

UIC-1 - 005

**ANNUAL
REPORTS
(3)**

2012

Chavez, Carl J, EMNRD

From: Chavez, Carl J, EMNRD
Sent: Tuesday, February 21, 2012 1:28 PM
To: VonGonten, Glenn, EMNRD
Subject: Key Energy Services, LLC Annual Report Review (UICI-005)

Glenn:

Not sure the OCD needs to respond to the Annual Report (AR), since Agua Moss LLC will soon take over the well, discharge permit and surface waste management facility from Key Energy Services, LLC. Please find below some weekly report observations after reviewing the AR and let me know if you need more details or have questions.

- Carl reviewed Key Energy Services, LLC's Annual Report (AR) due 3/31/2012" and scanned it into OCD Online. The year should be 2012. Also, there is reference to OCD approving a Fall-Off Test every 5-years, which does not appear to be accurate. Since the facility is in the process of a transfer of ownership and discharge permit application for renewal, Carl is awaiting the original certification from Agua Moss LLC in order to start the administrative review process for a discharge permit renewal under a new operator with a new discharge permit for the new owner. Carl will consider some of the modifications previously made in consideration of a new discharge permit for Agua Moss LLC.

Thank you.

File: OCD Online "Annual Reports (3) 2012

Carl J. Chavez, CHMM
New Mexico Energy, Minerals & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 South St. Francis Dr., Santa Fe, New Mexico 87505
Office: (505) 476-3490
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"Why not Prevent Pollution; Minimize Waste; Reduce the Cost of Operations; & Move Forward with the Rest of the Nation?" To see how, go to "Pollution Prevention & Waste Minimization" at: <http://www.emnrd.state.nm.us/ocd/environmental.htm#environmental>)



ANNUAL CLASS I WELL REPORT FOR 2011

Key Energy Services, Inc.

Permit UICI-005

API No. 30-045-28653

Due March 31, 2011

Cover Sheet Pursuant to Permit Condition 22.L.1.

Submitted by: DKG

Daniel K. Gibson

Corporate Environmental Director

Key Energy Services LLC

6 Desta Drive Suite 4300

Midland, TX 79705

(432) 571-7536 ph

(432) 571-7173 fax

Section 1- Summary of Operations (Permit Condition 22.L.2)

Key Energy Services, Inc. (Key) disposal well permitted under UICI-005 continued to experience low business activity for the year and the site temporarily ceased operations in the spring of 2011. As a result of negotiations between Key and the Oil Conservation Division (OCD), Key resumed operations at a reduced capacity.

Due to a miscommunication between Key and OCD a Letter of Violation was issued on October 20, 2011 for missing an OCD internal recommended deadline for running the annual Mechanical Integrity Test (MIT). Key responded immediately and ran the test.

Key responded to the violation by submitting letters dated October 26, 2011 and November 15, 2011. The agency responded by issuing a "Letter of Good Standing" on December 6, 2011. (Correspondence found in Appendix M).

In December 2011, Key notified OCD that the facility had been sold to Agua Moss LLC. A conference call was held between Key and OCD personnel to determine the required transfer procedures. Key responded to OCD's request, and provided a list of action items to be completed in order to properly transfer the facility. OCD responded with clarification notes. (E-mails included in Appendix M). Key is in the process of properly transferring the facility to the new operator.

Other than the annual MIT, there was no major work performed on the well in 2011. The annual fall-off test was waived by OCD, and approved for a testing frequency of once every five years. Minor pump repairs and routine filter maintenance was performed on a routine basis. On a few occasions, the well was 'flowed back' to the production tanks to remove any debris or oil that was able to get past the filters.

The only waste disposal noted was recycled oil skimmed off of the tanks and sent to Safety Kleen's recycle center. The C-117 and C-104 process has been implemented for this activity and submitted for OCD approval. The C-104 was initially rejected because the form did not contain the appropriate information. The form was recompleted and hand delivered to the Aztec OCD office and was verbally approved. (Ref: Neal Allen-Key). The current OCD on-line records do not show the approved C-104. Key requests that OCD file the approved C-104 in the well file system. (Documentation in Appendix A).

The original treating plant, evaporation ponds, and landfarm operations, previously permitted under rule 711 NM1-9, are temporarily suspended, except for the temporary surge and treating

tanks installed near the injection well. Key has been working with the OCD concerning the future status of these units and apparently this issue will be discussed with the new owner.

Non-exempt waste received at the facility uses the C-138 acceptance process. The C-138 process is written in the NM1-9 permit, but not the UIC-5 well permit. Key has been providing training on waste acceptance issues and permit conditions for the UIC-5 well. Some training has been conducted on the NM1-9 permit, but since the system is not operational, and all the ponds have been emptied, most of the permit conditions do not apply. In addition, no solid waste for remediation was delivered to the on-site landfarm during the year.

In 2010, OCD made some minor modifications to the UIC-5 permit. The annual report is now due on March 31 of each year instead of January 31. The chemical analysis and reporting has been changed to allow the required four quarters to be reported in the annual report.

In addition, the OCD removed the permit condition requirement of 20.B. "Required Corrective Actions"; removed the range and maximum daily rate of injection found in 22.C; and corrected the allowable injection pressure from a maximum of 1,580 psig to 2,400 psig found in permit condition 22.D, and allowed the monthly pressure switch to be reported in the annual report rather than monthly.

The issues described above and other permit-required information are further detailed in the following sections. In addition, Key submitted a minor modification request as part of the November 15, 2011 correspondence, requesting that the various modifications granted to date be formalized into one document. In addition, the letter requested that certain waivers be granted, i.e. annual fall-off test, be put in the new amended permit, along with extensions and some recommended clarification language.

Section 2- Production Volumes (Permit Condition 22.L.3)

For 2011, a total of 127,662 barrels of water was injected as compared to 419,341 barrels injected in 2010. The non-exempt portion of the waste decreased from 16,560 barrels in 2010 to 8,080 barrels in 2011.

An Excel spreadsheet is provided in Appendix B and contains the annual data required by the permit condition 22.L.2. There are additional columns added for monitoring the annular pressure and volumes required pursuant to permit condition 22.G, Murphy pressure switch cut-off test, required pursuant to permit condition 22.D, and general operational notes for each month. This form also displays the pressures and injection volumes and provides the annual report data required for 2011, including the total lifetime injected volumes carried over from previous years.

The lifetime volume injected is 12,918,650 barrels at the end of 2011. The 2011 monthly injection ranged from a high of 27,248 barrels in March, to a low of 0.00 barrels in December. The average monthly injection was 10,639 bbls/month, and the average daily injection was 355 bbls/day.

The maximum injection and average pressures were 2,400 psig and 2,186 psig respectively. The minimum injection pressure is generally 100 psi above the observed wellhead static press, which ranges from about 1,600 to 2000 psig depending upon how long the pump has been idle.

2011 Data logging and reporting methodology:

The procedure for recording the flow and pressure data is as follows:

At the beginning of each month, the Halliburton flow meter located on the well tubing inlet is reset to zero, and a new 31-day pressure chart is installed on the recording chart recorder, which monitors the tubing and annulus pressures.

At the beginning of each day, the static tubing pressure is recorded from a gauge mounted on the well inlet tubing, located in the well house. This gauge is in parallel with the chart recorder. Immediately after the pump is started, the minimum injection pressure is taken from the Murphy pressure located in the pump house. If the pump did not run during the day, either zero or the well tubing static pressure was recorded.

One hour after the pump has been started, and every hour thereafter, the operator reads the pressure gauge on the tubing and records the volume from the Halliburton flow meter. This information is logged hourly and maintained daily in a 365-day log. This hourly-daily log is included in Appendix C for reference.

The maximum and average pressures are now taken from and calculated using the hourly-daily log readings. The maximum pressure observed for the month is noted and the average pressures are calculated by summing all of the hourly pressure readings for the month divided by the number of hours the pump actually ran. These values are inputted into the annual excel data sheet found in Appendix B.

The information from the hourly-daily log is transferred over to a daily-monthly sheet. This sheet has five columns, date, bbls/hr, bbl/day, bbls/month and cumulative for the year. The bbls/hr is obtained from the hourly-daily log by averaging the recorded bbls/hour. The bbls/day is taken from the hourly-daily log by simply subtracting the ending flow meter number from the previous day's ending number. The bbls/mo is the running daily total for the month, and the

cumulative is the running total year-to-date number in barrels. The daily-monthly sheets are included in Appendix D for reference.

Appendix E provides the daily-monthly Tubing and Casing Monitoring Log Sheet. This sheet verifies a daily check on the casing and also is where the daily static well pressure and minimum injection pressure is recorded.

Appendix F contains the Key Energy Disposal Monthly Totals. The Monthly Total Sheet is a summary of the loads received at the facility (Barrels Taken In), barrels injected (Barrels Pumped Away), and the difference. Key and non-Key hauled loads, exempt and non-exempt loads; total loads taken in (received at the facility), and average bbl/load are also provided. Pricing structure charged for non-exempt and exempt barrels, and totals are provided.

Appendix G contains a copy of the annual Disposal Pump log. Please note during the transfer between Key and Agua Moss, the disposal pump log was misplaced. Records were reviewed and Key employees confirmed that all of the Murphy pressure switch checks were exercised every month. Significant events were logged on the annual production log found in Appendix B.

2011 Monthly Pressure Charts and Pressure Monitoring Methodology:

Monthly Pressure Charts are provided in Appendix H. The recording meter ID number is 74571 where the red line on the chart shows the tubing press and blue line shows the casing pressure. The charts are 31day charts with a range of 0-3,000 psig. A pressure gauge is installed in parallel to the pressure-recording chart. The chart was calibrated and basically reads the same as the gauge within their respective tolerances.

C-115 Reporting and other forms:

The Key Eunice office is currently filing C-115 forms for this facility.

Section 3- Chemical Analyses (Permit Condition 22.L.4)

Enclosed in Appendix I are the first, second, third and fourth quarterly chemical analysis, laboratory results and the quality assurance/quality control documentation. All samples were collected and analyzed pursuant to EPA approved methods.

Permit condition 22H was modified by OCD on June 3, 2010 to allow the quarterly samples to be submitted annually in the annual report. In addition, the previous permit condition was ambiguous concerning the reporting requirements for constituents of concern. The new reporting criteria addresses exceedance of the RCRA Characteristically Hazardous Waste

Criterion or Parameters: Ignitability, Corrosivity, and Reactivity (RCI). In a meeting with OCD on August 3, 2010, Key requested clarification concerning if the RCRA Toxic D waste list must be monitored, reported and notification given if there is an exceedance. OCD confirmed that only the RCI is required to be monitored, reported, and a notification given pursuant to permit condition 22H, if RCI is over the limits.

Key has evaluated the analytical results and the RCRA RCI limits were not exceeded during the year.

After the permit modifications were written, Key noted that 8260C is the latest EPA published method for volatile organics and some laboratories are not set up to run Method 8260C. EPA updated the analysis method to include pharmaceutical chemicals that are being flushed down drains and getting into water systems.

On the Permit condition 22I list, 1- and 2-Methylnaphthalene are to be analyzed by Method 8270B. These constituents are now analyzed using Method 8260B. In addition, the new ICP scans (EPA Method 6010) for metals can now meet the required EPA detection limits for Arsenic and Mercury and are analyzed using this method and not the old AA EPA Methods 7060 and 7470 listed in the permit.

EnviroTech, a local lab located in Farmington, is not equipped to run the full chemical suite for Method 8270B. They can analyze all of the constituents of concern using different EPA approved methods. The portion they cannot run is Herbicides and Pesticides.

Section 4- Mechanical Integrity Testing (Permit Condition 22.L.5)

The Mechanical Integrity Test (MIT) and Bradenhead tests were conducted on October 31 and November 1, 2011. Appendix J contains the Bradenhead Test Report and the MIT report and chart. The MIT test duration was 30 minutes at 360 psi. During the bradenhead test, the tubing pressure was 1,800 psig. The casing pressure was zero (0) psig and no pressure was noted at the bradenhead. Both test passed.

Section 5- Deviations from Normal Production Methods (Permit Condition 22.L.6.)

The only reported deviation for the 2011-year is the annual "fall-off" test was not performed. This test has been approved and scheduled on a five-year basis.

Section 6- Expansion Tank Monitoring, Fluid Removal/Addition, Well Problems, Drinking Water Impacts, and Leak and Spill Reports (Permit Condition 22.L.7)

Section 6A. Expansion tank monitoring pressure, fluid removals/additions: (22.L.7.A)

A pressure gage and the continuous pressure-recording chart monitor the injection well annulus. The results are included in Section 3. Currently, this well does not have a pressure controlled volumetric measuring tank.

Section 6B. Well Problems (22.L.7.B.)

There were no noted problems pertaining to the injection well during 2011.

Section 6C. Drinking Water Impacts (22.L.7.C.)

There are no known drinking water impacts caused by the UICI-005 Injection well operations.

Section 6D. Leaks and spill reports; (22.L.7.D.)

In 2011, there were no reportable leaks or spills. Any reportable or non-reportable spill is cleaned up pursuant to OCD guidance and rules. Liquid wastewater is disposed of down-hole in the injection well. De minimis drips are currently being handled by placing portable catch buckets under hose connections.

Any solid or oily waste generated on site is disposed of at an approved OCD site. Key employees have been instructed to contact OCD before any waste or oil is shipped off-site.

Section 7- Groundwater Monitoring (Permit Condition 22.L.8)

The UICI-005 injection facility does not have groundwater monitoring at this site. There are no planned or intentional discharges of water contaminants that may move directly or indirectly into groundwater. Any unintentional discharge, leak, spill, or drip is handled pursuant to the permit conditions.

Section 8- Area of Review Update Summary (Permit Condition 22.L.9)

Using 2011 OCD on-line down loads, the well status list that was constructed in 2009 was compared to the recent data. The list shows API Number, Operator well name, UL, Section, Township and Range, footages, wells within one mile, well depth (ft) i.e. Injection/Production

interval, casing program status, casing/cementing status, and corrective action required status. The list has been updated to reflect the most recent findings and is included in Appendix K.

Recapping for 2011, there are 43 wells located within adjacent sections. Within a one-mile radius of the injection well, there are 31 wells, seven of the 31 identified actually penetrated the Point Lookout Formation injection zone. Please refer to the 2009 UICI-005 AOR Annual Review-Section Plot Plan (Updated for 2011) found in Appendix K. The comprehensive list and plot plan was formulated to provide a baseline for future AOR studies.

There were no new wells installed in the Area of Review (AOR) in 2011.

Section 9- MIT and Fall-Off Tests (Permit Condition 22.L.11)

The MIT was performed on October 31, 2011 and details found in Section 4.0 above. The annual Fall-Off test has been waived by OCD and will be conducted on a five-year basis. The next fall-off test should be performed in 2015.

Section 10- Annual Facility Training (Permit Condition 22.L.12)

Key provides annual training for facility operation personnel on an annual basis at a minimum. This training is not always specific to the operation of this facility and covers requirements for Spill Prevention, Control, and Countermeasures (SPCC), elements required by National Pollutant Discharge Elimination System (NPDES) permits, and Key's environmental policies.

Pursuant to the discharge permit requirements, 22.L.12, Key has conducted on site training pertaining to the discharge permit requirements. Please find documentation in Appendix L for this training.

Section 11- Certification (Permit Condition 22.L.10)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



Dennis Douglas

Senior Vice President – Fluids Management Services

Date 1/31/12

APPENDICES

**Appendix A
2011 Waste Disposal**

**Appendix B
2011 Monthly Well Injection Report**

**Appendix C
2011 Hourly-Daily Log Sheets**

**Appendix D
2011 Daily-Monthly Log Sheets**

**Appendix E
2011 Tubing and Casing Monitoring Log Sheets**

**Appendix F
2011 Key Energy Disposal Monthly Totals**

**Appendix G
2011 Maintenance Disposal-Pump Log-misplaced**

**Appendix H
2011 Monthly Pressure Charts**

**Appendix I
2011 Chemical Analysis Data**

**Appendix J
2011 Bradenhead Test Report and MIT Report with chart.**

**Appendix K
2011 Supporting Documentation for the AOR**

**Appendix L
2011 Permit Training Documentation**

**Appendix M
2011 Related Correspondence**

Appendix A
2011 Waste Disposal

District I
 5 N. French Dr., Hobbs, NM 88240
 District II
 1301 W. Grand Avenue, Artesia, NM 88210
 District III
 1000 Rio Brazos Road, Aztec, NM 87410
 District IV
 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
 Energy Minerals and Natural Resources

Form C-117 A
 Revised October 15, 2009

Oil Conservation Division
 1220 South St. Francis Dr.
 Santa Fe, NM 87505

Submit one copy to
 appropriate District Office

PERMIT NO. _____

TANK CLEANING, SEDIMENT OIL REMOVAL, TRANSPORTATION OF MISCELLANEOUS HYDROCARBONS AND DISPOSAL PERMIT

Operator or Owner: **Key Energy Services, LLC** Address **5651 US HWY 64 -87401**

Lease or Facility Name **Key Energy (Sunoco Disposal Well) UIC-5** Location **E-2-Ts29n-R12w**

OPERATION TO BE PERFORMED:

Tank Cleaning Sediment Oil Removal Transportation of Miscellaneous Hydrocarbons

Operator or Owner Representative authorizing work: **R Clow & Neil Allen - Key Energy Services LLC -site # 505-334-6186**

Date Work to be Performed **Feb 18, 2011 (work has already been performed)**

TANK CLEANING DATA Tank Number #'s **0720114,0720012,0720112,0720050** Volume **4-400 bbl (unload area) and 1-500 bbl Horz Skid 0920011, and 1-400 bbl 0720072 lay-down.**
Tank Type: above grade steel-atm Volume Below Load Line **NA**

SEDIMENT OIL OR MISCELLANEOUS HYDROCARBON DATA

Sediment Oil from: Pit Cellar Other

MISCELLANEOUS OIL

Tank Bottoms From: Pipeline Station Crude Terminal Refinery Other*
 Leakings From: Gasoline Plant Gathering Lines Salt Water Disposal System Other*
 Pipeline Break Oil or Spill

*Other (Explain) **The first four tanks in the loading system collect oil over time. The oil is skimmed off and put into two temporary horizontal tanks to facilitate safe loading into Safety-Kleen's truck.**

VOLUME AND DESTINATION: Estimated Volume **270 Bbls.** Field test volume of good oil _____ Bbls.

(Not required prior to Division approval)

Destination (Name and Location of treating plant or other facility) **Safety-Kleen Oil Recycling Center-Farmington NM 4210 A. Hawkins Rd. Run Tickets Attached.**

DESTRUCTION OF SEDIMENT OIL BY: Burning Pit Disposal Use on Roads or firewalls Other

(Explain) _____

Location of Destruction _____

Justification of Destruction _____

CERTIFICATION: (APPLICATION MAY BE MADE BY EITHER OF THE FOLLOWING)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

| | |
|--|--|
| Owner Key Energy Services, LLC | Transporter Safety-Kleen Systems Inc. |
| By Wayne Price- Agent for Key Energy <i>Wayne Price</i> | Address 4210 A. Hawkins Rd. |
| Title Consultant | Signature Tim Mirabal- XX |
| E-mail Address wayneprice77@earthlink.net | E-mail Address timothy.mirabal@safety-kleen.com |
| Date Feb 26, 2011 | Title Dist. Sales Specialist Date _____ |

OIL CONSERVATION DIVISION

Approved By _____ Title _____ Date _____

| | | |
|---|---------------------|----------|
| A COPY OF THIS FORM MUST BE ON LOCATION DURING TANK CLEANING, REMOVAL OF SEDIMENT OIL OR MISCELLANEOUS HYDROCARBONS, AND MUST BE PRESENTED WITH TANK BOTTOMS, SEDIMENT OIL OR | DISTRIBUTION BY OCD | |
| | | Santa Fe |
| | | File |

CELLANEOUS HYDROCARBONS AT THE TREATING PLANT TO WHICH IT IS DELIVERED.

| |
|-----------------|
| Operator |
| Transporter (2) |

District I
5 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-117 A
Revised October 15, 2009

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to
appropriate District Office

PERMIT NO. _____

TANK CLEANING, SEDIMENT OIL REMOVAL, TRANSPORTATION OF MISCELLANEOUS HYDROCARBONS AND DISPOSAL PERMIT

Operator or Owner: **Key Energy Services, LLC** Address **5651 US HWY 64 -87401**

Lease or Facility Name **Key Energy (Sunoco Disposal Well) UIC-5** Location **E-2-Ts29n-R12w**

OPERATION TO BE PERFORMED:

Tank Cleaning Sediment Oil Removal Transportation of Miscellaneous Hydrocarbons

Operator or Owner Representative authorizing work: **R Clow & Neil Allen - Key Energy Services LLC -site # 505-334-6186**

Date Work to be Performed **Feb 18, 2011 (work has already been performed)**

TANK CLEANING DATA Tank Number #'s **0720114,0720012,0720112,0720050** Volume **4-400 bbl (unload area) and 1-500 bbl Horz Skid 0920011, and 1-400 bbl 0720072 lay-down.**

Tank Type: **above grade steel-atm** Volume Below Load Line **NA**

SEDIMENT OIL OR MISCELLANEOUS HYDROCARBON DATA

Sediment Oil from: Pit Cellar Other

MISCELLANEOUS OIL

Tank Bottoms From: Pipeline Station Crude Terminal Refinery Other*
Sources From: Gasoline Plant Gathering Lines Salt Water Disposal System Other*
Pipeline Break Oil or Spill

*Other (Explain) **The first four tanks in the loading system collect oil over time. The oil is skimmed off and put into two temporary horizontal tanks to facilitate safe loading into Saftev-Kleen's truck.**

VOLUME AND DESTINATION: Estimated Volume **270 Bbls.** Field test volume of good oil _____ Bbls.

