B
MW-N	7-13-09	1046	X			X		5									3	2
MW-D2	7-13-09	1128	X			X		5									3	2
MW-J	7-13-09	1348	X			X		5									3	2
MW-D	7-13-09	1427	X			X		5									3	2
MW-C	7-14-09	1017	X			X		5									3	2
MW-L	7-14-09	1105	X			X		5									3	2
MW-I	7-14-09	1358	X			X		5									3	2

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Date	Time		Date	Time
Relinquished by:	7-14-09	1712	Received by:	7/14/09	1712
Relinquished by:	7/16/09	1750	Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	7/17/09	956
Temperature Upon Receipt 10-25 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike amount not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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Analysis Report

ANALYTICAL RESULTS

Prepared for:

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

517-349-9499

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

July 29, 2009

SAMPLE GROUP

The sample group for this submittal is 1153901. Samples arrived at the laboratory on Friday, July 17, 2009. The PO# for this group is 89CH.49521.08 and the release number is LOVINGTON.

Client Description	Lancaster Labs Number
MW-P Grab Water Sample	5725711
MW-O Grab Water Sample	5725712
MW-W Grab Water Sample	5725713
MW-V Grab Water Sample	5725714
MW-Q Grab Water Sample	5725715
MW-U Grab Water Sample	5725716
MW-R Grab Water Sample	5725717
BW-1 Grab Water Sample	5725718
MW-F Grab Water Sample	5725719
Dup #1 Grab Water Sample	5725720
MW-E Grab Water Sample	5725721
MW-G Grab Water Sample	5725722
MW-M Grab Water Sample	5725723
MW-S Grab Water Sample	5725724
MW-B Grab Water Sample	5725725
MW-H Grab Water Sample	5725726
Dup #2 Grab Water Sample	5725727
BW-2 Grab Water Sample	5725728
BW-3 Grab Water Sample	5725729
MW-T Grab Water Sample	5725730
Trip Blank Water Sample	5725731

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METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	STANTEC International, Inc.	Attn: Seth Maher
ELECTRONIC COPY TO	STANTEC International, Inc.	Attn: Steve Bell

Questions? Contact your Client Services Representative
Wendy A Kozma at (717) 656-2300

Respectfully Submitted,

Tracy A. Cole
Senior Specialist

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5725711

Group No. 1153901
NM

MW-P Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 10:59 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWP

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	310		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	1.1		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.3	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	4,700		1,200	40

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 21:02	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 21:02	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 21:02	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/21/2009 10:30	Diane V Do	40
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725712

Group No. 1153901
NM

MW-O Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 11:45 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWO

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	100		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.3	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	360		30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 21:26	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 21:26	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 21:26	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 21:31	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725713

Group No. 1153901
NM

MW-W Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 13:35 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWW

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	93		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.3	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	330		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 21:49	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 21:49	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 21:49	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 21:51	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725714

Group No. 1153901
NM

MW-V Grab Water Sample
Lovington Paddock, NM

Collected: 07/13/2009 14:09 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWV

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	27	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	140		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 23:00	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 23:00	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 23:00	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990007A	07/20/2009 22:12	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990007A	07/20/2009 05:45	Roman Kuropatkin	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725715

Group No. 1153901
NM

MW-Q Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 10:13 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWQ

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	160		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.3	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	680		120	4

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 23:24	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 23:24	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 23:24	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	2	091990010A	07/21/2009 10:09	Diane V Do	4
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725716 **Group No. 1153901**
NM

MW-U Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 10:48 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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Okemos MI 48864

LOMWU

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	34	J	20	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 5.

SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1

Preservation requirements were not met. The vial submitted for volatile analysis did not have a pH < 2 at the time of analysis. Due to the volatile nature of the analytes, it is not appropriate for the laboratory to adjust the pH at the time of sample receipt. The pH of this sample was pH = 5.

SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	100		30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/21/2009 23:47	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/21/2009 23:47	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/21/2009 23:47	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 07:24	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725717

Group No. 1153901
NM

MW-R Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 11:26 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWR

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	49	J	20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.2	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	130		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/22/2009 00:11	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/22/2009 00:11	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/22/2009 00:11	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 07:45	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725718

Group No. 1153901
NM

BW-1 Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 13:31 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOBW1

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**	**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	35 J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**	**ug/l**	
08213	Benzene	71-43-2	N.D.	0.2	1
08213	Ethylbenzene	100-41-4	N.D.	0.2	1
08213	Toluene	108-88-3	0.3 J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.	0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**	**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	130	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/22/2009 00:34	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/22/2009 00:34	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/22/2009 00:34	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 08:05	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725719

Group No. 1153901
NM

MW-F Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 14:08 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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Suite E
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LOMWF

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	N.D.		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	79	J	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09201A54B	07/22/2009 00:58	Carrie E Miller	1
08213	BTEX (8021)	SW-846 8021B	1	09201A54B	07/22/2009 00:58	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09201A54B	07/22/2009 00:58	Carrie E Miller	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 08:26	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725720

Group No. 1153901
NM

Dup #1 Grab Water Sample
Lovington Paddock, NM

Collected: 07/14/2009 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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Suite E
Okemos MI 48864

LOMD1

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	26	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
W-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
269	TPH-DRO water C10-C28	n.a.	65	J	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 14:51	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 14:51	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 14:51	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	091990010A	07/21/2009 08:46	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	091990010A	07/20/2009 09:15	Denise L Trimby	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725721

Group No. 1153901
NM

MW-E Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 09:53 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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Okemos MI 48864

LOMWE

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	44	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	0.2	J	0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	330		30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 15:14	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 15:14	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 15:14	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 12:46	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725722

Group No. 1153901
NM

MW-G Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 10:25 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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LOMWG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**	**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	N.D.	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**	**ug/l**	
08213	Benzene	71-43-2	N.D.	0.2	1
08213	Ethylbenzene	100-41-4	N.D.	0.2	1
08213	Toluene	108-88-3	N.D.	0.2	1
08213	Total Xylenes	1330-20-7	N.D.	0.6	1
[illegible]-846 8015B	**GC Extractable TPH**		**ug/l**	**ug/l**	
[illegible]269	TPH-DRO water C10-C28	n.a.	110	30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 15:38	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 15:38	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 15:38	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 13:07	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725723

Group No. 1153901
NM

MW-M Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 11:07 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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Okemos MI 48864

LOMWM

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	N.D.		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	71	J	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 16:02	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 16:02	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 16:02	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 13:27	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725724

Group No. 1153901
NM

MW-S Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 11:39 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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LOMWS

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	N.D.		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	N.D.		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	N.D.		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	50	J	30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 16:25	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 16:25	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 16:25	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 13:48	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725725

Group No. 1153901
NM

MW-B Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 13:24 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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LOMWD

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	140		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	34		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	1.3		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	90	J	31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 16:49	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 16:49	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 16:49	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 14:08	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725726

Group No. 1153901
NM

MW-H Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 14:25 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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Okemos MI 48864

LOMWH

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	640		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	250		0.2	1
08213	Ethylbenzene	100-41-4	1.8		0.2	1
08213	Toluene	108-88-3	27		0.2	1
08213	Total Xylenes	1330-20-7	12		0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	68	J	30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 17:12	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 17:12	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 17:12	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 14:28	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725727

Group No. 1153901
NM

Dup #2 Grab Water Sample
Lovington Paddock, NM

Collected: 07/15/2009 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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LOMD2

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		ug/l		ug/l	
01636	TPH-GRO water C6-C10	n.a.	150		20	1
SW-846 8021B	**GC Volatiles**		ug/l		ug/l	
08213	Benzene	71-43-2	34		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	1.2		0.2	1
08213	Total Xylenes	1330-20-7	N.D.		0.6	1
SW-846 8015B	**GC Extractable TPH**		ug/l		ug/l	
08269	TPH-DRO water C10-C28	n.a.	87	J	30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 17:36	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 17:36	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 17:36	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 14:49	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725728

Group No. 1153901
NM

BW-2 Grab Water Sample
Lovington Paddock, NM

Collected: 07/16/2009 11:44 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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LOMB2

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	87		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	18		0.2	1
08213	Ethylbenzene	100-41-4	0.2	J	0.2	1
08213	Toluene	108-88-3	1.9		0.2	1
08213	Total Xylenes	1330-20-7	0.9	J	0.6	1
[illegible]-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
[illegible]269	TPH-DRO water C10-C28	n.a.	640		30	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 17:59	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 17:59	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 17:59	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 15:09	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

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Analysis Report

Lancaster Laboratories Sample No. WW 5725729

Group No. 1153901
NM

BW-3 Grab Water Sample
Lovington Paddock, NM

Collected: 07/16/2009 13:25 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