(Not required prior to Division approval)

Destination (Name and Location of treating plant or other facility) **Safety-Kleen Oil Recycling Center-Farmington NM 4210 A. Hawkins Rd. Run Tickets Attached.**

DESTRUCTION OF SEDIMENT OIL BY: Burning Pit Disposal Use on Roads or firewalls Other

(Explain) _____

Location of Destruction _____

Justification of Destruction _____

CERTIFICATION: (APPLICATION MAY BE MADE BY EITHER OF THE FOLLOWING)

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

| | |
|--|--|
| Owner Key Energy Services, LLC | Transporter Safety-Kleen Systems Inc. |
| By Wayne Price- Agent for Key Energy <i>Wayne Price</i> | Address 4210 A. Hawkins Rd. |
| Title Consultant | Signature Tim Mirabal- XX |
| E-mail Address wayneprice77@earthlink.net | E-mail Address timothy.mirabal@saftev-kleen.com |
| Date Feb 26, 2011 | Title Dist. Sales Specialist Date _____ |

OIL CONSERVATION DIVISION

Approved By _____ Title _____ Date _____

| | | |
|---|---------------------|----------|
| A COPY OF THIS FORM MUST BE ON LOCATION DURING TANK CLEANING, REMOVAL OF SEDIMENT OIL OR MISCELLANEOUS HYDROCARBONS, AND MUST BE PRESENTED WITH TANK BOTTOMS, SEDIMENT OIL OR | DISTRIBUTION BY OCD | |
| | | Santa Fe |
| | | File |

MISCELLANEOUS HYDROCARBONS AT THE TREATING PLANT TO WHICH IT IS DELIVERED.

Operator

Transporter (2)

District I
525 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources

Form C-104
Revised October 15, 2009

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit one copy to appropriate District Office

AMENDED REPORT

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

| | | |
|--|--|---|
| ¹ Operator name and Address Key Energy Services, LLC 5651 US HWY 64 87401 505-334-6186 | | ² OGRID Number 19797 |
| | | ³ Reason for Filing Code/ Effective Date |
| ⁴ API Number 30 - 045-28653 | ⁵ Pool Name | ⁶ Pool Code NA |
| ⁷ Property Code | ⁸ Property Name Key Energy (Sunoco Disposal Well) UIC-5 | ⁹ Well Number Sunco Disposal #1 |

II. ¹⁰ Surface Location

| Ul or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South Line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|----------|
| E | 2 | 29N | 12W | | 1595 | FNL | 1005 | FWL | San Juan |

¹¹ Bottom Hole Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| | | | | | | | | | |

| | | | | | |
|------------------------|-------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|
| ¹² Lse Code | ¹³ Producing Method Code | ¹⁴ Gas Connection Date | ¹⁵ C-129 Permit Number | ¹⁶ C-129 Effective Date | ¹⁷ C-129 Expiration Date |
|------------------------|-------------------------------------|-----------------------------------|-----------------------------------|------------------------------------|-------------------------------------|

III. Oil and Gas Transporters

| ¹⁸ Transporter OGRID | ¹⁹ Transporter Name and Address | ²⁰ O/G/W |
|---------------------------------|---|---------------------------|
| NA | Safety-Kleen Systems, Inc. 4210 A Hawkins Rd Farmington, NM 87401 505-327-9070 | Used Oil & Produced Water |
| | | |
| | | |
| | | |
| | | |

IV. Well Completion Data

| | | | | | |
|-------------------------|--------------------------|------------------------------------|-------------------------|----------------------------|-----------------------|
| ²¹ Spud Date | ²² Ready Date | ²³ TD | ²⁴ PBTB | ²⁵ Perforations | ²⁶ DHC, MC |
| ²⁷ Hole Size | | ²⁸ Casing & Tubing Size | ²⁹ Depth Set | ³⁰ Sacks Cement | |
| | | | | | |
| | | | | | |
| | | | | | |

V. Well Test Data

| | | | | | |
|----------------------------|---------------------------------|-------------------------|---------------------------|-----------------------------|-----------------------------|
| ³¹ Date New Oil | ³² Gas Delivery Date | ³³ Test Date | ³⁴ Test Length | ³⁵ Tbg. Pressure | ³⁶ Csg. Pressure |
| ³⁷ Choke Size | ³⁸ Oil | ³⁹ Water | ⁴⁰ Gas | ⁴¹ Test Method | |

From: "Allen, Neil" <nallen@keyenergy.com>
 Subject: C-104 for Sunco SWD#1
 Date: March 16, 2011 8:19:06 AM MDT
 To: "Perrin, Charlie, EMNRD" <charlie.perrin@state.nm.us>
 Cc: 'wayne price' <wayneprice77@earthlink.net>, "Clow, Ronald" <RClow@keyenergy.com>
 1 Attachment, 26.2 KB

I hope this is what you needed if not please let me know
 Neil

-----Original Message-----

From: Email 2, Scan
 Sent: Tuesday, March 15, 2011 6:34 PM
 To: Allen, Neil
 Subject: [Image File] Neil Allen,, #147

FROM:
 Image data has been attached to the e-mail.

| | | | | | |
|--|--|---|--|--|--|
| District I 1625 N. French Ln., Mopok, NM 87240 | | State of New Mexico Energy, Minerals & Natural Resources | | Form C-104 Revised October 15, 2009 | |
| District II 1301 W. Grand Avenue, Azusa, NM 88210 | | Oil Conservation Division | | Submit one copy to appropriate District Office | |
| District III 1000 Rio Bravo Rd., Aztec, NM 87410 | | 1220 South St. Francis Dr. Santa Fe, NM 87505 | | <input type="checkbox"/> AMENDED REPORT | |
| District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 | | | | | |

I. REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT

| | | | | | |
|---|--|--|--|--|--|
| Operator name and Address Key Energy Services, LLC 9651 US HWY 64 87481 985-324-4185 | | | OCRD Number 15797 | | |
| API Number 38 - 845-28633 | | | Reason for Filing Code/Effective Date Approved on 2/20/11 by N.A. 2/17/2011 | | |
| Well Name Key Energy (Sunco) Disposal Well UBC-5 | | | Well Number Sunco Disposal #1 | | |

II. Surface Location

| UL or lot no. | Section | Township | Range | Lot No. | Feet from the | North/South Line | Feet from the | East/West line | County |
|---------------|---------|----------|-------|---------|---------------|------------------|---------------|----------------|--------|
| 2 | 29N | 12W | 1595 | FNL | 1005 | FNL | FWL | San Juan | |

III. Oil and Gas Transporters

| Transporter OCRD# | Transporter Name and Address | OCG/W |
|----------------------|---|------------------------------|
| NA | Safety-Clean Systems, Inc. 4300 A Boulevard Rd Farmington, NM 87401 985-327-0070 | Used Oil & Produced Water |

IV. Well Completion Data

| Spud Date | Ready Date | TD | PWTB | Perforation | BEC, MC |
|-----------|----------------------|-----------|---------------|-------------|---------|
| | | | | | |
| Well Size | Casing & Tubing Size | Depth Set | Stuck Content | | |

V. Well Test Data

| Date New Oil | Gas Delivery Date | Test Date | Test Length | Well Pressure | Cap Pressure |
|--------------|-------------------|-----------|-------------|---------------|--------------|
| | | | | | |
| Choke Size | Oil | Water | Gas | Test Method | |

I hereby certify that the rules of the Oil Conservation Division have been complied with and that the information given above is true and complete to the best of my knowledge and belief.

Signature: *Wayne Price*
 Printed name: Wayne Price
 Title: Agent for Key Energy LLC
 E-mail Address: Wayneprice77@earthlink.net
 Date: Feb 26, 2011

OIL CONSERVATION DIVISION

Approved by: _____
 Title: _____
 Approval Date: _____



safety-kleen.

Tim Mirabal
DISTRICT SALES SPECIALIST



Safety-Kleen Systems, Inc.
4210 A Hawkins Rd
Farmington, NM 87401



E timothy.mirabal@safety-kleen.com
P 505.327.9070 F 505.327.3023
C 505.860.6582
W www.safety-kleen.com

Safety-Kleen Systems, Inc.

5360 Legacy Drive.
Building 2, Suite 100
Plano, Texas 75024
800-868-5740
505-327-9070

CUSTOMER# 2123408 KEY FOUR CORNERS 0455 REFERENCE NBR. 53344332
5651 Highway 64 SRVC WEEK: 2011-8
Farmington NM 87401-1558 SRVC DATE: 02/18/11 12:47
PHONE 505-334-6186

PURCHASE ORDER#

TAX EXEMPTION NBR

PRODUCT/SERVICES

| SERVICE/ PRODUCT | QTY | UNIT PRICE | TAX | TOTAL CHARGE |
|--|----------|------------|------|-----------------|
| 40449162/ 66646 USED OIL NO CHARGE (PREQU SERVICE TERM & WEEK HALOGEN / CHLOR-D-TECT TEST RESULT PASS: PPM < 1000 | 3821.000 | 0.0000 | 0.00 | 0.00 |
| TOTAL SERVICE/PRODUCTS | | | | 0.0000 |
| TOTAL CHARGE | | | | 0.00 |
| CREDITS | | | | 0.00 |
| TOTAL DUE | | | | 0.00 |

UNPAID BALANCE THIS RECEIPT 0.00

Used oil in drums for non-auto generators classified as high risk.
Used oil certification form is required for all customers (initial
sign-up and when status changes).

GENERATOR STATUS
CESQG: Non-vehicle

Customer certifies that (i) the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and (ii) no material change has occurred either in the characteristics of the waste/material or in the process generating the waste/material. Customer agrees to pay the above charges and to be bound by the terms and conditions (1) set forth in (a) the General Terms and Conditions provided separately to Customer or (b) any SK agreement signed by Customer and SK, and (2) incorporated herein by reference. Unless otherwise indicated in the payment received section, SK is authorized to charge Customer's account for this transaction. Customer certifies that the individual signing this Service Acknowledgement is duly authorized to sign and bind Customer. The following provision is applicable to Safety-Kleen's parts cleaner and paint gun cleaner services: Customer agrees that it will not introduce any substance into the solvent or aqueous cleaning solution, including without limitation any hazardous waste or hazardous waste constituent, except to the extent such introduction is incidental to the normal use of the machine. Customer further agrees that it will not clean parts/paint guns that have been contaminated with or otherwise introduce polychlorinated biphenyls (PCB's), herbicides, pesticides, dioxins or listed hazardous waste into the solvent or aqueous cleaning solution. Safety-Kleen has the capacity and is permitted to accept, store, and/or reclaim the spent parts washer solvent; paint thinners, solvents and paints generated by customer; or dry cleaning filter cartridges, powder, and still residues containing perchloroethylene, petroleum naphtha, or trifluorotrichloroethane dry cleaning solvents. Safety-Kleen and customer agree that this agreement is intended to satisfy the requirements of 40 CFR 262.20(a). IN THE EVENT OF AN EMERGENCY CALL 24 HR EMERGENCY # 1-800-468-1760 (Safety-Kleen Contract # 94138)

X Neal Allen

CUSTOMER / GENERATOR :Neal Allen

X SWAITE

TRANSPORTER :swaite2

CUSTOMER#/GENERATOR: 2123408 KEY FOUR CORNERS #455
 5651 Highway 64
 Farmington NM 87401-1558
 PHONE 505-334-6186

REFERENCE NBR.
 53344332

SRVC DATE: 02/18/11

GENERATOR USEPA ID, CESQG GENERATOR STATE
 MANIFEST#: FORM CD: NR SK SHIP# 203289013
 CARRIER 1 TDR000050930
 CARRIER 2

US DOT DESCRIPTION (INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID)

USED OIL
 (NOT US DOT HAZARDOUS MATERIAL)
 FEDERAL WASTE CODES NONE
 STATE WASTE CODES
 TOTAL CONT 1 TYPE TT WT/VOL G SKDOT 1001
 CNT#: 110218665608 QTY: 3821 PROFILE: 040449162

DESIGNATED FACILITY NAME/ADDRESS:
 SAFETY-KLEEN SYSTEMS, INC.
 4210A HAWKINS RD
 FARMINGTON, NM 87401

FACILITY USEPA ID NO NMD980698849
 FACILITY STATE ID NO

Used oil in drums for non-auto generators classified as high risk.
 Used oil certification form is required for all customers (initial
 sign-up and when status changes).

GENERATOR STATUS
 CESQG: Non-vehicle

Customer certifies that (i) the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and (ii) no material change has occurred either in the characteristics of the waste/material or in the process generating the waste/material. Customer agrees to pay the above charges and to be bound by the terms and conditions (1) set forth in (a) the General Terms and Conditions provided separately to Customer or (b) any SK agreement signed by Customer and SK, and (2) incorporated herein by reference. Unless otherwise indicated in the payment received section, SK is authorized to charge Customer's account for this transaction. Customer certifies that the individual signing this Service Acknowledgement is duly authorized to sign and bind Customer. The following provision is applicable to Safety-Kleen's parts cleaner and paint gun cleaner services: Customer agrees that it will not introduce any substance into the solvent or aqueous cleaning solution, including without limitation any hazardous waste or hazardous waste constituent, except to the extent such introduction is incidental to the normal use of the machine. Customer further agrees that it will not clean parts/paint guns that have been contaminated with or otherwise introduce polychlorinated biphenyls (PCB's), herbicides, pesticides, dioxins or listed hazardous waste into the solvent or aqueous cleaning solution. Safety-Kleen has the capacity and is permitted to accept, store, and/or reclaim the spent parts washer solvent; paint thinners, solvents and paints generated by customer; or dry cleaning filter cartridges, powder, and still residues containing perchloroethylene, petroleum naphtha, or trifluorotrchloroethane dry cleaning solvents. Safety-Kleen and customer agree that this agreement is intended to satisfy the requirements of 40 CFR 262.20(e). IN THE EVENT OF AN EMERGENCY CALL 24 HR EMERGENCY # 1-800-468-1760 (Safety-Kleen Contract # 94138)

X Neal Allen

CUSTOMER / GENERATOR : Neal Allen

X SWAITZ

TRANSPORTER : swaitz

LAST PAGE

Safety-Kleen Systems, Inc.

5360 Legacy Drive.
Building 2, Suite 100
Plano, Texas 75024
800-669-5740
505-327-9070

CUSTOMER# 2123408 KEY FOUR CORNERS #455 REFERENCE NBR. 53343076
5651 Highway 64 SRVC WEEK: 2011-8
Farmington NM 87401-1558 SRVC DATE: 02/18/11 08:10
PHONE 505-334-6186

PURCHASE ORDER#

TAX EXEMPTION NBR

PRODUCT/SERVICES

| SERVICE/ PRODUCT | QTY | UNIT PRICE | TAX | TOTAL CHARGE |
|--|----------|------------|------|------------------|
| 40449162/ 66646 USED OIL NO CHARGE (PREQU SERVICE TERM 8 WEEK HALOGEN / CHLOR-D-TECT TEST RESULT PASS: PPM < 1000 | 3810.000 | 0.0000 | 0.00 | 0.00 |
| TOTAL SERVICE/PRODUCTS | | | | 0.0000 0.00 0.00 |
| TOTAL CHARGE | | | | 0.00 |
| CREDITS | | | | 0.00 |
| TOTAL DUE | | | | 0.00 |

UNPAID BALANCE THIS RECEIPT

0.00

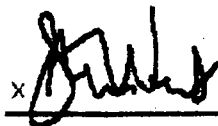
Used oil in drums for non-auto generators classified as high risk.
Used oil certification form is required for all customers (initial
sign-up and when status changes).

GENERATOR STATUS
CESQG: Non-vehicle

Customer certifies that (i) the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and (ii) no material change has occurred either in the characteristics of the waste/material or in the process generating the waste/material. Customer agrees to pay the above charges and to be bound by the terms and conditions (1) set forth in (a) the General Terms and Conditions provided separately to Customer or (b) any SK agreement signed by Customer and SK, and (2) incorporated herein by reference. Unless otherwise indicated in the payment received section, SK is authorized to charge Customer's account for this transaction. Customer certifies that the individual signing this Service Acknowledgement is duly authorized to sign and bind Customer. The following provision is applicable to Safety-Kleen's parts cleaner and paint gun cleaner services: Customer agrees that it will not introduce any substance into the solvent or aqueous cleaning solution, including without limitation any hazardous waste or hazardous waste constituent, except to the extent such introduction is incidental to the normal use of the machine. Customer further agrees that it will not clean parts/paint guns that have been contaminated with or otherwise introduce polychlorinated biphenyls (PCB's), herbicides, pesticides, dioxins or listed hazardous waste into the solvent or aqueous cleaning solution. Safety-Kleen has the capacity and is permitted to accept, store, and/or reclaim the spent parts washer solvent; paint thinners, solvents and paints generated by customer; or dry cleaning filter cartridges, powder, and still residues containing perchloroethylene, petroleum naphtha, or trifluorotrchloroethane dry cleaning solvents. Safety-Kleen and customer agree that this agreement is intended to satisfy the requirements of 40 CFR 262.20(a). IN THE EVENT OF AN EMERGENCY CALL 24 HR EMERGENCY # 1-800-468-1760 (Safety-Kleen Contract # 94138)



CUSTOMER / GENERATOR :Neal Allen



TRANSPORTER :swaitz2

CUSTOMER#/GENERATOR: 2123408 KEY FOUR CORNERS #455
5651 Highway 64
Farmington NM 87401-1558
PHONE 505-334-6186

REFERENCE NBR.
53343076

SRVC DATE: 02/18/11

GENERATOR USEPA ID. CESQG GENERATOR STATE
MANIFEST#: FORM CD: NR SK SHIP# 203285928
CARRIER 1 TXR000050930
CARRIER 2

US DOT DESCRIPTION (INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID)

USED OIL
(NOT USDOT HAZARDOUS MATERIAL)
FEDERAL WASTE CODES NONE
STATE WASTE CODES
TOTAL CONT 1 TYPE TT WT/VOL G SKDOT 1001
CNT#: 110218658957 QTY: 3810 PROFILE: 040449162

DESIGNATED FACILITY NAME/ADDRESS:
SAFETY-KLEEN SYSTEMS, INC.
4210A HAWKINS RD
FARMINGTON, NM 87401

FACILITY USEPA ID NO NMD980698849
FACILITY STATE ID NO

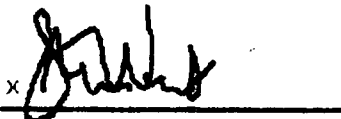
Used oil in drums for non-auto generators classified as high risk.
Used oil certification form is required for all customers (initial
sign-up and when status changes).

GENERATOR STATUS
CESQG: Non-vehicle

Customer certifies that (i) the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and (ii) no material change has occurred either in the characteristics of the waste/material or in the process generating the waste/material. Customer agrees to pay the above charges and to be bound by the terms and conditions (1) set forth in (a) the General Terms and Conditions provided separately to Customer or (b) any SK agreement signed by Customer and SK, and (2) incorporated herein by reference. Unless otherwise indicated in the payment received section, SK is authorized to charge Customer's account for this transaction. Customer certifies that the individual signing this Service Acknowledgement is duly authorized to sign and bind Customer. The following provision is applicable to Safety-Kleen's parts cleaner and paint gun cleaner services: Customer agrees that it will not introduce any substance into the solvent or aqueous cleaning solution, including without limitation any hazardous waste or hazardous waste constituent, except to the extent such introduction is incidental to the normal use of the machine. Customer further agrees that it will not clean parts/paint guns that have been contaminated with or otherwise introduce polychlorinated biphenyls (PCB's), herbicides, pesticides, dioxins or listed hazardous waste into the solvent or aqueous cleaning solution. Safety-Kleen has the capacity and is permitted to accept, store, and/or reclaim the spent parts washer solvent; paint thinners, solvents and paints generated by customer; or dry cleaning filter cartridges, powder, and still residues containing perchloroethylene, petroleum naphtha, or trifluorotrchloroethane dry cleaning solvents. Safety-Kleen and customer agree that this agreement is intended to satisfy the requirements of 40 CFR 262.20(e). IN THE EVENT OF AN EMERGENCY CALL 24 HR EMERGENCY # 1-800-468-1760 (Safety-Kleen Contract # 94138)



CUSTOMER / GENERATOR :Neal Allen



TRANSPORTER :swaitz

LAST PAGE

Safety-Kleen Systems, Inc.

5360 Legacy Drive.
Building 2, Suite 100
Plano, Texas 75024
800-669-5740
505-327-9070

CUSTOMER# 2123408 KEY FOUR CORNERS #455
5651 Highway 64
Farmington NH 07401-1558
PHONE 505-334-6186

REFERENCE NBR.
53339954
SRVC WEEK: 2011-8
SRVC DATE: 02/17/11 16:11

PURCHASE ORDER#

TAX EXEMPTION NBR

PRODUCT/SERVICES

| SERVICE/ PRODUCT | QTY | UNIT PRICE | TAX | TOTAL CHARGE |
|--|----------|------------|------|-----------------|
| 40440162/ 66646 USED OIL NO CHARGE (PREQU SERVICE TERM 8 WEEK HALOGEN / CHLOR-D-TECT TEST RESULT PASS: PPM < 1000 | 3731.000 | 0.0000 | 0.00 | 0.00 |
| TOTAL SERVICE/PRODUCTS | | | | 0.00 |
| TOTAL CHARGE | | | | 0.00 |
| CREDITS | | | | 0.00 |
| TOTAL DUE | | | | 0.00 |

UNPAID BALANCE THIS RECEIPT

0.00

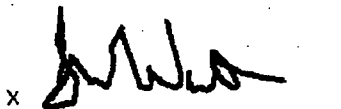
Used oil in drums for non-auto generators classified as high risk.
Used oil certification form is required for all customers (initial
sign-up and when status changes).