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LOMB3

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	63		20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	12		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	1.6		0.2	1
08213	Total Xylenes	1330-20-7	0.7	J	0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	130		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 18:23	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 18:23	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 18:23	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 15:30	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5725730

Group No. 1153901
NM

MW-T Grab Water Sample
Lovington Paddock, NM

Collected: 07/16/2009 14:34 by SB

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOMWT

CAT No.	Analysis Name	CAS Number	As Received Result		As Received Method Detection Limit	Dilution Factor
SW-846 8015B	**GC Volatiles**		**ug/l**		**ug/l**	
01636	TPH-GRO water C6-C10	n.a.	44	J	20	1
SW-846 8021B	**GC Volatiles**		**ug/l**		**ug/l**	
08213	Benzene	71-43-2	7.1		0.2	1
08213	Ethylbenzene	100-41-4	N.D.		0.2	1
08213	Toluene	108-88-3	1.3		0.2	1
08213	Total Xylenes	1330-20-7	0.8	J	0.6	1
SW-846 8015B	**GC Extractable TPH**		**ug/l**		**ug/l**	
08269	TPH-DRO water C10-C28	n.a.	130		31	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01636	TPH-GRO water C6-C10	SW-846 8015B	1	09203A54A	07/22/2009 20:22	Katrina T Longenecker	1
08213	BTEX (8021)	SW-846 8021B	1	09203A54A	07/22/2009 20:22	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	09203A54A	07/22/2009 20:22	Katrina T Longenecker	1
08269	TPH-DRO water C10-C28	SW-846 8015B	1	092010014A	07/21/2009 15:50	Diane V Do	1
07003	Extraction - DRO (Waters)	SW-846 3510C	1	092010014A	07/20/2009 16:15	Cody R Hanna	1

Lancaster Laboratories

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Analysis Report

Lancaster Laboratories Sample No. WW 5725731

Group No. 1153901
NM

Trip Blank Water Sample
Lovington Paddock, NM

Collected: 07/13/2009

Account Number: 11842

Submitted: 07/17/2009 08:50
Reported: 07/29/2009 at 09:30
Discard: 08/29/2009

STANTEC International, Inc.
2321 Club Meridian Drive
Suite E
Okemos MI 48864

LOV-T

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
SW-846 8021B	**GC Volatiles**		ug/l	ug/l	
08213	Benzene	71-43-2	N.D.	0.2	1
08213	Ethylbenzene	100-41-4	N.D.	0.2	1
08213	Toluene	108-88-3	N.D.	0.2	1
08213	Total Xylenes	1330-20-7	N.D.	0.6	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
08213	BTEX (8021)	SW-846 8021B	1	09197A53B	07/19/2009 22:00	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	09197A53B	07/19/2009 22:00	Carrie E Miller	1

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Analysis Report

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1153901
Reported: 07/29/09 at 09:30 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 09197A53B	Sample number(s): 5725731							
Benzene	N.D.	0.2	ug/l	115	115	80-120	0	30
Ethylbenzene	N.D.	0.2	ug/l	115	115	80-120	0	30
Toluene	N.D.	0.2	ug/l	115	115	80-120	0	30
Total Xylenes	N.D.	0.6	ug/l	115	118	80-120	3	30
Batch number: 09201A54B	Sample number(s): 5725711-5725719							
Benzene	N.D.	0.2	ug/l	95	100	80-120	5	30
Ethylbenzene	N.D.	0.2	ug/l	90	100	80-120	11	30
Toluene	N.D.	0.2	ug/l	95	100	80-120	5	30
TPH-GRO water C6-C10	N.D.	20.	ug/l	109	91	75-135	18	30
Total Xylenes	N.D.	0.6	ug/l	93	100	80-120	7	30
Batch number: 09203A54A	Sample number(s): 5725720-5725730							
Benzene	N.D.	0.2	ug/l	105	100	80-120	5	30
Ethylbenzene	N.D.	0.2	ug/l	100	100	80-120	0	30
Toluene	N.D.	0.2	ug/l	100	100	80-120	0	30
TPH-GRO water C6-C10	N.D.	20.	ug/l	118	118	75-135	0	30
Total Xylenes	N.D.	0.6	ug/l	102	100	80-120	2	30
Batch number: 091990007A	Sample number(s): 5725711-5725714							
TPH-DRO water C10-C28	N.D.	32.	ug/l	91	96	56-122	5	20
Batch number: 091990010A	Sample number(s): 5725715-5725720							
TPH-DRO water C10-C28	N.D.	32.	ug/l	90	96	56-122	7	20
Batch number: 092010014A	Sample number(s): 5725721-5725730							
TPH-DRO water C10-C28	N.D.	32.	ug/l	91	91	56-122	0	20