GENERATOR STATUS CESQG: Non-vehicle

Customer certifies that (1) the above-named materials are properly classified, packaged, marked and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and (1) no material change has occurred either in the characteristics of the waste/material or in the process generating the waste/material. Customer agrees to pay the above charges and to be bound by the terms and conditions (1) set forth in (a) the General Terms and Conditions provided separately to Customer or (b) any SK agreement signed by Customer and SK, and (2) incorporated herein by reference. Unless otherwise indicated in the payment received section, SK is authorized to charge Customer's account for this transaction. Customer certifies that the individual signing this Service Acknowledgement is duly authorized to sign and bind Customer. The following provision is applicable to Safety-Kleen's parts cleaner and paint gun cleaner services: Customer agrees that it will not introduce any substance into the solvent or aqueous cleaning solution, including without limitation any hazardous waste or hazardous waste constituent, except to the extent such introduction is incidental to the normal use of the machine. Customer further agrees that it will not clean parts/paint guns that have been contaminated with or otherwise introduce polychlorinated biphenyls (PCB's), herbicides, pesticides, dioxins or listed hazardous waste into the solvent or aqueous cleaning solution. Safety-Kleen has the capacity and is permitted to accept, store, and/or reclaim the spent parts washer solvent; paint thinners, solvents and paints generated by customer; or dry cleaning filter cartridges, powder, and still residues containing perchloroethylene, petroleum naphtha, or trifluorotrichloroethane dry cleaning solvents. Safety-Kleen and customer agree that this agreement is intended to satisfy the requirements of 40 CFR 262.20(e). IN THE EVENT OF AN EMERGENCY CALL 24 HR EMERGENCY # 1-800-466-1760 (Safety-Kleen Contract # 94136)

X 

CUSTOMER / GENERATOR :Neal Allen

X 

TRANSPORTER :swait2

CUSTOMER#/GENERATOR: 2123408 KEY FOUR CORNERS #455
5651 Highway 84
Farmington NM 87401-1558
PHONE 505-334-6186

REFERENCE NBR.
53339954

SRVC DATE: 02/17/11

GENERATOR USEPA ID. CESQG GENERATOR STATE
MANIFEST#: FORM CD: NR SK SHIP# 203204309
CARRIER 1 TXR000050930
CARRIER 2

US DOT DESCRIPTION (INCLUDING PROPER SHIPPING NAME, HAZARD CLASS, AND ID)

USED OIL
(NOT USDOT HAZARDOUS MATERIAL)
FEDERAL WASTE CODES NONE
STATE WASTE CODES
TOTAL CONT 1 TYPE TT WT/VOL G SKDOT 1001
CNT# 110217654118 QTY: 3731 PROFILE: 040449162

DESIGNATED FACILITY NAME/ADDRESS:
SAFETY-KLEEN SYSTEMS, INC.
4210A HARRIS RD
FARMINGTON, NM 87401

FACILITY USEPA ID NO NMD980698849
FACILITY STATE ID NO

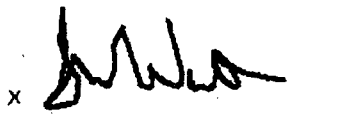
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X 

CUSTOMER / GENERATOR :Neal Allen

X 

TRANSPORTER :swhite2

LAST PAGE

Appendix B
2011 Monthly Well
Injection Report

2011 Key UIC-CL1-005 Injection Well Report

Protection code: 1111

| Period | Injection Pressures (psig) | | | Annuals Pressure (psig) | | | Annuals Volumes (Bbls) | | | Injection Flow Rates (bbls/day) | | | VOLUMES IN BBL | | | Pressure Limiting Device | | | Monthly Operational Notes | | | |
|---------|----------------------------|----------|----------|-------------------------|----------|----------|------------------------|----------|--------------|---------------------------------|--------------|----------------------------|----------------|---------|--------------|--------------------------|------------|------------|---------------------------|---|-------|-------|
| | Max psig | Min psig | Avg psig | Max psig | Min psig | Avg psig | (+ Gain) | (- Loss) | Max bbls/day | Min bbls/day | Avg bbls/day | Month Class 1 (non-exempt) | Monthly Total | YTD | Life of Well | 2010 Carry-Over | Checked-OK | Checked-OK | Checked-OK | Notes | Notes | Notes |
| 2011 | 2350 | 2050 | 2246 | 0 | 0 | 0 | na | na | 1305 | 0 | 548 | 960 | 16989 | 16,989 | 12,790,988 | | Checked-OK | Checked-OK | Checked-OK | Pump Trip Power Surges | | |
| Jan | 2400 | 2050 | 2257 | 0 | 0 | 0 | na | na | 1707 | 0 | 907 | 720 | 25387 | 42,376 | 12,833,364 | | Checked-OK | Checked-OK | Checked-OK | Pump Trip HI-press- 3-25 | | |
| Feb | 2400 | 2050 | 2274 | 0 | 0 | 0 | na | na | 1743 | 0 | 908 | 640 | 27248 | 69,624 | 12,860,612 | | Checked-OK | Checked-OK | Checked-OK | Pump Trip HI-press 4-1,14,15,18 + Start shutdown | | |
| Mar | 2400 | 2050 | 2257 | 0 | 0 | 0 | na | na | 1417 | 0 | 447 | 1840 | 13853 | 83,477 | 12,874,465 | | Checked-OK | Checked-OK | Checked-OK | Down for transitional shutdown-Gen Maint-HI press | | |
| Apr | 2400 | 2050 | 2197 | 0 | 0 | 0 | na | na | 859 | 0 | 167 | 640 | 5178 | 86,655 | 12,879,643 | | Checked-OK | Checked-OK | Checked-OK | Sys Maint & Gen slow-down | | |
| May | 2350 | 1900 | 2149 | 0 | 0 | 0 | na | na | 1061 | 0 | 198 | 400 | 5927 | 94,582 | 12,885,570 | | Checked-OK | Checked-OK | Checked-OK | Sys Maint-down -14-24 & Gen slow-down | | |
| Jun | 2400 | 1900 | 2164 | 0 | 0 | 0 | na | na | 1046 | 0 | 231 | 80 | 7154 | 101,736 | 12,892,724 | | Checked-OK | Checked-OK | Checked-OK | Sys Maint-down 1-17 & Gen slow-down | | |
| Jul | 2250 | 1800 | 2095 | 0 | 0 | 0 | na | na | 1039 | 0 | 116 | 1360 | 3608 | 105,344 | 12,896,332 | | Checked-OK | Checked-OK | Checked-OK | | | |
| Aug | 2400 | 1750 | 2099 | 0 | 0 | 0 | na | na | 1082 | 0 | 233 | 320 | 6992 | 112,336 | 12,903,324 | | Checked-OK | Checked-OK | Checked-OK | | | |
| Sep | 2350 | 1750 | 2136 | 100 | 0 | 0 | na | na | 926 | 0 | 204 | 1040 | 6314 | 118,650 | 12,909,638 | | Checked-OK | Checked-OK | Checked-OK | Ran MIT-witness by OCD-passed | | |
| Oct | 2400 | 1900 | 2177 | 0 | 0 | 0 | na | na | 1204 | 0 | 300 | 80 | 9012 | 127,662 | 12,918,650 | | Checked-OK | Checked-OK | Checked-OK | Ran Bradenhead-witness by OCD-passed | | |
| Nov | | | | 0 | 0 | 0 | na | na | 0 | 0 | 0 | 0 | 0 | 127,662 | 12,918,650 | | Checked-OK | Checked-OK | Checked-OK | Well Treatment by Ague Moss New Operator | | |
| Dec | | | | 0 | 0 | 0 | na | na | | | | | | | | | | | | | | |
| Sum Avg | | | 2186 | | | | | | Avg----- | 355 | 8080 | 10,639 | Avg/No. | | | | | | | | | |

Notes: Injection Pressures: Injection pressures are recorded hourly during daily operations. The monthly max,min and average values are taken from these logs.
 Annuals Pressures: Annuals pressures are recorded hourly during daily operations. The monthly max,min and average values are taken from these logs.
 Annuals Volumes: Not recorded
 Injection flow rates: Injection Flow rates (volume/time) are recorded hourly during daily operations. The monthly max,min and average values are taken from these logs.
 Injection Volumes: Injection Volumes (bbls) are recorded hourly and a daily total is calculated during daily operations. The monthly max,min and average values are taken from these totaled daily logs.
 Pressure Limiting Device: Will be checked monthly with notes and logged.
 Operational Notes: A daily inspection logged is maintained. The monthly summary of significant event is recorded in this space.
 **** Static well shut-in pressures Ranged from 1600-2000 psig

Appendix C
2011 Hourly-Daily Log
Sheets

3396

| | Pressure | Water | BBK PH |
|----------|-----------|-------|--------|
| 01-08-11 | 1950-2050 | | |
| 11: AM | 2200 | 3,557 | 161 |
| 12: PM | 2250 | 3,717 | 160 |
| 1: PM | 2250 | 3,876 | 159 |
| 2: PM | 2300 | 4,034 | 158 |
| 3: PM | 2300 | 4,192 | 158 |
| 4: PM | 2300 | 4,351 | 159 |
| 5: PM | 2300 | 4,510 | 159 |
| 6: PM | 2350 | 4,670 | 160 |
| 01-09-11 | 2000-2100 | | |
| 2: PM | 2200 | 4,823 | 153 |
| 3: PM | 2250 | 4,974 | 151 |
| 01-10-11 | 1950-2050 | | |
| 4: PM | 2150 | 5,121 | 147 |
| 5: PM | 2200 | 5,270 | 149 |
| 6: PM | 2200 | 5,422 | 152 |
| 01-12-11 | 1950-2050 | | |
| 10: AM | 2150 | 5,577 | 155 |
| 11: AM | 2250 | 5,733 | 156 |
| 12: PM | 2250 | 5,904 | 171 |
| 1: PM | 2300 | 6,076 | 172 |
| 2: PM | 2300 | 6,248 | 172 |
| 01-14-11 | 1900-2050 | | |
| 9 AM | 2200 | 6,421 | 173 |
| 10 | 2250 | 6,589 | 168 |
| 11 | 2250 | 6,752 | 163 |

Pressure

McTree

BBL PH

12 2300

6905

153

1p 2300

7071

166

2p 2350

7235

164

3 2350

7400

165

4 2350

7566

166

01-15-11 1900 - 2100

11: AM 2250

7733

167

12: PM 2250

7897

164

1: PM 2300

8,062

165

2: PM 2300

8,227

165

3: PM 2350

8,392

165

01-17-11 1850 - 2050

12: PM 2150

8,557

165

1: PM 2250

8,719

162

2: PM 2250

8,881

162

3: PM 2250

9,041

160

4: PM 2300

9,204

163

5: PM 2300

9,370

166

01-19-11 1850 - 2050

12:30 PM 2150

9,531

161

1:30 PM 2250

9,690

159

2:30 PM 2250

9,850

160

3:30 PM 2250

10,008

158

4:30 PM 2300

10,167

159

5:30 PM 2300

10,337

170

6:30 PM 2350

10,507

170

10507

Pressure

Meter

BBW Ph

01-21-11

1950 - 2150

| | | | |
|-------|------|-------|-----|
| 10 AM | 2200 | 10674 | 162 |
| 11 | 2250 | 10838 | 164 |
| 12 | 2250 | 11001 | 163 |
| 1 PM | 2300 | 11166 | 165 |
| 2 | 2300 | 11331 | 165 |
| 3 | 2300 | 11496 | 165 |
| 4 | 2350 | 11662 | 166 |

01-22-11

2000 - 2150

| | | | |
|--------|------|--------|-----|
| 11: AM | 2250 | 11,828 | 166 |
| 12: PM | 2250 | 11,990 | 162 |
| 1: PM | 2300 | 12,149 | 159 |
| 2: PM | 2300 | 12,307 | 158 |
| 3: PM | 2350 | 12,465 | 158 |
| 4: PM | 2350 | 12,625 | 160 |

01-23-11

2000 - 2150

| | | | |
|-------|------|--------|-----|
| 2: PM | 2250 | 12,789 | 164 |
| 3: PM | 2250 | 12,951 | 162 |
| 4: PM | 2300 | 13,116 | 165 |

01-25-11

1900 - 2100

| | | | |
|--------|------|--------|-----|
| 12: PM | 2200 | 13,298 | 182 |
| 1: PM | 2250 | 13,480 | 182 |
| 2: PM | 2250 | 13,644 | 164 |
| 3: PM | 2300 | 13,805 | 161 |
| 4: PM | 2300 | 13,965 | 160 |
| 5: PM | 2350 | 14,129 | 164 |

14,129

Pressure

Meter

Bbls Per.

01-27-11 1950 - 2150

3:30pm 2250

14282

153

4:30pm 2250

14452

170

1-28-11 1950 - 2100

10AM 2200

14624

172

11 2250

14796

172

12 2250 pump OFF power surge 14906

110

1pm 2250

15073

167

2pm 2300

15239

166

3pm 2300

15415

176

7pm 2300

15585

170

5pm 2350

15757

172

-29-11 1950 - 2100

11 AM 2250

15930

173

12 PM 2250

16,104

174

1 PM 2300

16,280

176

2 PM 2300

16,456

176

3 PM 2350

16633

177

4 PM 2350

16810

177

5 PM 2350

16,989

179

02-01-11 1900-

10:AM 2200

175

175

11:AM 2200

359

182

12: PM 2250

538

181

1: PM 2250

720

182

2: PM

14,129

Pressure

Meter

BBls Per.

01-27-11 1950 - 2150

3:30pm 2250

14282

153

4:30pm 2250

14452

170

1-28-11 1950 - 2100

10 AM 2200

14624

172

11 2250

14796

172

12 2250 pump off power surge 14906

110

1pm 2250

15073

167

2pm 2300

15239

166

3pm 2300

15415

176

7pm 2300

15585

170

5pm 2350

15757

172

01-29-11 1950 - 2100

11 AM 2250

15930

173

12 PM 2250

16,104

174

1 PM 2300

16,280

176

2 PM 2300

16,456

176

3 PM 2350

16633

177

4 PM 2350

16810

177

5 PM 2350

16989

179

02-01-11 1900-

10 AM 2200

175

175

11 AM 2200

357

182

12 PM 2250

538

181

1 PM 2250

720

182

2 PM

720

| | Pressure | Meter | BBLs Per Hr |
|----------|-----------|-------|-------------|
| 02-02-11 | 1950-2050 | | |
| 1: PM | 2100 | 911 | 191 |
| 2: PM | 2150 | 1097 | 186 |
| 3: PM | 2200 | 1286 | 189 |
| 4: PM | 2250 | 1472 | 186 |
| 5: PM | 2250 | 1658 | 186 |
| 6 pm | 2300 | 1843 | 185 |
| 7 pm | 2300 | 2030 | 187 |
| 8 pm | 2300 | 2210 | 180 |
| 02-03-11 | 1900-2100 | | |
| 9: AM | 2150 | 2393 | 183 |
| 10: AM | 2250 | 2574 | 181 |
| 11: AM | 2250 | 2755 | 181 |
| 12: PM | 2250 | 2937 | 182 |
| 1: PM | 2300 | 2129 | 192 |
| 2: PM | 2300 | 3320 | 191 |
| 3: PM | 2350 | 3524 | 204 |
| 02-04-11 | 1900-2050 | | |
| 11: AM | 2150 | 3726 | 202 |
| 12: PM | 2200 | 3923 | 197 |
| 1: PM | 2250 | 4120 | 197 |
| 2: PM | 2250 | 4317 | 197 |

4,317

Pressure

Meter

BBLs Per Hr.

02-07-11 1900-2050

11: AM 2150

4,504

187

12: PM 2200

4,691

187

1: PM 2250

4,850

159

2: PM 2250

5,036

186

3: PM 2250

5,219

183

02-09-11 1900-2050

10: AM 2150

5,411

192

11: AM 2200

5,602

191

12: PM 2250

5,798

196

1: PM 2250

5,996

198

2: PM 2250

6,194

198

3: PM 2300

6,392

198

4: PM 2300

6,589

197

02-10 1950 - 2100

1p- 2200

6,806

217

2p- 2250

7,007

201

3p- 2250

7,204

197

4p- 2250

7,403

199

02-11 1950 - 2100

11A- 2200

7,601

198

12 2250

7,785

184

1p- 2250

7,990

205

2p- 2250

8,187

197

3p- 2300

8,383

196

8383

Pressure

Meter

800's Air f Air

02-14-11

1900-2100

12: PM

2150

8576

193

1: PM

2200

8,767

191

2: PM

2250

8959

192

3: PM

2250

9,157

198

4: PM

2250

9,367

210

02-15-11

1900-2050

3: PM

2150

9,572

205

4: PM

2250

9772

200

5: PM

2250

9974

202

02-16-11

1900-2100

12: PM

2150

10,168

194

1: PM

2200

10,356

188

2: PM

2250

10,543

187

3: PM

2250

10,721

178

4: PM

2250

10,892

171

5: PM

2300

11,061

169

02-17-11

1950-2150

1 pm

2200

11248

187

2 pm

2250

11423

175

3 pm

2250

11598

175

4 pm

2300

11771

173

02-18-11

1950-2150

12

2250

11947

176

1 pm

2250

12119

172

2 pm

2250

12288

169

Pressure

Meter

BBL PH

3pm 2300

12458

170

4pm 2300

12628

170

5pm 2300

12799

171

02-19-11 1950 - 2150

10:AM 2200

12,973

174

11:AM 2250

13,144

171

12:PM 2250

13,315

171

1:PM 2300

13,486

171

2:PM 2300

13,657

171

3:PM 2300

13,825

168

4:PM 2300

13,987

162

5:PM 2350

14,151

164

02-20-11 1950 - 2150

11:AM 2250

14,321

170

12:PM 2250

14,485

164

1:PM 2300

14,651

166

2:PM 2300

14,818

167

3:PM 2300

14,987

169

4:PM 2300

15,157

170

5:PM 2300

15,322

165

02-21 1950 - 2150

10:30AM 2250

15504

182

11:30 2300

15678

174

12:30P 2350

15,849

171

30 2350

16,005

156

2:30 2350

16,129

124

16,129

| 02-21-11 | Pressure | Meter | BBLs | AP |
|----------|-------------|--------|------|----|
| 3:30 | 2350 | 16,300 | 171 | |
| 4:30 | 2350 | 16,469 | 169 | |
| 02-22-11 | 1950 - 2200 | | | |
| 8: AM | 2250 | 16,640 | 171 | |
| 9: AM | 2300 | 16,804 | 164 | |
| 10: AM | 2300 | 16,968 | 164 | |
| 11: AM | 2350 | 17,132 | 164 | |
| 12: PM | 2350 | 17,228 | 96 | |
| 1: PM | 2350 | 17,399 | 171 | |
| 2: PM | 2350 | 17,570 | 171 | |
| 3: PM | 2350 | 17,743 | 173 | |
| 4: PM | 2350 | 17,915 | 172 | |
| 5: PM | 2350 | 18,091 | 176 | |
| 02-23-11 | 2000 - 2150 | | | |
| 9 AM | 2250 | 18,268 | 177 | |
| 10 | 2300 | 18,443 | 175 | |
| 11 | 2300 | 18,619 | 176 | |
| 12 | 2350 | 18,792 | 173 | |
| 1 PM | 2350 | 18,964 | 172 | |
| 2 PM | 2350 | 19,140 | 176 | |
| 3 PM | 2350 | 19,315 | 175 | |
| 4 PM | 2350 | 19,486 | 171 | |
| 5 PM | 2400 | 19,545 | 59 | |
| 2-24-11 | 2000 - 2200 | | | |
| 8 AM | 2250 | 19,686 | 141 | |
| 9 AM | 2250 | 19,856 | 170 | |

19,856

02-24-11

Pressure

McTec

BBL PH

10 2300

20029

173

11 2350

20203

174

12 2350

20377

174

1pm 2350

20553

176

2 PM 2350

20,728

175

3 PM 2350

20,904

176

4 PM 2350

21078

174

5pm 2350

21252

174

02-25-11 2100-2150

7:30 AM 2250

21417

165

8:30 2300

21594

177

9:30 2300

21772

178

10:30 2350

21952

180

11:30 2350

22128

176

12:30 PM 2350

22276

148

1:30 PM 2400

22410

134

4 PM 2350

22586

176

5pm 2350

22762

176

02-26-11 1950-2150

11:30 AM 2250

22938

176

12:30 PM 2250

23,113

175

1:30 PM 2300

23,289

176

2:30 PM 2300

23,466

177

3:30 PM 2350

23,643

177

4:30 PM 2350

23,823

180

23,823

Pressure

Meter

BBLs per F Ha.

02-27-11

1950-2150

2: PM

2250

24,003

180

3: PM

2250

24,179

176

4: PM

2300

24,355

176

5: PM

2300

24,532

177

02-28-

1950-2100

1:30 PM

2250

24694

162

2:30

2250

24867

173

3:30

2300

25040

173

4:40

2300

25211

171

5:30 PM

2300

25387

176

03-01-11

1950-2150

10:30 AM

2250

176

176

11:30 AM

2250

349

123

12:30 PM

2300

522

173

1:30 PM

2300

696

174

2:30 PM

2350

870

174

3:30 PM

2350

1046

176

4:30 PM

2350

1222

176

5:30 PM

2350

1400

178

03-02-11

1950-2150

8:30 AM

2250

1576

176

9:30 AM

2300

1752

176

10:30 AM

2300

1929

177

2:30 PM

2300

2116

187

3:30 PM

2350

2292

176

23,823

| | Pressure | Meter | BBLs per F.Hr. |
|----------|-----------|--------|----------------|
| 02-27-11 | 1950-2150 | | |
| 2: PM | 2250 | 24,003 | 180 |
| 3: PM | 2250 | 24,179 | 176 |
| 4: PM | 2300 | 24,355 | 176 |
| 5: PM | 2300 | 24,532 | 177 |
| 02-28- | 1950-2100 | | |
| 1:30 PM | 2250 | 24694 | 162 |
| 2:30 | 2250 | 24867 | 173 |
| 3:30 | 2300 | 25040 | 173 |
| 4:40 | 2300 | 25211 | 171 |
| 5:30 PM | 2300 | 25387 | 176 |
| 03-01-11 | 1950-2150 | | |
| 10:30 AM | 2250 | 176 | 176 |
| 11:30 AM | 2250 | 349 | 123 |
| 12:30 PM | 2300 | 522 | 173 |
| 1:30 PM | 2300 | 696 | 174 |
| 2:30 PM | 2350 | 870 | 174 |
| 3:30 PM | 2350 | 1046 | 176 |
| 4:30 PM | 2350 | 1222 | 176 |
| 5:30 PM | 2350 | 1400 | 178 |
| 03-02-11 | 1950-2150 | | |
| 8:30 AM | 2250 | 1576 | 176 |
| 9:30 AM | 2300 | 1752 | 176 |
| 10:30 AM | 2300 | 1929 | 177 |
| 2:30 PM | 2300 | 2116 | 187 |
| 3:30 PM | 2350 | 2292 | 176 |

2292

| 03-02-11 | Pressure | Meter | BBLs Per Hr. |
|--------------------------------|----------|-------|--------------------|
| 4:30pm | 2350 | 2466 | 174 |
| 5:30pm | 2400 | 2658 | 192 |
| 03-03 2000 - 2150 | | | |
| 8AM | 2250 | 2855 | 197 |
| 9 | 2350 | 3029 | 174 |
| 10 | 2350 | 3199 | 170 |
| 11 | 2350 | 3370 | 171 |
| 12 | 2350 | 3540 | 173 |
| 1pm | 2350 | 3717 | 174 |
| Pump Down 1pm Restarted AT 2pm | | | |
| 3pm | 2350 | 3929 | 212 |
| 4 | 2350 | 4095 | 166 |
| 03-04 2000 - 2150 | | | |
| 9AM | 2250 | 4274 | 178 179 |
| 10 | 2300 | 4449 | 175 |
| 11 | 2300 | 4624 | 175 |
| 12 | 2350 | 4801 | 177 |
| 1pm | 2350 | 4986 | 185 |
| 2 | 2350 | 5170 | 184 |
| 3 | 2350 | 5356 | 186 |
| 03-05-11 2000 - 2150 | | | |
| 9:30AM | 2250- | 5548 | 192 |
| 10:30AM | 2300 | 5739 | 191 |
| 11:30AM | 2350 | 5932 | 193 |
| 12:30PM | 2350 | 6125 | 193 |
| 1:30PM | 2350 | 6318 | 193 |

6318

| | Pressure | Meter | BBLS Per Hr |
|----------|---------------|-------|-------------|
| 03-05-11 | 2:30 PM 2350 | 6513 | 195 |
| | 3:30 PM 2350 | 6707 | 194 |
| | 4:30 PM 2350 | 6901 | 194 |
| | 5:30 PM 2350 | 7099 | 198 |
| 03-06-11 | 2000-2150 | | |
| | 10:30 AM 2250 | 7298 | 199 |
| | 11:30 AM 2300 | 7493 | 195 |
| | 12:30 PM 2350 | 7688 | 195 |
| | 1:30 PM 2350 | 7883 | 195 |
| | 2:30 PM 2350 | 8079 | 196 |
| | 3:30 PM 2350 | 8277 | 198 |
| 03-07-11 | 2000-2150 | | |
| | 2: PM 2250 - | 8480 | 203 |
| | 3: PM 2300 | 8679 | 199 |
| | 4: PM 2300 | 8882 | 203 |
| 03-09-11 | 1950-2050 | | |
| | 1: PM 2200 | 9090 | 208 |
| | 2: PM 2250 | 9290 | 200 |
| | 3: PM 2300 | 9490 | 200 |
| | 4: PM 2300 | 9692 | 202 |
| 03-10-11 | 1950-2100 | | |
| | 12 2250 | 9904 | 212 |
| | 1 PM 2250 | 10102 | 198 |
| | 2 2300 | 10302 | 200 |
| | 3 2310 | 10492 | 190 |

10492

Pressure

Meter

BBLPH

03-11-11 1950 - 2100

1pm 2200

10693

2pm 2250

10890

3pm 2300

11078

4pm 2300

11267

03-13-11 1900 - 2050

10:AM 2200

11448

11:AM 2250

11629

12:PM 2250

11808

1:PM 2300

11988

1:30 PM 2300

12078

03 15-11 1800 - 2050

8:AM 2150

12257

9:AM 2250

12432

10:AM 2250

12607

11:AM 2300

12782

12:PM 2300

12958

1:PM 2300

13135

03-16-11 1900 - 2050

9:30am 2250

13312

10:30 2250

13487

12:30pm 2300

13662

1:30 2300

13837

2 PM 2300

13931

201

197

188

189

181

181

179

180

90

179

175

175

175

176

177

177

175

175

175

94

13931

| | Pressure | McTec | DBCPA |
|----------|---------------------|--------|-------|
| 03-17-11 | 1900 - 2050 | | |
| 9:30 AM | 2250 | 14116 | 185 |
| 10:30 | 2300 | 14292 | 176 |
| 11:30 | 2300 | 14470 | 178 |
| 12:30 | 2300 | 14646 | 176 |
| 1:30 PM | 2300 | 14824 | 178 |
| 2:30 | 2350 | 14999 | 175 |
| 3:30 PM | 2350 | 15175 | 176 |
| 03-18-11 | 2000 - 2150 | | |
| 9:30 AM | 2250 | 15354 | 179 |
| 10:30 | 2300 | 15533 | 179 |
| 11:30 | 2300 | 15708 | 175 |
| 12:30 PM | 2300 | 15884 | 176 |
| 1:30 | 2350 | 16057 | 173 |
| 2:30 | 2350 | 16235 | 178 |
| 3:30 | 2350 | 16414 | 179 |
| 03-19-11 | 1900 - 2150 | | |
| 11: AM | 2250 | 16592 | 178 |
| 12: PM | 2300 | 16767 | 175 |
| 1: PM | 2300 | 16943 | 176 |
| 2: PM | 2350 | 17,118 | 175 |
| 3: PM | 2350 | 17,293 | 175 |
| 03-20-11 | 1950 - 2150 - 2:200 | | |
| 2: PM | 2250 | 17,472 | 179 |
| 3: PM | 2300 | 17,648 | 176 |
| 4: PM | 2300 | 17,825 | 177 |
| 5: PM | | | |

17,825

Pressure

Meter

BBLs Per Hr.

03-21-11 1900-2100

2: PM 2200

18,003

178

3: PM 2250

18,181

178

4: PM 2300

18,358

177

5: PM 2300

18,536

178

03-22-11 1900-2100

1:30 PM 2200

18,712

176

2:30 PM 2250

18,888

176

3:30 PM 2300

19,063

175

4:30 PM 2300

19,239

176

03-23-11 1900-2100

8 AM 2250

19,411

172

9: AM 2300

19,586

175

10: AM 2300

19,761

175

11: AM 2300

19,934

173

12: AM 2350

20,107

173

1: PM 2350

20,281

174

2: PM 2350

20,455

174

3: PM 2350

20,630

175

4: PM 2350

20,806

176

03-24-11 2000-2150-2200

10A 2250

20,988

182

11 2300

21,169

181

3:30 PM 2250

21,313

144

4:30 PM 2300

21,484

171

21484

Pressure

McTee

BBL PH

03-25-11 1950-2150

| | | | |
|---------|--------------------|-------|-----|
| 11 AM | 2250 | 21663 | 179 |
| 12 | 2300 | 21836 | 173 |
| 1 PM | 2350 | 22009 | 173 |
| 2 PM | 2350 | 22184 | 175 |
| 3 PM | 2350 | 22359 | 175 |
| 3:30 PM | 2400 High pressure | 22495 | 136 |

03-26-11 1950-2150

| | | | |
|---------|------|--------|-----|
| 8: AM | 2250 | 22,672 | 177 |
| 9: AM | 2300 | 22,849 | 177 |
| 10: AM | 2300 | 23,023 | 174 |
| 11: AM | 2350 | 23,199 | 176 |
| 12: PM | 2350 | 23,373 | 174 |
| 1: PM | 2350 | 23,546 | 173 |
| 2: PM | 2350 | 23,719 | 173 |
| 2:30 PM | 2350 | 23,808 | 89 |

03-27-11 1950-2150

| | | | |
|-------|------|--------|-----|
| 1: PM | 2250 | 23,984 | 176 |
| 2: PM | 2300 | 24,160 | 176 |
| 3: PM | 2300 | 24,334 | 174 |
| 4: PM | 2300 | 24,507 | 173 |
| 5: PM | 2350 | 24,682 | 175 |

03-28-11 1850-2050

| | | | |
|--------|------|--------|-----|
| 11: AM | 2200 | 24,856 | 174 |
| 12: PM | 2250 | 25,025 | 169 |
| 1: PM | 2250 | 25,196 | 171 |

25,196

03-29-11

Pressure

Meter

Bbls Per Hr.

2: 2300

25,366

170

3: 2300

25,537

171

4: PM 2300

25,808

171

5: PM 2350

25,881

173

03-30-11 1950 - 2100

1:30: 2200

26,054

173

2:30 2250

26,224

170

3:30 2300

26,394

170

4:30 2300

26,565

171

03-31-11 1950 - 2100

1 PM 2200

26,727

162

2 2250

26,900

173

3 2300

27,074

174

4 PM 2300

27,248

174

04-1-11 1950 - 2100

2:30 PM 2200

27,430

182

3:30 2250

27,603

173

4:00 2400 High Pressure

27,684

81

04-02-11 1900 - 2100

10:30 AM 2200

174

174

11:30 AM 2250

346

172

12:30 PM 2300

518

172

1:30 PM 2300

694

176

2:30 PM 2300

868

174

3:30 PM 2350

1,042

174

4:00 PM 2350

1,130

88

5:00

25,196

03-29-11

Pressure

Meter

Bbls Per Hr.

2: 2300

25,366

170

3: 2300

25,537

171

4: PM 2300

25,708

171

5: PM 2350

25,881

173

03-30-11 1950 - 2100

1:30 2200

26,054

173

2:30 2250

26,224

170

3:30 2300

26,394

170

4:30 2300

26,565

171

03-31-11 1950 - 2100

1 PM 2200

26,727

162

2 2250

26,900

173

3 2300

27,074

174

4 PM 2300

27,248

174

04-1-11 1950 - 2100

2:30 PM 2200

27,430

182

3:30 2250

27,603

173

4:00 2400 High Pressure

27,684

81

04-02-11 1900 - 2100

10:30 AM 2200

174

174

11:30 AM 2250

346

172

12:30 PM 2300

518

172

1:30 PM 2300

694

176

2:30 PM 2300

868

174

3:30 PM 2350

1,042

174

4:00 PM 2350

1,130

88

5:00

1130

| | Pressure | Meter | Bbls ^{per Hr} |
|----------|-----------|------------|------------------------|
| 04-03-11 | 1950-2100 | | |
| 1: PM | 2250 | 1,308 | 178 |
| 2: PM | 2250 | 1,484 | 176 |
| 3: PM | 2300 | 1,659 | 175 |
| 4: PM | 2300 | 1,834 | 175 |
| 5: PM | 2300 | 2,010 | 176 |
| 04-04-11 | 1950-2100 | | |
| 1: PM | 2200 | 2,187 | 177 |
| 2: PM | 2250 | 2,361 | 174 |
| 3: PM | 2300 | 2,535 | 174 |
| 4: PM | 2300 | 2,713 | 178 |
| 04-05-11 | 1950 | NO PUMPING | |
| 04-06-11 | 1850 | NO PUMPING | |
| 04-07-11 | 1850-2000 | | |
| 11 AM | 2200 | 2900 | 187 |
| 12 | 2250 | 3087 | 187 |
| 1 pm | 2250 | 3269 | 182 |
| 2 pm | 2300 | 3449 | 180 |
| 3 pm | 2300 | 3629 | 180 |
| 04-08-11 | 1950-2050 | | |
| 1 pm | 2150 | 3817 | 188 |
| 2 pm | 2250 | 4004 | 187 |
| 3 pm | 2300 | 4186 | 182 |
| 4 pm | 2300 | 4360 | 174 |

4,360

Pressure

Meter

BBLs Per Hr

04-09-11 1950 - 2100

9: AM 2250

4,542

182

10: AM 2250

4,724

182

11: AM 2300

4,904

180

12: PM 2300

5,081

177

1: PM 2300

5,255

174

2: PM 2350

5,429

174

3: PM 2350

5,602

173

4: PM 2350

5,777

175

04-10-11 1950 - 2100

4: PM 2250

5,956

179

5: PM 2250

6,135

179

04-11-11 1900 - 2050

1 PM 2250

6308

173

2 PM 2250

6479

171

3 PM 2400 High pressure 6682

203

04-12-11 1950 - 2200

8:30 AM 2250

6860

178

9:30 AM 2250

7,035

175

10:30 AM 2300

7,211

176

11:00 AM 2400

7,326

115

04-13-11 1900 - 2200

8:30 AM 2200

7,482

156

9:30 AM 2250

7,663

181

10:30 AM 2300

7,846

183

11:30 AM 2250

~~7,846~~
8034

180

8034

HA:

Pressure

Meter

BOLs Per

| | Pressure | Meter | BOLs Per |
|----------|--------------------|--------|----------|
| 4-14-11 | 1950 - 2150 | | |
| 8:30 AM | 2200 | 8235 | 201 |
| 9:30 | 2250 | 8436 | 201 |
| 10:30 | 2300 | 8624 | 188 |
| 11:30 | 2350 | 8811 | 187 |
| 2:00 PM | 2400 High Pressure | 8906 | 95 |
| 04-15-11 | 1950 - 2150 | | |
| 8 AM | 2200 | 9095 | 189 |
| 9 | 2300 | 9280 | 185 |
| 10 | 2300 | 9467 | 187 |
| 11 | 2350 | 9654 | 187 |
| 11:30 | 2400 High pressure | 9772 | 118 |
| 4-16-11 | 1950 - 2150 | | |
| 9:4 AM | 2250 | 9957 | 185 |
| 10: AM | 2300 | 10,142 | 185 |
| 11: AM | 2300 | 10,327 | 185 |
| 11:30 AM | 2350 | 10,423 | 96 |
| 04-17-11 | 1950 - 2150 | # | |
| 12:30 PM | 2250 | 10,618 | 195 |
| 1:30 PM | 2250 | 10,810 | 192 |
| 2:30 PM | 2300 | 11,002 | 192 |
| 3:30 PM | 2300 | 11,194 | 192 |
| 4:30 PM | 2350 | 11,387 | 193 |

11,387

| | Pressure | Meter | Bbls Per Hr |
|----------|--------------------|--------|-------------|
| 04-18-11 | 1950 - 2150 | | |
| 9:AM | 2250 | 11,594 | 207 |
| 10:AM | 2300 | 11,793 | 199 |
| 11:AM | 2300 | 11,993 | 200 |
| 12:PM | 2350 | 12,200 | 202 |
| 1:PM | 2350 | 12,410 | 210 |
| 2:PM | 2400 High Pressure | 12,620 | 220 |
| 04-20-11 | 1900 - 2250 | | |
| 11:AM | 2200 | 12,876 | 246 |
| 12:PM | 2250 | 13,089 | 213 |
| 1:PM | 2300 | 13,287 | 198 |
| 04-21-11 | 1900 - 2150 | | |
| 11:AM | 2300 | 13,417 | 130 |
| 12:AM | | | |
| 1:AM | | | |
| 2:AM | | | |
| 05-11-11 | | | |
| 9am | 2000 | 54 | 54 |
| 10am | 2000 | 109 | 55 |
| 11 | 2000 | 172 | 63 |
| 12pm | 2000 | 246 | 74 |
| 1 | 2000 | 322 | 76 |
| 2pm | 2050 | 398 | 76 |
| 3 | 2100 | 472 | 74 |
| 4 | 2150 | 546 | 74 |

11,387

| | Pressure | Meter | Bbls Per Hr |
|----------|--------------------|--------|-------------|
| 04-18-11 | 1950 - 2150 | | |
| 9:AM | 2250 | 11,594 | 207 |
| 10:AM | 2300 | 11,793 | 199 |
| 11:AM | 2300 | 11,993 | 200 |
| 12:PM | 2350 | 12,200 | 207 |
| 1:PM | 2350 | 12,410 | 210 |
| 2:PM | 2400 High Pressure | 12,620 | 220 |
| 04-20-11 | 1900 - 2250 | | |
| 11:AM | 2200 | 12,876 | 246 |
| 12:PM | 2250 | 13,089 | 213 |
| 1:PM | 2300 | 13,287 | 198 |
| 04-21-11 | 1900 - 2150 | | |
| 11:AM | 2300 | 13,417 | 130 |
| 12:AM | | | |
| 1:AM | | | |
| 2:AM | | | |
| 05-11-11 | | | |
| 9am | 2000 | 54 | 54 |
| 10am | 2000 | 109 | 55 |
| 11 | 2000 | 172 | 63 |
| 12pm | 2000 | 246 | 74 |
| 1 | 2000 | 322 | 76 |
| 2pm | 2050 | 398 | 76 |
| 3 | 2100 | 472 | 74 |
| 4 | 2150 | 546 | 74 |

546

BBLs per Hr.

Pressure Meter

05-16-11

1850 - 2050

8: AM 2100 686 140

9: AM 2150 826 140

10: AM 2200 994 168

11: AM 2250 1163 169

05-17-11

1800 - 2050

12: PM 2150 1325 162

1: PM 2200 1485 160

2: PM 2250 1642 157

3: PM 2250 1803 161

4: PM 2300 1965 162

05-18-11

1850 - 2050

12 PM 2200 2133 168

1 PM 2250 2296 163

2 PM 2300 2459 163

05-19-11

1850 - 2050

11: AM 2200 2631 172

12: PM 2300 2798 167

1: PM 2350 2968 170

05-20-11

1850 - 2150

12: PM 2250 3139 171

1: PM 2300 3310 171

2: PM 2300 3479 169

3: PM

4: PM

3479

| | Pressure | McTer | BBL pk |
|----------|--------------------|-------|--------|
| 05/27/11 | 1800 - 2050 | | |
| 12 | 2150 | 3660 | 181 |
| 1p | 2250 | 3832 | 172 |
| 2 | 2300 | 4,004 | 172 |
| 05-27-11 | 1800 - 2050 | | |
| 10:30 | 2200 | 4,172 | 168 |
| 11:30 | 2400 High Pressure | 4,319 | 147 |
| 05-31-11 | 1750 - 2050 | | |
| 11:AM | 2150 | 4,488 | 169 |
| 12:PM | 2250 | 4,659 | 171 |
| 1:PM | 2250 | 4,831 | 172 |
| 2:PM | 2300 | 5,004 | 173 |
| 3:PM | 2350 | 5,178 | 174 |
| 06-1 | 1800 - 2100 | | |
| 1p | 2250 | 176 | 176 |
| 2 | 2250 | 352 | 176 |
| 3 | 2300 | 524 | 172 |
| 4 | 2350 | 696 | 172 |
| 06-09-11 | 1800 - 1950 | | |
| 9:AM | 2150 | 866 | 170 |
| 10:AM | 2200 | 1036 | 170 |
| 11:AM | 2250 | 1203 | 167 |
| 12:PM | 2250 | 1371 | 168 |
| 06-10-11 | 1800 - 1950 | | |
| 2:AM | 2150 | 1,545 | 174 |
| 3:PM | 2200 | 1,717 | 172 |
| 4:PM | 2250 | 1,888 | 171 |

3479

Pressure

Meter

BBL PH

05/28/11 1800-2050

12 2150

3660

181

1pm 2250

3832

172

2 2300

4,004

172

05-27-11 1800-2050

10:30 2200

4,172

168

11:30 2400 High Pressure

4,319

147

05-31-11 1750-2050

11:AM 2150

4,488

169

12:PM 2250

4,659

171

1:PM 2250

4,831

172

2:PM 2300

5,004

173

3:PM 2350

5,178

174

06-1 1800-2100

1pm 2250

176

176

2 2250

352

176

3 2300

524

172

4 2350

696

172

06-09-11 1800-1950

9:AM 2150

866

170

10:AM 2200

1036

170

11:AM 2250

1203

167

12:PM 2250

1371

168

06-10-11 1800-1950

2:AM 2150

1,545

174

3:PM 2200

1,717

172

4:PM 2250

1,888

171

1888

BBL₂ Per HA

Pressure

Meter

06-13-11

1800 - 1950

| | | | |
|-------|------|-------|-----|
| 2: PM | 2050 | 2,061 | 173 |
| 3: PM | 2150 | 2,234 | 173 |
| 4: PM | 2250 | 2,407 | 173 |

06-16-11

1750 - 1900

| | | | |
|--------|------|-------|-----|
| 12: PM | 2100 | 2,583 | 176 |
| 1: PM | 2150 | 2,758 | 175 |
| 2: PM | 2200 | 2,933 | 175 |
| 3: PM | | | |

06-20-11

1700 - 1900

| | | | |
|--------|------|-------|-----|
| 12: PM | 2100 | 3,111 | 178 |
| 1: PM | 2150 | 3,301 | 190 |
| 2: PM | 2200 | 3,462 | 161 |
| 3: PM | 2250 | 3,638 | 176 |
| 4: PM | 2250 | 3,812 | 174 |

06-24-11

1700 - 1900

| | | | |
|--------|------|-------|-----|
| 9: AM | 2100 | 3,965 | 153 |
| 10: AM | 2200 | 4,116 | 151 |
| 11: AM | 2250 | 4,267 | 151 |
| 12: PM | 2300 | 4,418 | 151 |

06-27-11

1750 - 1950

| | | | |
|-------|------|-------|-----|
| 1: PM | 2150 | 4,568 | 150 |
| 2: PM | 2200 | 4,717 | 149 |
| 3: PM | 2250 | 4,866 | 149 |