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 09201A54B	Sample number(s): 5725711-5725719 UNSPK: P725707, P725708								
Benzene	90		70-152						
Ethylbenzene	95		75-133						
Toluene	90		78-129						
TPH-GRO water C6-C10	82		63-154						
Total Xylenes	97		67-155						

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1153901
Reported: 07/29/09 at 09:30 AM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 09203A54A	Sample number(s): 5725720-5725730 UNSPK: 5725729, 5725730								
Benzene	115		70-152						
Ethylbenzene	110		75-133						
Toluene	114		78-129						
TPH-GRO water C6-C10	140		63-154						
Total Xylenes	110		67-155						

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX (8021)
Batch number: 09197A53B

	Trifluorotoluene-F	Trifluorotoluene-P
5725731		97
Blank		96
LCS	88	96
LCSD	82	97
Limits:	63-135	69-129

Analysis Name: TPH-GRO water C6-C10
Batch number: 09201A54B

	Trifluorotoluene-F	Trifluorotoluene-P
5725711	101	110
5725712	104	110
5725713	104	110
5725714	104	113
5725715	105	111
5725716	105	110
5725717	107	113
5725718	103	112
5725719	104	111
Blank	108	110
LCS	118	109
LCSD	116	110
MS	111	112
Limits:	63-135	69-129

Analysis Name: TPH-GRO water C6-C10
Batch number: 09203A54A

	Trifluorotoluene-F	Trifluorotoluene-P
5725720	107	106
5725721	107	109
5725722	107	111

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1153901
Reported: 07/29/09 at 09:30 AM

Surrogate Quality Control

5725723	107	111
5725724	108	111
5725725	104	115
5725726	104	114
5725727	105	116
5725728	110	112
5725729	110	110
5725730	110	110
Blank	107	111
LCS	113	112
LCSD	130	110
MS	113	113
Limits:	63-135	69-129

Analysis Name: TPH-DRO water C10-C28
Batch number: 091990007A

	Orthoterphenyl
5725711	55
5725712	91
5725713	92
5725714	95
Blank	88
LCS	98
LCSD	103
Limits:	54-127

Analysis Name: TPH-DRO water C10-C28
Batch number: 091990010A

	Orthoterphenyl
5725715	72
5725716	81
5725717	88
5725718	94
5725719	85
5725720	90
Blank	88
LCS	102
LCSD	108
Limits:	54-127

Analysis Name: TPH-DRO water C10-C28
Batch number: 092010014A

	Orthoterphenyl
5725721	103
5725722	92
5725723	91
5725724	85
5725725	89
5725726	87
5725727	100
5725728	107
5725729	94

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: STANTEC International, Inc. Group Number: 1153901
Reported: 07/29/09 at 09:30 AM

Surrogate Quality Control

5725730	85
Blank	97
LCS	99
LCSD	101
Limits:	54-127

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Analysis Request/Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 11842 Group# 1153901 Sample # 5725711-31

COC # 212311

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: Stantec Acct. #: 11842

Project Name/#: Lovington Paddock PWSID #:

Project Manager: Seth Maher P.O.#:

Sampler: SB / JT Quote #:

Name of state where samples were collected: New Mexico

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	Matrix (4) Soil	Water (Potable / NPDES)	Other	Total # of Containers	(5) Analyses Requested — Preservation Codes #	H	H	BTEX - 8021B	TPH-GRO - 8015B	TPH-DRO - 8015B	Remarks
MW-P	7-13-09	1059	✓			✓		5				✓	✓	✓	
MW-D	7-13-09	1145	✓			✓		5				✓	✓	✓	
MW-W	7-13-09	1335	✓			✓		5				✓	✓	✓	
MW-V	7-13-09	1409	✓			✓		5				✓	✓	✓	
MW-Q	7-14-09	1013	✓			✓		5				✓	✓	✓	
MW-U	7-14-09	1048	✓			✓		5				✓	✓	✓	
MW-R	7-14-09	1126	✓			✓		5				✓	✓	✓	
BW-1	7-14-09	1331	✓			✓		5				✓	✓	✓	
MW-F	7-14-09	1408	✓			✓		5				✓	✓	✓	All times are Central Time Zone
Dup #1	7-14-09	—	✓			✓		5				✓	✓	✓	