4866

| | Pressure 1750-1950 | Meter | BBLs Per Hr. |
|---|-----------------------|------------------|----------------|
| | 10: 2150 | 5032 | 166 |
| | 11: 2200 | 5181 | 149 |
| | 12: 2200 | 5330 | 149 |
| | 1: 2250 | 5479 | 149 |
| | 2: 2250 | 5628 | 149 |
| | 3: 2250 | 5778 | 150 |
| | 4: 2350 | 5927 | 149 |
| 07-01-11 1850-2000 | | | |
| | 1:PM 2200 | 150 | 150 |
| | 2:PM 2250 | 296 | 146 |
| | 3:PM 2250 | 446 | 150 |
| 07-08-11 1700-1900 | | | |
| | 12:PM 2100 | 600 | 154 |
| | 1:PM 2200 | 751 | 151 |
| | 2:PM 2200 | 902 | 151 |
| | 3:PM 2400 | 1003 | 101 |
| 07-11-11 1750-1900 | | | |
| | 12:PM 2150 | 1,155 | 152 |
| | 1:PM 2200 | 1,303 | 148 |
| | 2:PM 2200 | 1,451 | 148 |
| | 3:PM 2250 | 1,599 | 148 |
| | 4:PM 2250 | 1,748 | 149 |
| 07-13-11 1800-1900 1800-1900 | | | |
| | 12PM 2150 | 1,898 | 150 |
| | 2PM 2200 | 1898 | 150 |
| | 3PM 2250 | 2045 | 147 |
| | 4:PM 2300 | 2192 | 147 |
| | | 2339 | 147 |

4866

| | Pressure 1750-1950 | Metes | BBLs Per Hr. |
|------------------------------------|-----------------------|------------------|----------------|
| 10: | 2150 | 5032 | 166 |
| 11: | 2200 | 5781 | 149 |
| 12: | 2200 | 5330 | 149 |
| 1: | 2250 | 5479 | 149 |
| 2: | 2250 | 5628 | 149 |
| 3: | 2250 | 5778 | 150 |
| 4: | 2350 | 5927 | 149 |
| 07-01-11 1850-2000 | | | |
| 1:PM | 2200 | 150 | 150 |
| 2:PM | 2250 | 296 | 146 |
| 3:PM | 2250 | 446 | 150 |
| 07-08-11 1700-1900 | | | |
| 12:PM | 2100 | 600 | 154 |
| 1:PM | 2200 | 751 | 151 |
| 2:PM | 2200 | 902 | 151 |
| 3:PM | 2400 | 1003 | 101 |
| 07-11-11 1750-1900 | | | |
| 12:PM | 2150 | 1,155 | 152 |
| 1:PM | 2200 | 1,303 | 148 |
| 2:PM | 2200 | 1,451 | 148 |
| 3:PM | 2250 | 1,599 | 148 |
| 4:PM | 2250 | 1,748 | 149 |
| 07-13-11 1800-1900 1800 | | | |
| 1:PM | 2150 | 1,898 | 150 |
| 2:PM | 2200 | 2045 | 147 |
| 3:PM | 2250 | 2192 | 147 |
| 4:PM | 2300 | 2339 | 147 |

2,339

Pressure

Meter

BBLs per Hr

07-14-11

1900 - 2050

2: PM

2200

2,489

150

3: PM

2250

2,637

148

4: PM

2250

2,786

149

07-15-11

1900 - 2050

1:30 PM

2200

2,936

150

2:30 PM

2250

3,084

148

3:30 PM

2250

3,232

148

07-18-11

1800 - 1950

1: PM

2150

3,385

153

2: PM

2200

3,537

152

3: PM

2200

3,689

152

4: PM

2250

3,842

153

07-20-11

1850 - 1950

~~8:30 AM~~

2150

3,994

152

~~9:30 AM~~

2150

4,144

150

10:30 AM

2200

4,293

149

11:30 AM

2250

4,441

148

12:30 PM

2250

4,590

149

1:30 PM

2250

4,739

149

2:30 PM

2300

4,888

149

07-21-11

1950 - 2050

1: PM

2150

5,037

149

2: PM

2200

5,183

146

3: PM

2250

5,328

145

4: PM

2250

5,475

142

5475

Pressure

Meter

Bbls Per Hr.

07-25-11 1800 - 1900

9: AM 2100

5,623

148

10: AM 2150

5,769

146

11: AM 2200

5,915

146

12: PM 2250

6,061

146

1: PM 2250

6,208

147

07-26-11 1900 - 2000

2: PM 2150

6,355

147

3: PM 2400

6,427

72

07-27-11 1900 - 2000

~~11: AM~~
11: PM 2150

6,576

149

12: PM 2200

6,720

144

1: PM 2250

6,865

145

2: PM 2250

7,009

144

3: PM 2250

7,154

145

08-18-11 1600 - 1850

10: 30 AM 2000

151

151

11: 30 AM 2050

299

148

12: 30 PM 2100

447

148

1: 30 PM 2150

596

149

08-22-11 1700 - 1800

9: 30 AM 2050

755

159

10: 30 AM 2100

911

156

11: 30 AM 2150

1,066

155

12: 30 PM 2150

1,221

155

1: 30 PM 2200

1,377

156

5475

| | Pressure | Meter | BBLs Per Hr. |
|-------------------|-------------|-------|--------------|
| 07-25-11 | 1800 - 1900 | | |
| 9: AM | 2100 | 5,623 | 148 |
| 10: AM | 2150 | 5,769 | 146 |
| 11: AM | 2200 | 5,915 | 146 |
| 12: PM | 2250 | 6,061 | 146 |
| 1: PM | 2250 | 6,208 | 147 |
| 07-26-11 | 1900 - 2000 | | |
| 2: PM | 2150 | 6,355 | 147 |
| 3: PM | 2400 | 6,429 | 72 |
| 07-27-11 | 1900 - 2000 | | |
| 11: AM | | | |
| 11: PM | 2150 | 6,576 | 149 |
| 12: PM | 2200 | 6,720 | 144 |
| 1: PM | 2250 | 6,865 | 145 |
| 2: PM | 2250 | 7,009 | 144 |
| 3: PM | 2250 | 7,154 | 145 |
| 08-18-11 | 1600 - 1850 | | |
| 10:30 AM | 2000 | 151 | 151 |
| 11:30 AM | 2050 | 299 | 148 |
| 12:30 PM | 2100 | 447 | 148 |
| 1:30: PM | 2150 | 596 | 149 |
| 08-22-11 | 1700-1800 | | |
| 9:30 AM | 2050 | 755 | 159 |
| 10: 3 AM | 2100 | 911 | 156 |
| 11: 30 AM | 2150 | 1,066 | 155 |
| 12: 30 PM | 2150 | 1,221 | 155 |
| 1: 30 PM | 2200 | 1,377 | 156 |

1377

Pressure

Meter

BBLs Prod Ha.

08-23-11

1800-1950

| | | | |
|---------|------|------|-----|
| 1:30 PM | 2100 | 1529 | 152 |
| 2:30 PM | 2150 | 1678 | 149 |
| 3:30 PM | 2200 | 1829 | 151 |

08-30-11

1650-1900

| | | | |
|----------|------|------|-----|
| 12:30 PM | 2050 | 1980 | 151 |
| 1:30 PM | 2000 | 2127 | 147 |
| 2:30 PM | 2150 | 2274 | 147 |
| 3:30 PM | 2150 | 2421 | 147 |
| 4:30 PM | 2200 | 2569 | 148 |

08-31-11

1800-1950

| | | | |
|--------|------|------|-----|
| 9: AM | 2050 | 2718 | 149 |
| 10: AM | 2150 | 2867 | 149 |
| 11: AM | 2200 | 3015 | 148 |
| 12: PM | 2200 | 3162 | 147 |
| 1: PM | 2250 | 3311 | 149 |
| 2: PM | 2250 | 3459 | 148 |
| 3: PM | 2250 | 3608 | 149 |

09-07-11

1700-1800

| | | | |
|---------|------|-----|-----|
| 1:30 PM | 2000 | 152 | 152 |
| 2:30 PM | 2050 | 302 | 150 |
| 3:30 PM | 2100 | 452 | 150 |
| 4:30 PM | 2150 | 586 | 134 |

1377

Pressure

Meter

BBLs Prod Ha.

08-23-11

1800-1950

1:30 PM 2100

1529

152

2:30 PM 2150

1678

149

3:30 PM 2200

1829

151

08-30-11

1650-1900

12:30 PM 2050

1980

151

1:30 PM 2000

2127

147

2:30 PM 2150

2274

147

3:30 PM 2150

2421

147

4:30 PM 2200

2569

148

08-31-11

1800-1950

9: AM 2050

2718

149

10: AM 2150

2867

149

11: AM 2200

3015

148

12: PM 2200

3162

147

1: PM 2250

3311

149

2: PM 2250

3459

148

3: PM 2250

3608

149

09-07-11

1700-1800

1:30 PM 2000

152

152

2:30 PM 2050

302

150

3:30 PM 2100

452

150

4:30 PM 2150

586

134

586

Pressure

Meter

BBls Per Hr.

09-09-11 1700 - 1850

1: PM 2050

742

156

2: PM 2100

892

150

3: PM 2150

1,042

150

4: PM 2150

1,194

152

09-13-11 1600 - 1750

10: AM 2000

1,351

157

11: AM 2050

1,503

152

12: AM 2100

1,655

152

1: PM 2150

1,807

152

2: PM 2150

1,959

152

3: PM 2200

2,110

151

4: PM 2200

2,263

153

09-14-11 1800 - 1950

11:30 AM 2100

2,420

157

12:30 PM 2150

2,573

153

1:30 PM 2150

2,725

152

2:30 PM 2200

2,878

153

09-15-11 1850 - 1950

11: AM 2150

3,036

158

12: PM 2150

3,189

158

1: PM 2200

3,342

153

2: PM 2250

3,496

154

3: PM

4: PM

3496

Pressure

Meter

BBLs per hr

| | Pressure | Meter | BBLs per hr |
|----------|-----------|-------|----------------------------|
| 09-19-11 | 1700-1900 | | |
| 1: PM | 2050 | 3,655 | 159 |
| 2: PM | 2100 | 3,810 | 155 |
| 3: PM | 2150 | 3,964 | 154 |
| 4: PM | 2200 | 4,120 | 156 |
| 09-21-11 | 1800-2000 | | |
| 9: AM | 2050 | 4,275 | 155 |
| 10: AM | 2150 | 4,430 | 155 |
| 11: AM | 2200 | 4,585 | 155 |
| 12: PM | 2200 | 4,737 | 152 |
| 1: PM | 2250 | 4,893 | 156 |
| 09-23-11 | 1750-1950 | | |
| 10: AM | 2050 | 5,048 | 155 |
| 11: AM | 2100 | 5,203 | 155 |
| 12: PM | 2150 | 5,358 | 155 |
| 1: PM | 2200 | 5,513 | 155 |
| 2: PM | 2250 | 5,667 | 154 |
| 3: PM | 2250 | 5,821 | 154 |
| 4: PM | 2250 | 5,975 | 154 |
| 09-28-11 | 1700-1850 | | |
| 1: PM | 2050 | 6,134 | 159 |
| 2: PM | 2100 | 6,250 | High Pressure - off 116 |
| 3: PM | 2150 | 6,404 | 154 |
| 4: PM | 2200 | 6,560 | 156 |

| Pressure | Meter | BBLs Per hr. |
|--------------------|-------|--------------|
| 09-30-11 1700-1900 | 6,560 | |
| 1: PM 2050 | | |
| 2: PM 2150 | 6,718 | 158 |
| 3: PM 2400 | 6,873 | 155 |
| 10-01-11 1800-1950 | 6,992 | 119 |
| 9: AM 2150 | | |
| 10: AM 2150 | 158 | 158 |
| 11: AM 2200 | 312 | 154 |
| 12: PM 2200 | 466 | 154 |
| 1: PM 2250 | 618 | 152 |
| 10-04-11 1700-1900 | 774 | 156 |
| 1: PM 2050 | | |
| 2: PM 2150 | 932 | 158 |
| 3: PM 2200 | 1,087 | 155 |
| 4: PM 2200 | 1,242 | 155 |
| 10-05-11 1800-1950 | 1,398 | 156 |
| 1:30 PM 2150 | | |
| 2:30 PM 2200 | 1,555 | 157 |
| 3:30 PM 2200 | 1,706 | 151 |
| 4:30 PM 2250 | 1,860 | 154 |
| 10-07-11 1800-1950 | 2,017 | 157 |
| 12:30 PM 2100 | | |
| 1:30 PM 2150 | 2,173 | 156 |
| 2:30 PM 2200 | 2,326 | 153 |
| 3:30 PM 2200 | 2,479 | 153 |
| 4:30 PM 2250 | 2,633 | 154 |
| | 2,789 | 156 |

6,560

Pressure

Meter

BBLs Per hr.

09-30-11 1700-1900

1: PM 2050

6,718

158

2: PM 2150

6,873

155

3: PM 2400

6,992

119

10-01-11 1800-1950

9: AM 2150

158

158

10: AM 2150

312

154

11: AM 2200

466

154

12: PM 2200

618

152

1: PM 2250

774

156

10-04-11 1700-1900

11: PM 2050

932

158

2: PM 2150

1,087

155

3: PM 2200

1,242

155

4: PM 2200

1,398

156

10-05-11 1800-1950

1:30 PM 2150

1,555

157

2:30 PM 2200

1,706

151

3:30 PM 2200

1,860

154

4:30 PM 2250

2,017

157

10-07-11 1800-1950

12:30 PM 2100

2,173

156

1:30 PM 2150

2,326

153

2:30 PM 2200

2,479

153

3:30 PM 2200

2,638

154

4:30 PM 2250

2,789

156

2,789

BBLs per Hr.

| | Pressure | | Meter | |
|----------|-----------|---------------|-------|-----|
| 10-11-11 | 1700-1900 | | | |
| 1: PM | 2050 | | 2,941 | 152 |
| 2: PM | 2150 | | 3,089 | 148 |
| 3: PM | 2400 | Pump off H.P. | 3,113 | 24 |
| 4: PM | 2200 | | 3,257 | 144 |
| 5: PM | 2200 | | 3,407 | 150 |
| 10-14-11 | 1700-1900 | | | |
| 12:30 PM | 2050 | | 3,560 | 153 |
| 1:30 PM | 2100 | | 3,711 | 151 |
| 2:30 PM | 2150 | | 3,862 | 151 |
| 3:30 PM | 2200 | | 4,013 | 151 |
| 4:30 PM | 2250 | | 4,166 | 153 |
| 10-18-11 | 1700-1850 | | | |
| 9: AM | 2050 | | 4,323 | 157 |
| 10: AM | 2100 | | 4,475 | 152 |
| 11: AM | 2150 | | 4,626 | 151 |
| 12: PM | 2200 | | 4,780 | 154 |
| 10-25-11 | 1600-1750 | | | |
| 9: AM | 2050 | | 4,936 | 156 |
| 10: AM | 2100 | | 5,088 | 152 |
| 11: AM | 2150 | | 5,240 | 152 |
| 12: PM | 2200 | | 5,394 | 154 |
| 1: PM | 2250 | | 5,549 | 155 |
| 2: PM | 2350 | | 5,706 | 157 |

5,706

Pressure

Meter

BBLs Per Hr.

10-28-11 1750-2050

1: PM 2250

5,860

154

2: PM 2300

6,009

149

3: PM 2300

6,161

152

4: PM 2350

6,314

153

11-01-11 1750-2050

2: PM 2200

154

154

3: PM 2250

308

154

4: PM 2300

459

151

5: PM 2350

610

151

11-02-11 1850-2200

1: PM 2250

760

150

2: PM 2350

910

150

3: PM 2400 CASING 0

1,071

161

11-03-11 1900-2050

12: PM 2150

1,224

153

1: PM 2200

1,375

151

2: PM 2250

1,526

151

3: PM 2250

1,678

152

4: PM 2300 CASING 0

1,832

154

11-08-11 1750-1900

12: PM 2100

1,989

157

1: PM 2150

2,142

153

2: PM 2200

2,293

151

3: PM 2200 CASING 0

2,446

153

5,706

Pressure Meter BBLs Per Hr.

10-28-11 1750-2050

1:PM 2250 5860 154

2:PM 2300 6,009 149

3:PM 2300 6,161 152

4:PM 2350 6,314 153

11-01-11 1750-2050

2:PM 2200 154 154

3:PM 2250 308 154

4:PM 2300 459 151

5:PM 2350 610 151

11-02-11 1850-2200

1:PM 2250 760 150

2:PM 2350 910 150

3:PM 2400 CASING 0 1,071 161

11-03-11 1900-2050

12:PM 2150 1,224 153

1:PM 2200 1,375 151

2:PM 2250 1,526 151

3:PM 2250 1,678 152

4:PM 2300 CASING 0 1,832 154

11-08-11 1750-1900

12:PM 2100 1,989 157

1:PM 2150 2,142 153

2:PM 2200 2,293 151

3:PM 2200 CASING 0 2,446 153

2,446

BBls PR Ha.

| | Pressure | Meter | BBls |
|----------|---------------|-------|------|
| 11-10-11 | 1700 - 1900 | | |
| 10: AM | 2100 | 2,601 | 155 |
| 11: AM | 2150 | 2,751 | 150 |
| 12: PM | 2200 | 2,901 | 150 |
| 1: PM | 2250 | 3,050 | 149 |
| 2: PM | 2250 | 3,200 | 150 |
| 3: PM | 2250 | 3,348 | 148 |
| 4: PM | 2300 | 3,497 | 149 |
| 5: PM | 2300 casing @ | 3,650 | 153 |

11-11-11 1900 - 2050

| | | | |
|--------|---------------|-------|-----|
| 11: AM | 2200 | 3,803 | 153 |
| 12: PM | 2250 | 3,952 | 149 |
| 1: PM | 2250 | 4,103 | 151 |
| 2: PM | 2300 | 4,253 | 150 |
| 3: PM | 2300 casing @ | 4,406 | 153 |

11-16-11 1700 - 1900

| | | | |
|--------|------|-------|-----|
| 9: AM | 2100 | 4,561 | 155 |
| 10: AM | 2150 | 4,711 | 150 |
| 11: AM | 2200 | 4,862 | 151 |
| 12: PM | 2200 | 5,012 | 150 |
| 1: PM | 2250 | 5,163 | 151 |
| 2: PM | 2250 | 5,314 | 151 |
| 3: PM | 2300 | 5,467 | 153 |

5,467

Pressure

Meter

BBLs Per Hr.

11-18-11 1850-2000

12: PM 2,150

5,622

155

1: PM 2,000

5,773

151

2: PM 2,250

5,924

151

3: PM 2,250

6,075

151

4: PM 2,250

6,226

151

11-22-11 1750-1950

10: AM 2,150

6,381

155

11: AM 2,200

6,531

150

12: PM 2,200

6,681

150

1: PM 2,250

6,830

149

2: PM 2,250

6,979

149

3: PM 2,300

7,130

151

11-28-11 1750-1950

12: PM 2,050

7,276

146

1: PM 2,100

7,421

145

2: PM 2,150

7,570

149

3: PM 2,150

7,721

151

4: PM 2,200

7,872

151

5: PM 2,200

8,026

154

11-29-11 1900-2000

1: PM 2,100

8,171

145

2: PM 2,150

8,315

144

3: PM 2,200

8,460

145

4: PM 2,200

8,603

143

5: PM 2,250

8,748

145

8,748

Bbls Per Hr

Pressure

Meter

11-30-11

1900 - 2050

2: PM

2150

8,871

123

3: PM

2200

9,012

141

12-02-11

1800 - 2050

1: PM

2150

175

175

2: PM

2150

341

166

3: PM

2200

508

167

4: PM

2200

673

165

5: PM

2250

840

167

8,748

Bbls Per Hr

Pressure

Meter

11-30-11

1900 - 2050

2: PM

2150

8,871

123

3: PM

2200

9,012

141

12-02-11

1800 - 2050

1: PM

2150

175

175

2: PM

2150

341

166

3: PM

2200

508

167

4: PM

2200

673

165

5: PM

2250

840

167

dec

nov
2177

oct
2136

sep
2099

aug
2095

jul
2164

jun
2149

may
2197

apr
2257

Mar
2274

Feb
2257

Jan
2246

Appendix D
2011 Daily-Monthly Log
Sheets

JANUARY 2011

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 142 | 278 | 1278 | 1278 |
| 02 | - | - | - | 1278 |
| 03 | - | - | - | 1278 |
| 04 | - | - | - | 1278 |
| 05 | 145 | 726 | 2,004 | 2,004 |
| 06 | 180 | 629 | 2633 | 2633 |
| 07 | 153 | 763 | 3396 | 3396 |
| 08 | 159 | 1274 | 4670 | 4670 |
| 09 | 152 | 304 | 4974 | 4974 |
| 10 | 149 | 448 | 5422 | 5422 |
| 11 | - | - | - | 5422 |
| 12 | 165 | 826 | 6248 | 6248 |
| 13 | - | - | - | 6248 |
| 14 | 165 | 318 | 7566 | 7566 |
| 15 | 165 | 826 | 8392 | 8392 |
| 16 | - | - | - | 8392 |
| 17 | 163 | 978 | 9370 | 9370 |
| 18 | - | - | - | 9370 |
| 19 | 162 | 1137 | 10507 | 10507 |
| 20 | - | - | - | 10507 |
| 21 | 165 | 1155 | 11662 | 11662 |
| 22 | 161 | 963 | 12625 | 12625 |
| 23 | 164 | 491 | 13116 | 13116 |
| 24 | - | - | - | 13116 |
| 25 | 169 | 1013 | 14129 | 14129 |
| 26 | - | - | - | 14129 |
| 27 | 161 | 323 | 14452 | 14452 |
| 28 | 163 | 1305 | 15757 | 15757 |
| 29 | 176 | 1232 | 16989 | 16989 |
| 30 | - | - | - | 16989 |
| 31 | - | - | - | 16989 |

February 2011

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 180 | 720 | 720 | 17,709 |
| 02 | 186 | 1490 | 2210 | 19,199 |
| 03 | 188 | 1314 | 3524 | 20,513 |
| 04 | - | - | - | 20,513 |
| 05 | 198 | 793 | 4317 | 21,306 |
| 06 | - | - | - | 21,306 |
| 07 | 180 | 902 | 5219 | 22,208 |
| 08 | - | - | - | 22,208 |
| 09 | 196 | 1370 | 6589 | 23,578 |
| 10 | 203 | 814 | 7403 | 24,392 |
| 11 | 196 | 980 | 8383 | 25,372 |
| 12 | - | - | - | 25,372 |
| 13 | - | - | - | 25,372 |
| 14 | 197 | 984 | 9367 | 26,356 |
| 15 | 202 | 607 | 9974 | 26,963 |
| 16 | 181 | 1087 | 11,061 | 28,050 |
| 17 | 177 | 710 | 11,771 | 28,760 |
| 18 | 171 | 1028 | 12,799 | 29,788 |
| 19 | 169 | 1352 | 14,151 | 31,140 |
| 20 | 167 | 1171 | 15,322 | 32,311 |
| 21 | 164 | 1147 | 16,469 | 33,458 |
| 22 | 162 | 1622 | 18,091 | 35,080 |
| 23 | 162 | 454 | 19,545 | 36,534 |
| 24 | 171 | 1707 | 21,252 | 38,241 |
| 25 | 168 | 1510 | 22,762 | 39,751 |
| 26 | 177 | 1061 | 23,823 | 40,812 |
| 27 | 177 | 709 | 24,532 | 41,521 |
| 28 | 171 | 855 | 25,387 | 42,376 |
| 29 | | | | |
| 30 | | | | |
| 31 | | | | |
| | | | 25,387 | 25,387 |

22,96

24,5

March 2011

42,376

| ATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|-----|--------|---------|-----------|--------------------------|
| 01 | 175 | 1400 | 1400 | 43,776 |
| 02 | 180 | 1258 | 2658 | 45,034 |
| 03 | 180 | 1137 | 4095 | 46,471 |
| 04 | 180 | 1261 | 5356 | 47,732 |
| 05 | 194 | 1743 | 7099 | 49,475 |
| 06 | 196 | 1178 | 8277 | 50,653 |
| 07 | 202 | 605 | 8882 | 51,258 |
| 08 | — | — | — | 51,258 |
| 09 | 203 | 810 | 9692 | 52,068 |
| 10 | 200 | 800 | 10492 | 52868 |
| 11 | 194 | 775 | 11267 | 52843 53,643 |
| 12 | — | — | — | 52843 53,643 |
| 13 | 180 | 811 | 12,078 | 53,654 54,454 |
| 14 | — | — | — | 53,654 54,454 |
| 15 | 176 | 1057 | 13,135 | 54,711 55,511 |
| 16 | 177 | 796 | 13,931 | 54,907 56,307 |
| 17 | 178 | 1244 | 15,175 | 56,751 57,551 |
| 18 | 177 | 1239 | 16,414 | 57,990 58,790 |
| 19 | 176 | 879 | 17,293 | 58,869 59,669 |
| 20 | 177 | 532 | 17,825 | 59,401 60,201 |
| 21 | 178 | 711 | 18,536 | 60,112 60,912 |
| 22 | 176 | 723 | 19,239 | 60,835 61,615 |
| 23 | 174 | 1567 | 20,806 | 62,382 63,182 |
| 24 | 170 | 678 | 21,484 | 63,060 63,860 |
| 25 | 184 | 1011 | 22,495 | 64,071 64,871 |
| 26 | 175 | 1313 | 23,808 | 65,384 66,184 |
| 27 | 175 | 874 | 24,682 | 67,058 24682 |
| 28 | — | — | — | 67,058 |
| 29 | 171 | 1199 | 25,881 | 68,257 |
| 30 | 171 | 684 | 26,565 | 68,941 26,565 |
| 31 | 171 | 683 | 27,248 | 69,624 |

APRIL 2011

69,624

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 174 | 436 | * 436 | 70,060 |
| 02 | 174 | 1,130 | 1,130 | 71,190 |
| 03 | 176 | 880 | 2,010 | 72,070 |
| 04 | 176 | 703 | 2,713 | 72,773 |
| 05 | 0 | 0 | 2,713 | 72,773 |
| 06 | 0 | 0 | 0 | 72,773 |
| 07 | 183 | 916 | 3,629 | 73,689 |
| 08 | 183 | 731 | 4,360 | 74,420 |
| 09 | 177 | 1,417 | 5,777 | 75,837 |
| 10 | 179 | 358 | 6,135 | 76,195 |
| 11 | 182 | 547 | 6,682 | 76,742 |
| 12 | 184 | 644 | 7,326 | 77,386 |
| 13 | 177 | 708 | 8,034 | 78,094 |
| 14 | 194 | 872 | 8,906 | 78,966 |
| 15 | 192 | 866 | 9,772 | 79,832 |
| 16 | 186 | 651 | 10,423 | 80,483 |
| 17 | 193 | 964 | 11,387 | 81,447 |
| 18 | 207 | 1,243 | 12,630 | 82,690 |
| 19 | 0 | 0 | 0 | 82,690 |
| 20 | 219 | 657 | 13,287 | 83,347 |
| 21 | 130 | 130 | 13,417 | 83,477 |
| 22 | | | + 436 | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | 13,853 | 13,853 |
| 27 | | | | |
| 28 | | | | |
| 29 | | | | |
| 30 | | | | |
| 31 | | | | |

May 2011

83,477

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | | | | |
| 02 | | | | |
| 03 | | | | |
| 04 | | | | |
| 05 | | | | |
| 06 | | | | |
| 07 | | | | |
| 08 | | | | |
| 09 | | | | |
| 10 | | | | |
| 11 | 68 | 546 | 546 | 84,023 |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | 154 | 617 | 1163 | 84,640 |
| 17 | 160 | 802 | 1965 | 85,442 |
| 18 | 165 | 494 | 2,459 | 85,936 |
| 19 | 170 | 509 | 2,968 | 86,445 |
| 20 | 170 | 511 | 3,479 | 86,956 |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | 175 | 525 | 4,004 | 87,481 |
| 26 | | | | |
| 27 | 158 | 315 | 4,319 | 87,796 |
| 28 | | | | |
| 29 | | | | |
| 30 | | | | |
| 31 | 172 | 859 | 5178 | 88,655 |
| | | | | 5,178 |

JUNE 2011

88,655

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 174 | 696 | 696 | 89,351 |
| 02 | | 6 | | |
| 03 | | | | |
| 04 | | | | |
| 05 | | | | |
| 06 | | | | |
| 07 | | | | |
| 08 | | | | |
| 09 | 169 | 675 | 1371 | 90,026 |
| 10 | 172 | 517 | 1,888 | 90,543 |
| 11 | | | | |
| 12 | | | | |
| 13 | 173 | 519 | 2,407 | 91,062 |
| 14 | | | | |
| 15 | | | | |
| 16 | 175 | 526 | 2,933 | 91,588 |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | 176 | 879 | 3,812 | 92,467 |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | 152 | 606 | 4,418 | 93,073 |
| 25 | | | | |
| 26 | | | | |
| 27 | 149 | 448 | 4,866 | 93,521 |
| 28 | | | | |
| 29 | 152 | 1,061 | 5,927 | 94,582 |
| 30 | | | | |
| 31 | | | | |
| | | | 5,927 | 5,927 |

59

July 2011

94,582

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 149 | 446 | 446 | 95,028 |
| 02 | | | | |
| 03 | | | | |
| 04 | | | | |
| 05 | | | | |
| 06 | | | | |
| 07 | | | | |
| 08 | 139 | 557 | 1,003 | 95,585 |
| 09 | | | | |
| 10 | | | | |
| 11 | 149 | 745 | 1,748 | 96,330 |
| 12 | | | | |
| 13 | 148 | 591 | 2,339 | 96,921 |
| 14 | 149 | 447 | 2,786 | 97,368 |
| 15 | 149 | 446 | 3,232 | 97,814 |
| 16 | | | | |
| 17 | | | | |
| 18 | 153 | 610 | 3,842 | 98,424 |
| 19 | | | | |
| 20 | 149 | 1,046 | 4,888 | 99,470 |
| 21 | 147 | 587 | 5,475 | 100,057 |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | 147 | 723 | 6,208 | 100,790 |
| 26 | 110 | 219 | 6,427 | 101,009 |
| 27 | 145 | 727 | 7,154 | 101,736 |
| 28 | | | | |
| 29 | | | | |
| 30 | | | | 101,736 |
| 31 | | | | |

715

August 2011

101,736

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | | | | |
| 02 | | | | |
| 03 | | | | |
| 04 | | | | |
| 05 | | | | |
| 06 | | | | |
| 07 | | | | |
| 08 | | | | |
| 09 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | 149 | 596 | 596 | 102,332 |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | 156 | 781 | 1377 | 103,113 |
| 23 | 151 | 452 | 1829 | 103,565 |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | | | | |
| 29 | | | | |
| 30 | 148 | 740 | 2569 | 104,305 |
| 31 | 148 | 1039 | 3608 | 105,344 |
| | | | | 3608 |

September 2011

105,374

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|----------------|---------|-----------|------------|
| 01 | | | | |
| 02 | | | | |
| 03 | | | | |
| 04 | | | | |
| 05 | | | | |
| 06 | | | | |
| 07 | 147 | 586 | 586 | 105,930 |
| 08 | | | | |
| 09 | 152 | 608 | 1,194 | 106,538 |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |
| 13 | 153 | 1,069 | 2,263 | 107,607 |
| 14 | 154 | 615 | 2,878 | 108,222 |
| 15 | 155 | 618 | 3,496 | 108,840 |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | 156 | 624 | 4,120 | 109,464 |
| 20 | | | | |
| 21 | 155 | 773 | 4,893 | 110,237 |
| 22 | | | | |
| 23 | 155 | 1,082 | 5,975 | 111,319 |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | 147 | 585 | 6,560 | 111,904 |
| 29 | | | | |
| 30 | 144 | 432 | 6,992 | 112,336 |
| 31 | | | | |
| | 144 | | 6,992 | 6,992 |

October 2011

112,336

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 155 | 774 | 774 | 113,110 |
| 02 | | | | |
| 03 | | | | |
| 04 | 156 | 624 | 1,398 | 113,734 |
| 05 | 155 | 619 | 2,017 | 114,353 |
| 06 | | | | |
| 07 | 154 | 772 | 2,789 | 115,125 |
| 08 | | | | |
| 09 | | | | |
| 10 | | | | |
| 11 | 155 | 618 | 3,407 | 115,743 |
| 12 | | | | |
| 13 | | | | |
| 14 | 152 | 759 | 4,166 | 116,502 |
| 15 | | | | |
| 16 | | | | |
| 17 | | | | |
| 18 | 154 | 614 | 4,780 | 117,116 |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | 154 | 926 | 5,706 | 118,042 |
| 26 | | | | |
| 27 | | | | |
| 28 | 152 | 608 | 6,314 | 118,650 |
| 29 | | | | |
| 30 | | | | |
| 31 | | | | |

6,314

6,314

31

NOVEMBER 2011

118,650

| DATE | BBL/HR | BBL/DAY | BBL/MONTH | CUMULATIVE |
|------|--------|---------|-----------|------------|
| 01 | 153 | 610 | 610 | 119,260 |
| 02 | 154 | 461 | 1,071 | 119,721 |
| 03 | 152 | 761 | 1,832 | 120,482 |
| 04 | | | | |
| 05 | | | | |
| 06 | | | | |
| 07 | | | | |
| 08 | 154 | 614 | 2,446 | 121,096 |
| 09 | | | | |
| 10 | 151 | 1,204 | 3,650 | 122,300 |
| 11 | 151 | 756 | 4,406 | 123,056 |
| 12 | | | | |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | 152 | 1,061 | 5,467 | 124,117 |
| 17 | | | | |
| 18 | 152 | 759 | 6,226 | 124,876 |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | 151 | 904 | 7,130 | 125,780 |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | 149 | 896 | 8,026 | 126,676 |
| 29 | 144 | 722 | 8,748 | 127,398 |
| 30 | | 264 | 9,012 | 127,662 |
| 31 | | | | |
| | | | 9012 | 9012 |

Appendix E
2011 Tubing and Casing
Monitoring Log Sheets

TUBING AND CASING MONITORING LOG SHEET
 YEAR MONTH JANUARY 2011

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|------------|---------------|
| 1 | 1900-2150 | 0 0 | SW SW |
| 2 | 2000 | 0 | SW |
| 3 | 1900- | 0 | SW |
| 4 | 1950 | 0 | NA |
| 5 | 1950-2150 | 0 0 | SW SW |
| 6 | 2000-2150 | 0 0 | NA NA |
| 7 | 1950-2100 | 0 0 | NA NA |
| 8 | 1950-2050 | 0 0 | SW SW |
| 9 | 2000-2100 | 0 0 | SW SW |
| 10 | 1950-2050 | 0 0 | SW SW |
| 11 | 1900 | 0 | SW |
| 12 | 1950-2050 | 0 0 | SW SW |
| 13 | 1950- | 0 | NA |
| 14 | 1900-2050 | 0 0 | NA NA |
| 15 | 1900-2100 | 0 0 | SW SW |
| 16 | 1900- | 0 | SW |
| 17 | 1850-2050 | 0 0 | SW SW |
| 18 | 1900- | 0 | SW |
| 19 | 1850-2050 | 0 0 | SW SW |
| 20 | 2000 | 0 | NA |
| 21 | 1950-2150 | 0 0 | NA NA |
| 22 | 2000-2150 | 0 0 | SW SW |
| 23 | 2000-2150 | 0 0 | SW SW |
| 24 | 2000 | 0 | SW |
| 25 | 1900, 2100 | 0 0 | SW SW |
| 26 | 2000 | 0 | SW |
| 27 | 1950-2150 | 0 0 | NA NA |
| 28 | 1950-2100 | 0 0 | NA NA |
| 29 | 1950-2100 | 0 0 | SW SW |
| 30 | 2000 | 0 | SW |
| 31 | 1900 | 0 | SW |

TUBING AND CASING MONITORING LOG SHEET

YEAR MONTH February 2011

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|----------------|------------|---------------|
| 1 | 1900-2200 | 0 0 | SW, SW |
| 2 | 1950-2050 | 0 0 | SW, SW |
| 3 | 1900-2100 | 0 0 | NA NA |
| 4 | 1950 | 0 | NA |
| 5 | 1900-2050 | 0 0 | SW, SW |
| 6 | 1900- | 0 | SW, |
| 7 | 1900-2050 | 0 0 | SW, SW |
| 8 | 1900- | 0 | SW, |
| 9 | 1900-2050 | 0 0 | SW, SW |
| 10 | 1950-2100 | 0 0 | NA NA |
| 11 | 1950-2100 | 0 0 | NA NA |
| 12 | 1900- | 0 | SW |
| 13 | 1900- | 0 | SW |
| 14 | 1900-2100 | 0 0 | SW SW |
| 15 | 1900-2050 | 0 0 | SW SW |
| 16 | 1900-2100 | 0 0 | SW SW |
| 17 | 1950-2150 | 0 0 | NA NA |
| 18 | 1950-2150 | 0 0 | NA NA |
| 19 | 1950-2150 | 0 0 | SW SW |
| 20 | 1950-2150 | 0 0 | SW SW |
| 21 | 1950-2150 | 0 0 | NA NA |
| 22 | 1950-2200 | 0 0 | SW SW |
| 23 | 2000-2150 | 0 0 | NA NA |
| 24 | 2000-2200 | 0 0 | NA NA |
| 25 | 2000-2150-2100 | 0 0 0 | NA NA NA |
| 26 | 1950-2150 | 0 0 | SW SW |
| 27 | 1950-2150 | 0 0 | SW SW |
| 28 | 1950-2100 | 0 0 | SW NA |
| 29 | | | |
| 30 | | | |
| 31 | | | |

TUBING AND CASING MONITORING LOG SHEET

YEAR MONTH *March 2011*

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|--------------------|------------|---------------|
| 1 | 1950, 2150 | 0 0 | SW SW |
| 2 | 1950, 2150, 2250 | 0 0 0 | SW SW NA |
| 3 | 2000 - 2150 - 2300 | 0 0 0 | NA NA NA |
| 4 | 2000 - 2150 | 0 0 | NA NA |
| 5 | 2000 - 2150 | 0 0 | SW SW |
| 6 | 2000 - 2150 | 0 0 | SW SW |
| 7 | 2000 - 2150 | 0 0 | SW SW |
| 8 | 1950 - | 0 | SW |
| 9 | 1900 - 2050 | 0 0 | SW SW |
| 10 | 1950 - 2100 | 0 0 | NA NA |
| 11 | 1950 - 2100 | 0 0 | NA NA |
| 12 | 1750 - | 0 | SW |
| 13 | 1900 - 2050 | 0 0 | SW SW |
| 14 | 1900 - | 0 | SW |
| 15 | 1800 - 2050 | 0 0 | SW SW |
| 16 | 1900 - 2050 | 0 0 | SW NA |
| 17 | 1900 - 2050 | 0 0 | NA NA |
| 18 | 2000 - 2150 | 0 0 | NA NA |
| 19 | 1950 - 2150 | 0 0 | SW SW |
| 20 | 1950 - 2150 | 0 0 | SW SW |
| 21 | 1900 - 2100 | 0 0 | SW SW |
| 22 | 1900 - 2100 | 0 0 | SW SW |
| 23 | 1900 - 2100 | 0 0 | SW SW |
| 24 | 2000 - 2150 - 2200 | 0 0 0 | NA NA NA |
| 25 | 1950 - 2150 | 0 0 | NA NA |
| 26 | 1950 - 2150 | 0 0 | SW SW |
| 27 | 1950 - 2150 | 0 0 | SW SW |
| 28 | 1950 - | 0 | SW |
| 29 | 1850 - 2050 | 0 0 | SW SW |
| 30 | 1950 - 2100 | 0 0 | SW SW |
| 31 | 1950 - 2100 | 0 0 | NA NA |

TUBING AND CASING MONITORING LOG SHEET

YEAR MONTH April 2011

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------------|------------|---------------|
| 1 | 1950 - 2100 | 0 0 | NA NA |
| 2 | 1900 - 2100 | 0 0 | SW SW |
| 3 | 1950 - 2100 | 0 0 | SW SW |
| 4 | 1950 - 2100 | 0 0 | NA SW |
| 5 | 1950 | 0 | NA |
| 6 | 1850 | 0 | SW |
| 7 | 1900 - 2000 | 0 0 | NA NA |
| 8 | 1950 - 2050 | 0 0 | NA NA |
| 9 | 1950 - 2100 | 0 0 | SW SW |
| 10 | 1950 - 2100 | 0 0 | SW SW |
| 11 | 1900 - 2050 | 0 0 | SW NA |
| 12 | 1900 - 2200 | 0 0 | SW NA |
| 13 | 1900 - 2200 | 0 0 | SW SW |
| 14 | 1950 - 2150 2250 | 0 0 0 | NA NA NA |
| 15 | 1950 - 2150 | 0 0 | NA NA |
| 16 | 1900 - 2150 | 0 0 | SW SW |
| 17 | 1950 - 2150 | 0 0 | SW SW |
| 18 | 1950 - 2150 | 0 0 | SW SW |
| 19 | 2000 | 0 | SW |
| 20 | 1900 - 2250 | 0 0 | SW SW |
| 21 | 1900 - 2150 | | |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | | | |
| 26 | | | |
| 27 | | | |
| 28 | | | |
| 29 | | | |
| 30 | | | |
| 31 | | | |

MAY 2011

TUBING AND CASING MONITORING LOG SHEET
 YEAR
 MONTH

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|------------|---------------|
| 1 | 1800 | 0 | MA |
| 2 | 1800 | 0 | MA |
| 3 | 1800 | 0 | MA |
| 4 | 1800 | 0 | MA |
| 5 | 1800 | 0 | MA |
| 6 | 1800 | | |
| 7 | 1800 | | |
| 8 | 1800 | | |
| 9 | 1800 | 0 | MA |
| 10 | 1800 | 0 | SW |
| 11 | 1800-2000 | 0 0 | SW SW |
| 12 | 1800 | | |
| 13 | 1800 | | |
| 14 | 1800 | | |
| 15 | 1800 | | |
| 16 | 1800-2050 | 0 0 | SW SW |
| 17 | 1800-2050 | 0 0 | SW SW |
| 18 | 1850-2050 | 0 0 | SW MA |
| 19 | 1850-2050 | 0 0 | SW SW |
| 20 | 1850-2150 | 0 0 | SW SW |
| 21 | | | |
| 22 | | | |
| 23 | 1800- | 0 | SW |
| 24 | 1800 | 0 | SW |
| 25 | 1800-2050 | 0 0 | SW MA |
| 26 | 1800 | 0 | SW |
| 27 | 1800-2050 | 0 0 | SW SW |
| 28 | | | |
| 29 | | | |
| 30 | | | |
| 31 | 1750-2050 | 0 0 | SW SW |