For Lab Use Only
FSC:
SCR#:

Preservation Codes
H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush
(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)
Date results are needed:
Rush results requested by (please circle): Phone Fax E-mail
Phone #: 517-349-4989 Cell #: 517-490-7967
E-mail address: Seth.Maher@Stantec.Com

(8) **Data Package Options** (please circle if required)
Type I (validation/NJ Reg) TX TRRP-13
Type II (Tier II) MA MCP CT RCP
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)
SDG Complete? Yes No
Site-specific QC (MS/MSD/Dup)? Yes No
(If yes, indicate QC sample and submit triplicate volume.)
Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
Steve Bell	7/16/09	1750			
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	Date	Time
Relinquished by:	Date	Time	Received by:	7/17/09	850

Analysis Request/ Environmental Services Chain of Custody

Lancaster Laboratories

For Lancaster Laboratories use only

Acct. # 11842 Group# 153901 Sample # 572571-31

COC # 212312

Please print. Instructions on reverse side correspond with circled numbers.

(1) Client: Stantec Acct. #: 11842

Project Name/#: Lovington Paddock PWSID #:

Project Manager: Seth Mahey P.O.#:

Sampler: SBL JT Quote #:

Name of state where samples were collected: New Mexico

For Lab Use Only

FSC:

SCR#: 22855

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

(6) Temperature of samples upon receipt (if requested)

(2) Sample Identification	Date Collected	Time Collected	(3) Grab	Composite	(4) Matrix: Soil	Water	Other	Total # of Containers	(5) Analyses Requested / Preservation Codes: BTEX-8021B (H)	TPH-GRO 8015B (H)	TPH-DRO 8015B (N)	Remarks
MW-E	7-15-09	0953	✓			✓		5	✓	✓	✓	
MW-G	7-15-09	1025	✓			✓		5	✓	✓	✓	Trip Blank Rec'd WAK 7/20/09
MW-M	7-15-09	1107	✓			✓		5	✓	✓	✓	
MW-S	7-15-09	1139	✓			✓		5	✓	✓	✓	
MW-DB per Steven Bell 7/20/09	7-15-09	1524	✓			✓		5	✓	✓	✓	
MW-H	7-15-09	1425	✓			✓		5	✓	✓	✓	
Dup #2	7-15-09	—	✓			✓		5	✓	✓	✓	
BW-2	7-16-09	1144	✓			✓		5	✓	✓	✓	
BW-3	7-16-09	1325	✓			✓		5	✓	✓	✓	
MW-T	7-16-09	1434	✓			✓		5	✓	✓	✓	All Times are Central Time Zone

(7) **Turnaround Time Requested** (TAT) (please circle): (Normal) Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed:

Rush results requested by (please circle): Phone Fax (E-mail)

Phone #: 517-349-9499 Cell Fax #: 517-490-7967

E-mail address: Seth.Mahey@Stantec.Com

(8) **Data Package Options** (please circle if required)

Type I (validation/NJ Reg)
Type II (Tier II)
Type III (Reduced NJ)
Type IV (CLP SOW)
Type VI (Raw Data Only)

TX TRRP-13
MA MCP CT RCP

SDG Complete? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate volume.)

Internal COC Required? Yes / No

(9)

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	7-20-09	0840			
[signature]	7/16/09	1750			
			[signature]	7/17/09	950

Lancaster Laboratories
Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< less than – The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

ppm parts per million – One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

Organic Qualifiers		Inorganic Qualifiers	
A	TIC is a possible aldol-condensation product	**B**	Value is <CRDL, but ≥IDL
B	Analyte was also detected in the blank	**E**	Estimated due to interference
C	Pesticide result confirmed by GC/MS	**M**	Duplicate injection precision not met
D	Compound quatitated on a diluted sample	**N**	Spike amount not within control limits
E	Concentration exceeds the calibration range of the instrument	**S**	Method of standard additions (MSA) used for calculation
J	Estimated value	**U**	Compound was not detected
N	Presumptive evidence of a compound (TICs only)	**W**	Post digestion spike out of control limits
P	Concentration difference between primary and confirmation columns >25%	*	Duplicate analysis not within control limits
U	Compound was not detected	+	Correlation coefficient for MSA <0.995
X,Y,Z	Defined in case narrative		

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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