TUBING AND CASING MONITORING LOG SHEET

YEAR
MONTH

July 2011

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|------------|---------------|
| 1 | 1850-2000 | 0 0 | SW SW |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | 1750- | 0 | SW |
| 6 | 1700 | 0 | SW |
| 7 | 1700 | 0 | SW |
| 8 | 1700-1900 | 0 0 | SW SW |
| 9 | | | |
| 10 | | | |
| 11 | 1800 | 0 | SW |
| 12 | 1800 | 0 | SW |
| 13 | 1800-1900 | 0 0 | SW SW |
| 14 | 1900-2050 | 0 0 | SW SW |
| 15 | 1900-2050 | 0 0 | SW SW |
| 16 | | | |
| 17 | | | |
| 18 | 1800-1950 | 0 0 | SW SW |
| 19 | 1900 | 0 | SW |
| 20 | 1850-1950 | 0 0 | SW SW |
| 21 | 1950-2050 | 0 0 | SW SW |
| 22 | | | |
| 23 | | | |
| 24 | | | |
| 25 | 1800-1900 | 0 0 | SW SW |
| 26 | 1900-2000 | 0 0 | SW SW |
| 27 | 1900-2000 | 0 0 | SW SW |
| 28 | 1950 | 0 | SW |
| 29 | 1800 | 0 | SW |
| 30 | | | |
| 31 | | | |

TUBING AND CASING MONITORING LOG SHEET

YEAR MONTH August 2011

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|------------|---------------|
| 1 | 1700 | Ø | SW |
| 2 | 1700 | Ø | SW |
| 3 | 1700 | Ø | SW |
| 4 | 1700 | Ø | SW |
| 5 | 1700 | Ø | SW |
| 6 | | | |
| 7 | | | |
| 8 | 1700 | Ø | SW |
| 9 | 1700 | Ø | SW |
| 10 | 1700 | Ø | SW |
| 11 | 1650 | Ø | SW |
| 12 | 1650 | Ø | SW |
| 13 | | | |
| 14 | | | |
| 15 | 1650 | Ø | SW |
| 16 | 1650 | Ø | SW |
| 17 | 1600 | Ø | SW |
| 18 | 1600-1850 | Ø Ø | SW SW |
| 19 | 1800 | Ø | SW |
| 20 | | | |
| 21 | | | |
| 22 | 1700 1800 | Ø Ø | SW SW |
| 23 | 1800 1950 | Ø Ø | SW SW |
| 24 | 1800 | Ø | SW |
| 25 | 1700 | Ø | SW |
| 26 | 1700 | Ø | SW |
| 27 | | | |
| 28 | | | |
| 29 | 1700 | Ø | SW |
| 30 | 1650 1900 | Ø Ø | SW SW |
| 31 | 1800 1950 | Ø Ø | SW SW |

TUBING AND CASING MONITORING LOG SHEET
 YEAR MONTH *September 2011*

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|---------------|---------------|
| 1 | 1700 | 00 | SW |
| 2 | 1800 | 0 | SW |
| 3 | | | |
| 4 | | | |
| 5 | 1700 | 0 | SW |
| 6 | 1700- | 0 | SW |
| 7 | 1700-1800 | 0 0 | SW SW |
| 8 | 1800 | 0 | SW |
| 9 | 1700-1850 | 0 0 | SW SW |
| 10 | | | . |
| 11 | | | |
| 12 | 1700 | 0 | SW |
| 13 | 1600-1750 | 0 0 | SW SW |
| 14 | 1850 1950 | 0 0 | SW SW |
| 15 | 1850-1950 | 0 0 | SW SW |
| 16 | | | |
| 17 | | | |
| 18 | | | |
| 19 | 1700-1900 | 0 0 | SW SW |
| 20 | 1850 | 0 | SW |
| 21 | 1700-2000 | 0 0 | SW SW |
| 22 | 1850 | 0 | SW |
| 23 | 1750-1950 | 0 0 | SW SW |
| 24 | | | |
| 25 | | | |
| 26 | 1700 | 00 | SW |
| 27 | 1700 | 0 | SW |
| 28 | 1700-1850 | 0 0 | SW SW |
| 29 | 1800 | 0 | SW |
| 30 | 1700-1900 | 0 0 | SW SW |
| 31 | | | |

TUBING AND CASING MONITORING LOG SHEET
 YEAR MONTH *October 2011*

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|------------|---------------|
| 1 | 1800-1950 | Ø Ø | SW SW |
| 2 | | | |
| 3 | 1800 | Ø | SW |
| 4 | 1700-1900 | Ø Ø | SW SW |
| 5 | 1800-1950 | Ø Ø | SW SW |
| 6 | 1850 | Ø | SW |
| 7 | 1800-1950 | Ø Ø | SW SW |
| 8 | | | |
| 9 | | | |
| 10 | 1800 | Ø | SW • |
| 11 | 1700-1900 | Ø Ø | SW SW |
| 12 | 1850 | Ø | SW |
| 13 | 1800 | Ø | SW |
| 14 | 1700-1900 | Ø Ø | SW SW |
| 15 | | | |
| 16 | | | |
| 17 | 1800 | Ø | SW |
| 18 | 1700-1850 | Ø Ø | SW SW |
| 19 | 1800 | Ø | SW |
| 20 | 1750 | Ø | SW |
| 21 | 1700 | Ø | SW |
| 22 | | | |
| 23 | | | |
| 24 | 1650 | Ø | SW |
| 25 | 1600-1750 | Ø Ø | SW SW |
| 26 | 1800 | Ø | SW |
| 27 | 1800 | Ø | SW |
| 28 | 1750-2050 | Ø Ø | SW SW |
| 29 | | | |
| 30 | | | |
| 31 | 1800 | Ø | SW |

TUBING AND CASING MONITORING LOG SHEET
 YEAR MONTH NOVEMBER 2011

| DAY | TUBING PSI | CASING PSI | OBSERVER INT. |
|-----|------------|------------|---------------|
| 1 | 1750 2050 | 0 0 | SW SW |
| 2 | 1850 2200 | 0 0 | SW SW |
| 3 | 1900 2050 | 0 0 | SW SW |
| 4 | 1900 | 0 | SW |
| 5 | | | |
| 6 | | | |
| 7 | 1750 | 0 | SW |
| 8 | 1750 1900 | 0 0 | SW SW |
| 9 | 1800 | 0 | SW |
| 10 | 1700 1900 | 0 0 | SW SW |
| 11 | 1900 2050 | 0 0 | SW SW |
| 12 | | | |
| 13 | | | |
| 14 | 1800 | 0 | SW |
| 15 | 1750 | 0 | SW |
| 16 | 1800-1900 | 0 0 | SW SW |
| 17 | 1900 | 0 | SW |
| 18 | 1850-2000 | 0 | SW SW |
| 19 | | | |
| 20 | | | |
| 21 | 1800 | 0 | SW |
| 22 | 1750 1950 | 0 0 | SW SW |
| 23 | 1950 | 0 | SW |
| 24 | | | |
| 25 | 1800 | 0 | SW |
| 26 | | | |
| 27 | | | |
| 28 | 1750-1950 | 0 0 | SW SW |
| 29 | 1900-2000 | 0 0 | SW SW |
| 30 | 1900-2050 | 0 0 | SW SW |
| 31 | | | |

Appendix F

2011

Key Energy Disposal

Monthly Totals

Key Energy Disposal Monthly Totals

JANUARY 2011

Barrels Taken In 17,847
 Barrels Pumped Away 16,989
 Barrels Difference 858

| | |
|--------------------------------------|------------|
| EXEMPT LOADS (Key Hauled) | 179 |
| EXEMPT LOADS (NOT Key Hauled) | 35 |
| Total EXEMPT Loads Hauled | 214 |
| | |
| NON EXEMPT LOADS (Key Hauled) | 10 |
| NON EXEMPT LOADS (NOT Key Hauled) | 2 |
| Total NON EXEMPT Loads Hauled | 12 |
| | |
| Total Loads Taken In | 226 |

| | | |
|------------------------|-----------|----------------------------|
| Non Exempt Loads | \$ | 3,420 ⁰⁰ |
| Exempt Loads | \$ | 15,422 ⁴⁰ |
| Total For Month | \$ | 18,842⁴⁰ |

Key Energy Disposal Monthly Totals

FEBRUARY 2011

Barrels Taken In 22,518
 Barrels Pumped Away 25,387
 Barrels Difference 2,869

| | |
|--------------------------------------|------------|
| EXEMPT LOADS (Key Hauled) | 194 |
| EXEMPT LOADS (NOT Key Hauled) | 52 |
| Total EXEMPT Loads Hauled | 246 |
| NON EXEMPT LOADS (Key Hauled) | 6 |
| NON EXEMPT LOADS (NOT Key Hauled) | 3 |
| Total NON EXEMPT Loads Hauled | 9 |
| | |
| Total Loads Taken In | 255 |

| | | |
|------------------------|-----------|------------------|
| Non Exempt Loads | \$ | 1,412.00 |
| Exempt Loads | \$ | 20,661.25 |
| Total For Month | \$ | 22,073.25 |

Key Energy Disposal Monthly Totals March 1, 2011

| | |
|-----------------------------------|---------------------|
| Barrels Taken In | 24,583 |
| Barrels Pumped Away | 27,248 |
| Barrels Difference | |
| | |
| EXEMPT LOADS (Key Hauled) | 208 |
| EXEMPT LOADS (NOT Key Hauled) | 51 |
| Total EXEMPT Loads Hauled | 259 |
| | |
| NON EXEMPT LOADS (Key Hauled) | 5 |
| NON EXEMPT LOADS (NOT Key Hauled) | 3 |
| Total NON EXEMPT Loads Hauled | 8 |
| | |
| Total Loads Taken In | 267 |
| | |
| Average BBL Per Load | 92.07 |
| | |
| NON EXEMPT LOADS Per BBL | \$ 10.43 |
| Exempt Loads Per BBL | \$ 0.80 |
| | |
| Non Exempt Loads | \$ 4,800.00 |
| Exempt Loads | \$ 19,048.00 |
| Total For Month | \$ 23,848.00 |

Key Energy Disposal Monthly Totals

April 2011

Barrels Taken In 9,896
Barrels Pumped Away 13,417
Barrels Difference 3,521

| | |
|-----------------------------------|-----|
| EXEMPT LOADS (Key Hauled) | 75 |
| EXEMPT LOADS (NOT Key Hauled) | 4 |
| Total EXEMPT Loads Hauled | 79 |
| NON EXEMPT LOADS (Key Hauled) | 2 |
| NON EXEMPT LOADS (NOT Key Hauled) | 21 |
| Total NON EXEMPT Loads Hauled | 23 |
| Total Loads Taken In | 102 |

| | |
|------------------|--------------|
| Non Exempt Loads | \$ 10,100.00 |
| Exempt Loads | \$ 7,949.20 |
| Total For Month | \$ 18,049.20 |

Key Energy Disposal Monthly Totals

MAY 2011

Barrels Taken In 6,980
 Barrels Pumped Away 5,178
 Barrels Difference 902

| | |
|--|-----------|
| EXEMPT LOADS (Key Hauled) | <u>0</u> |
| EXEMPT LOADS (NOT Key Hauled) | <u>67</u> |
| Total EXEMPT Loads Hauled | <u>67</u> |
| | |
| NON EXEMPT LOADS (Key Hauled) | <u>7</u> |
| NON EXEMPT LOADS (NOT Key Hauled) | <u>1</u> |
| Total NON EXEMPT Loads Hauled | <u>8</u> |
| | |
| Total Loads Taken In | <u>75</u> |

| | |
|------------------------|--------------------------------|
| Non Exempt Loads | \$ <u>32.00⁰⁰</u> |
| Exempt Loads | \$ <u>4852.00⁰⁰</u> |
| Total For Month | <u>\$ 8052.00⁰⁰</u> |

Key Energy Disposal Monthly Totals

June 2011

Barrels Taken In 6760
 Barrels Pumped Away 5927
 Barrels Difference 833

| | |
|--------------------------------------|-----------|
| EXEMPT LOADS (Key Hauled) | 8 |
| EXEMPT LOADS (NOT Key Hauled) | 80 |
| Total EXEMPT Loads Hauled | 80 |
| NON EXEMPT LOADS (Key Hauled) | 4 |
| NON EXEMPT LOADS (NOT Key Hauled) | 1 |
| Total NON EXEMPT Loads Hauled | 5 |
| Total Loads Taken In | 85 |

| | |
|------------------------|-------------------|
| Non Exempt Loads | \$ 1440.00 |
| Exempt Loads | \$ 6080.00 |
| Total For Month | \$ 7520.00 |

Key Energy Disposal Monthly Totals

July 2011

Barrels Taken In 8,000
 Barrels Pumped Away 7,154
 Barrels Difference 846

| | |
|-----------------------------------|------------|
| EXEMPT LOADS (Key Hauled) | 0 |
| EXEMPT LOADS (NOT Key Hauled) | 99 |
| Total EXEMPT Loads Hauled | 99 |
| NON EXEMPT LOADS (Key Hauled) | 1 |
| NON EXEMPT LOADS (NOT Key Hauled) | 0 |
| Total NON EXEMPT Loads Hauled | 1 |
| Total Loads Taken In | 100 |

| | | |
|------------------------|-----------|--------------------------|
| Non Exempt Loads | \$ | 320 ⁰⁰ |
| Exempt Loads | \$ | 7524 ⁰⁰ |
| Total For Month | \$ | 7844⁰⁰ |

Key Energy Disposal Monthly Totals

August 2011

Barrels Taken In 4,305
 Barrels Pumped Away 3,608
 Barrels Difference 697

| | |
|--------------------------------------|-----------|
| EXEMPT LOADS (Key Hauled) | 0 |
| EXEMPT LOADS (NOT Key Hauled) | 30 |
| Total EXEMPT Loads Hauled | 30 |
| | |
| NON EXEMPT LOADS (Key Hauled) | 2 |
| NON EXEMPT LOADS (NOT Key Hauled) | 15 |
| Total NON EXEMPT Loads Hauled | 17 |
| | |
| Total Loads Taken In | 47 |

| | | |
|------------------------|-----------|-----------------|
| Non Exempt Loads | \$ | 7,700.00 |
| Exempt Loads | \$ | 2,280.00 |
| Total For Month | \$ | 9,980.00 |

Key Energy Disposal Monthly Totals

September 2011

Barrels Taken In 8400
 Barrels Pumped Away 6,992
 Barrels Difference 1,408

| | |
|--------------------------------------|------------|
| EXEMPT LOADS (Key Hauled) | 0 |
| EXEMPT LOADS (NOT Key Hauled) | 105 |
| Total EXEMPT Loads Hauled | 105 |
| NON EXEMPT LOADS (Key Hauled) | 3 |
| NON EXEMPT LOADS (NOT Key Hauled) | 1 |
| Total NON EXEMPT Loads Hauled | 4 |
| Total Loads Taken In | 109 |

| | | |
|------------------------|-----------|---------------------------|
| Non Exempt Loads | \$ | 24 30 ⁰⁰ |
| Exempt Loads | \$ | 71 70 ⁰⁰ |
| Total For Month | \$ | 96 00⁰⁰ |

Key Energy Disposal Monthly Totals

October 2011

Barrels Taken In 6930
 Barrels Pumped Away 6,314
 Barrels Difference 616

| | |
|--------------------------------------|-----------|
| EXEMPT LOADS (Key Hauled) | 3 |
| EXEMPT LOADS (NOT Key Hauled) | 69 |
| Total EXEMPT Loads Hauled | 72 |
| NON EXEMPT LOADS (Key Hauled) | 9 |
| NON EXEMPT LOADS (NOT Key Hauled) | 4 |
| Total NON EXEMPT Loads Hauled | 13 |
| Total Loads Taken In | 85 |

| | | |
|------------------------|-----------|---------------------|
| Non Exempt Loads | \$ | 4,140 ⁰⁰ |
| Exempt Loads | \$ | 5,371.50 |
| Total For Month | \$ | 9,511.50 |

Key Energy Disposal Monthly Totals

NOVEMBER 2011

Barrels Taken In 8035
 Barrels Pumped Away 9012
 Barrels Difference 977

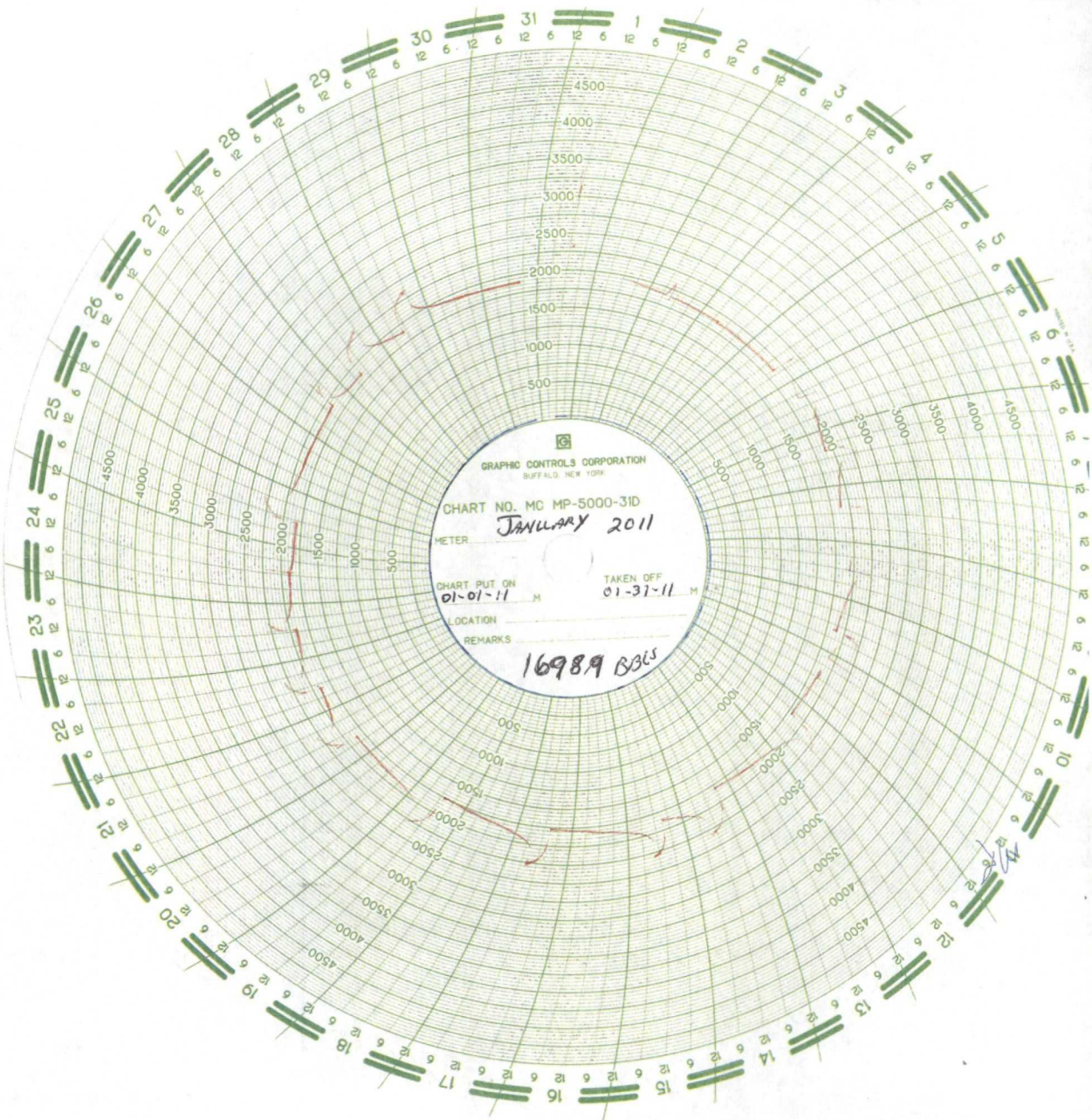
| | |
|-----------------------------------|--------|
| EXEMPT LOADS (Key Hauled) | 5 |
| EXEMPT LOADS (NOT Key Hauled) | 91 |
| Total EXEMPT Loads Hauled | 96 |
| NON EXEMPT LOADS (Key Hauled) | 0 |
| NON EXEMPT LOADS (NOT Key Hauled) | 1 |
| Total NON EXEMPT Loads Hauled | 1 |
| Total Loads Taken In | 97 |

| | | |
|------------------|----|----------|
| Non Exempt Loads | \$ | 15.00 |
| Exempt Loads | \$ | 76 33.50 |
| Total For Month | \$ | 76 48.50 |

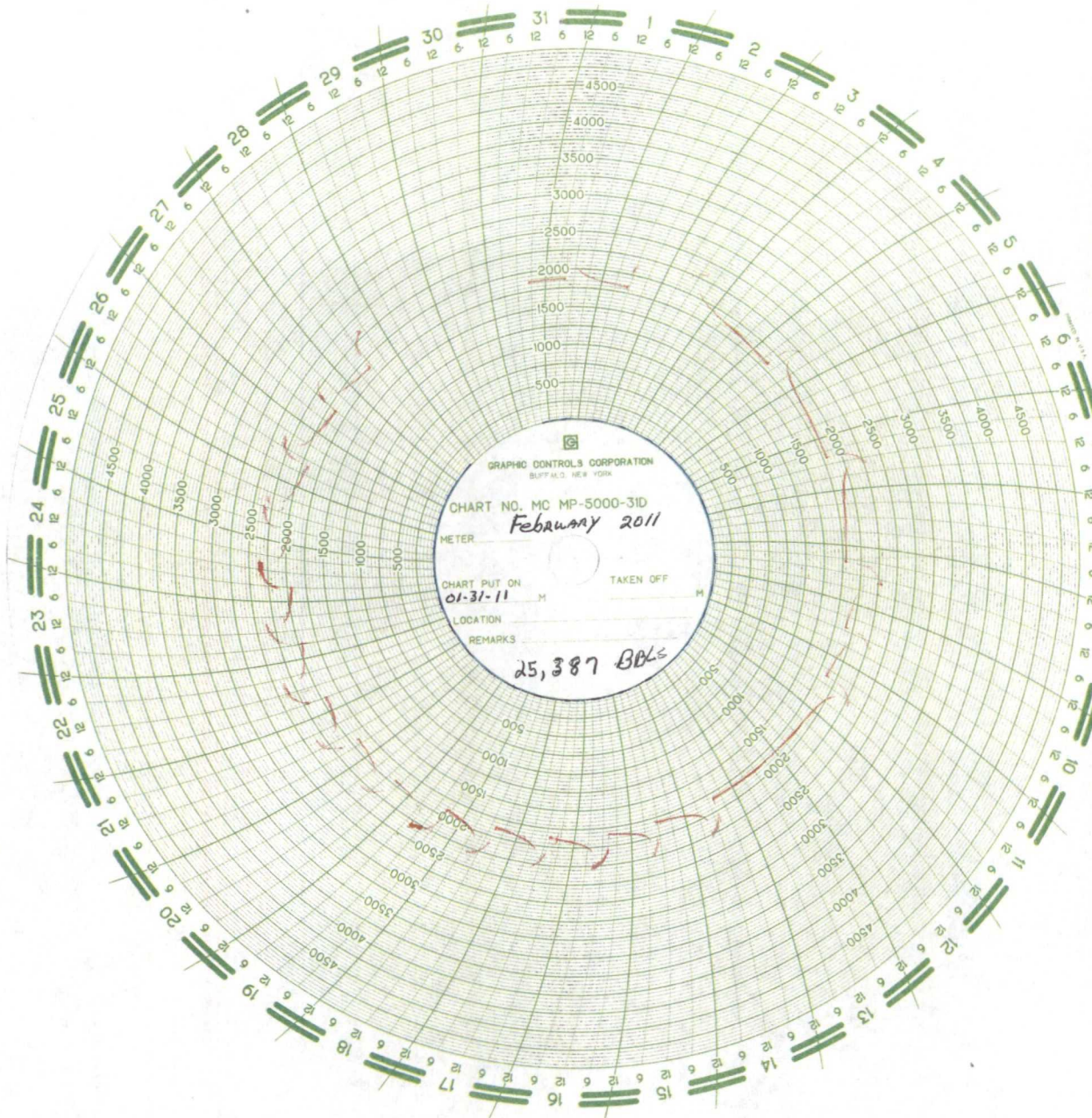
Appendix G
2011 Maintenance Disposal-
Pump Log

2011 REPORT (LOG) MISPLACED
JP

Appendix H
2011 Monthly Pressure
Charts



16989 BCLs



GRAPHIC CONTROLS CORPORATION
BUFFALO, N. Y.

CHART NO. MC MP-5000-31D
February 2011

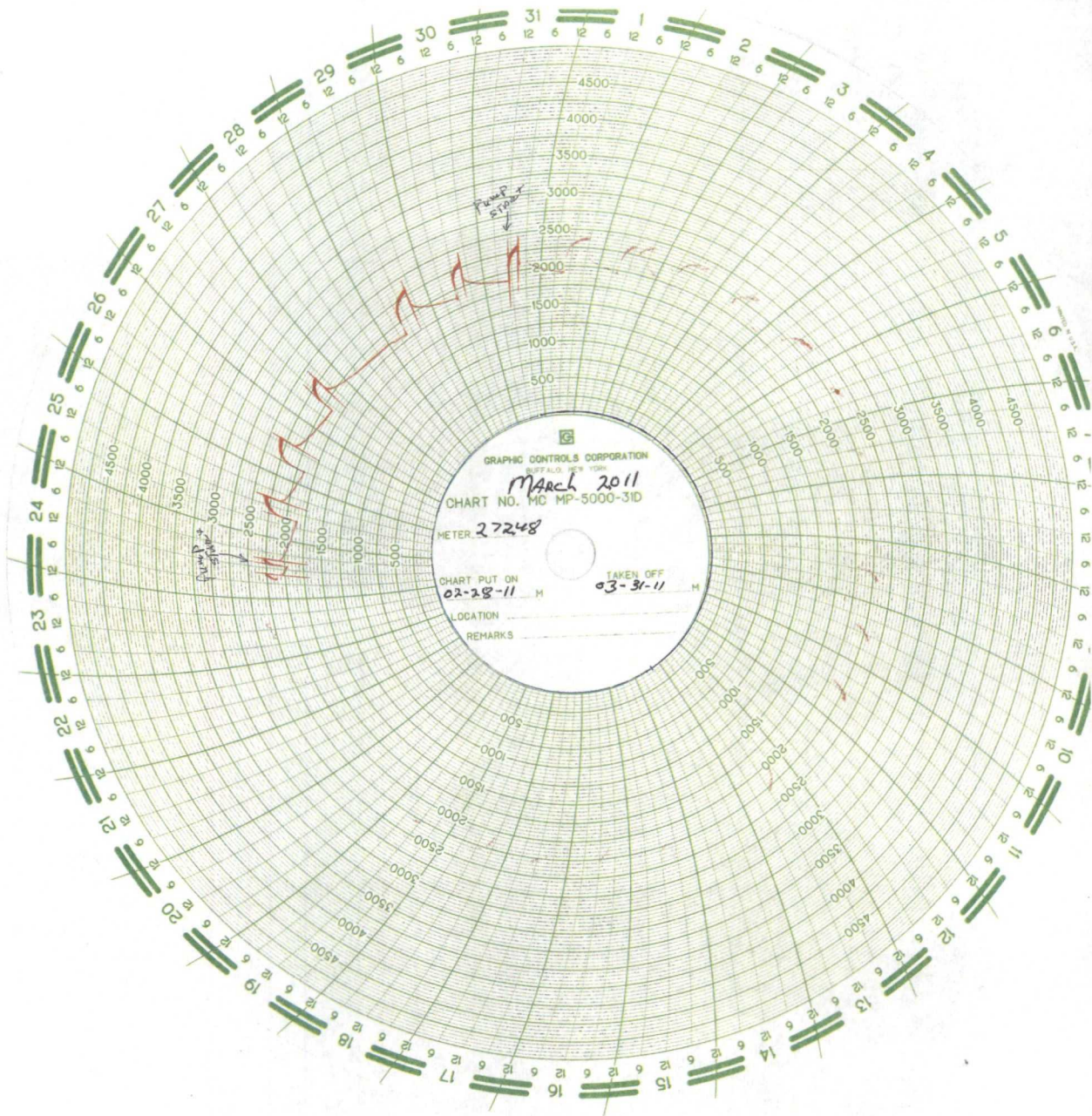
METER _____

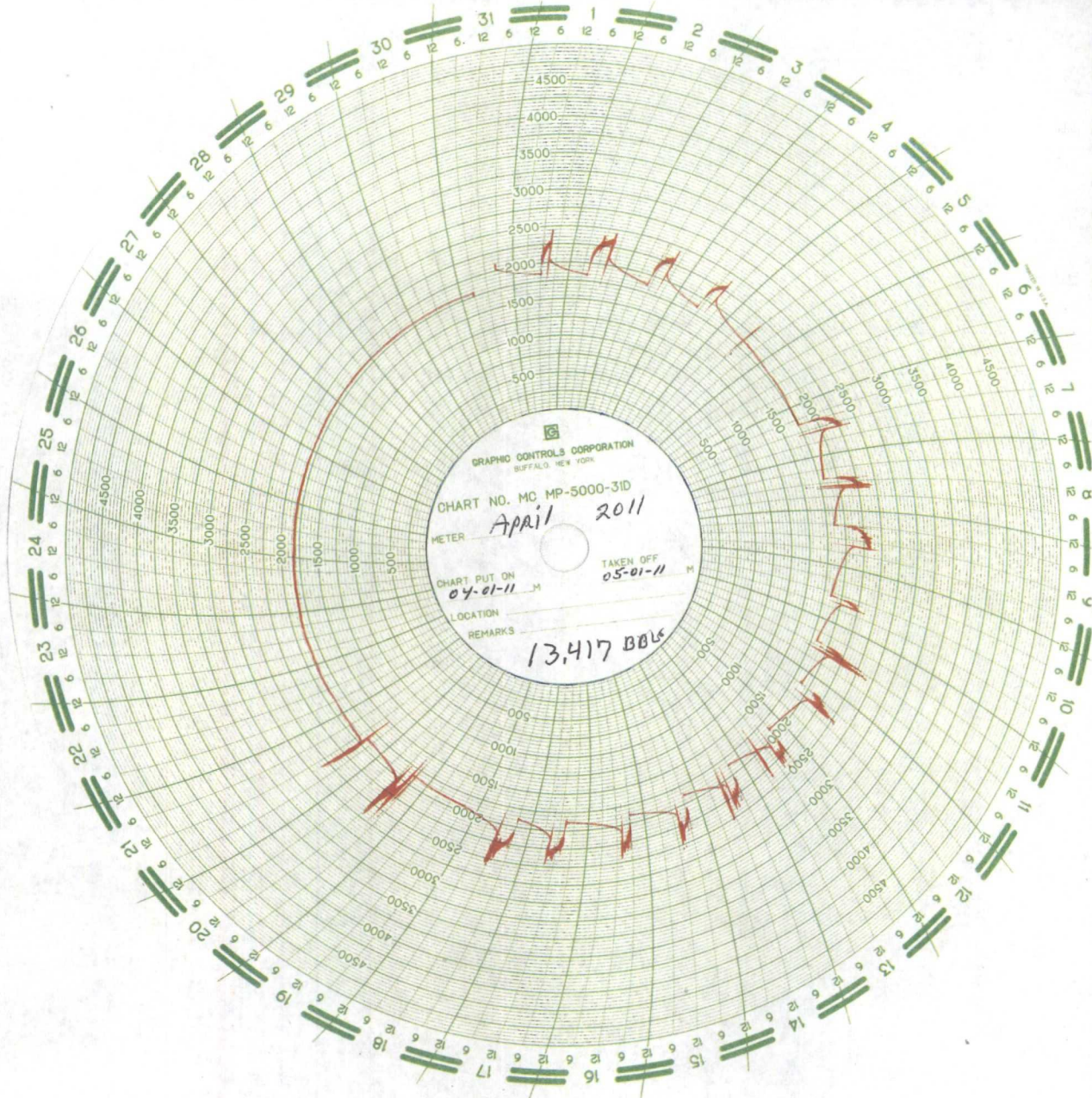
CHART PUT ON
01-31-11

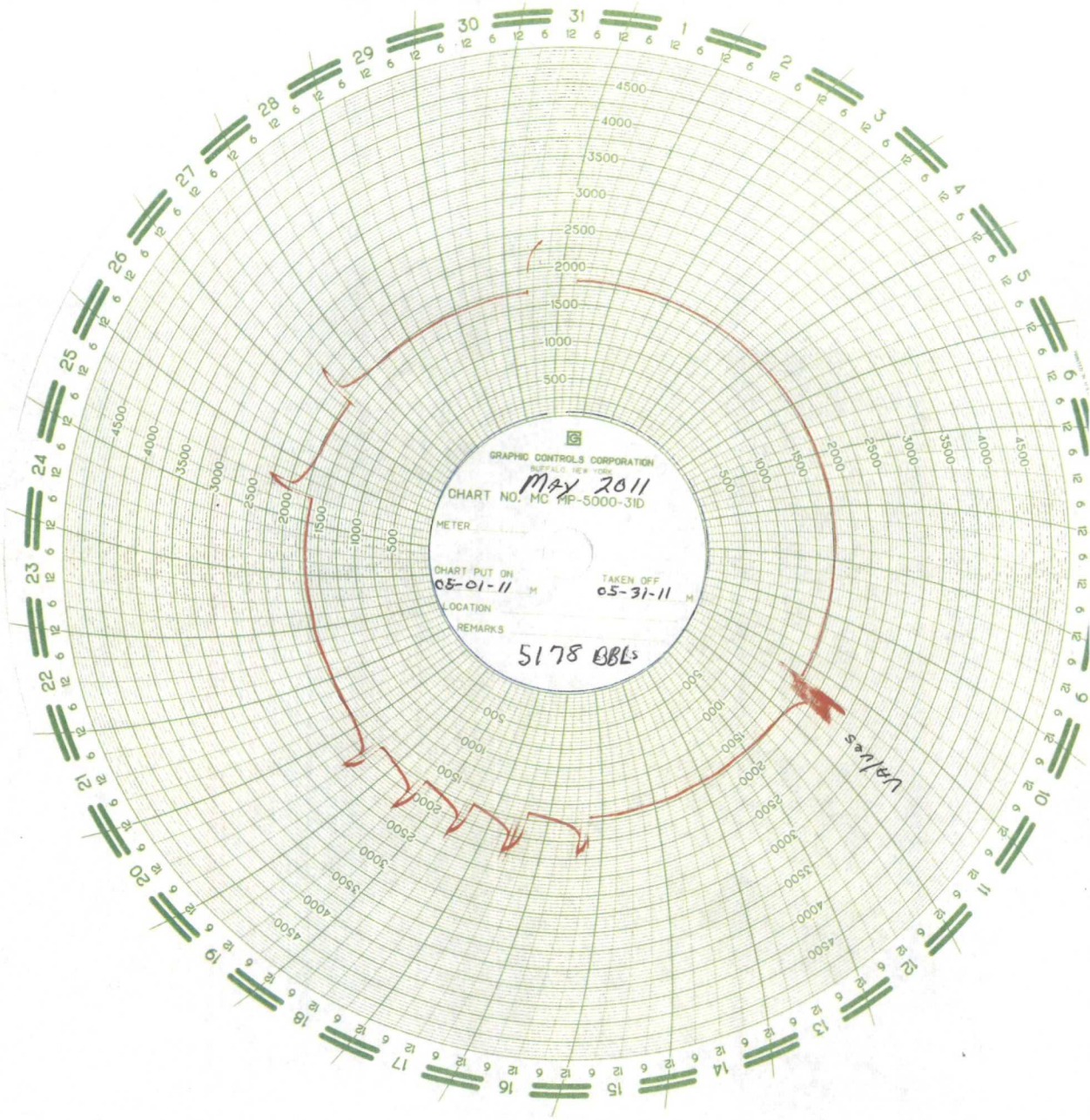
TAKEN OFF _____

LOCATION _____

REMARKS
25,387 BBLs







GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

MAY 2011

CHART NO. MC MP-5000-31D

METER

CHART PUT ON
05-01-11 M

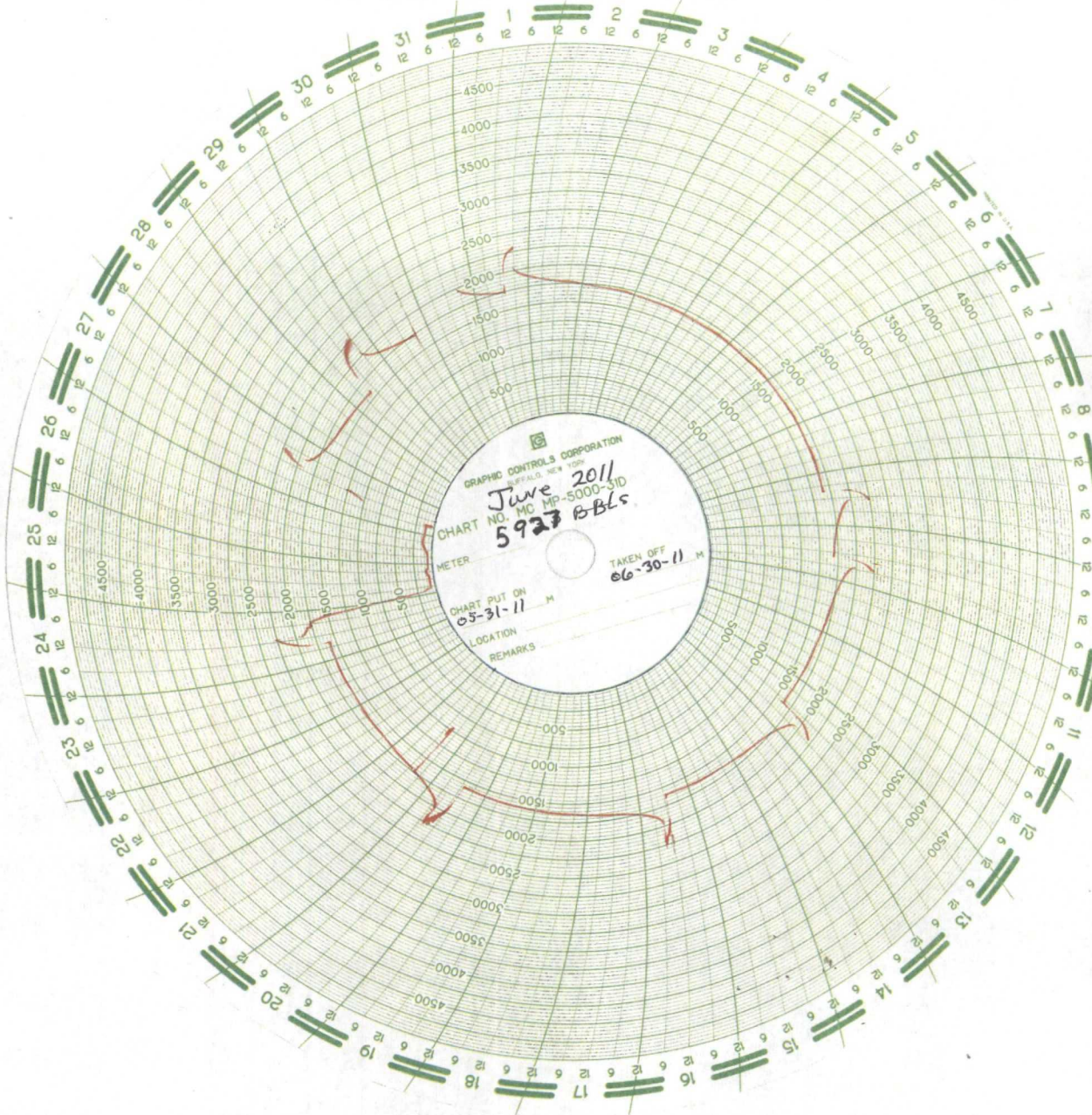
TAKEN OFF
05-31-11 M

LOCATION

REMARKS

5178 BBLs

Valves



GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK

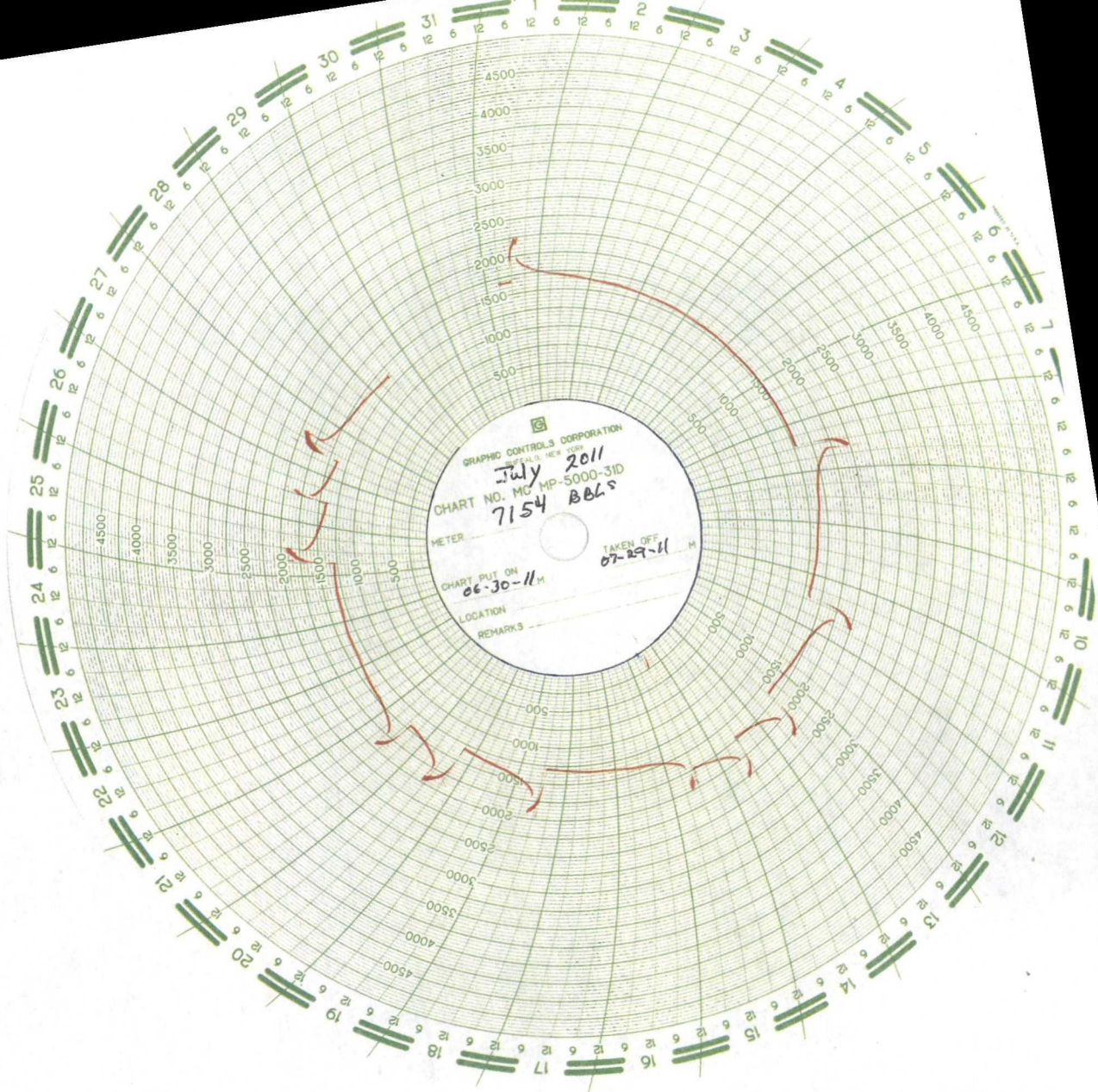
June 2011
CHART NO. MC HP-5000-310
5923 BBLs

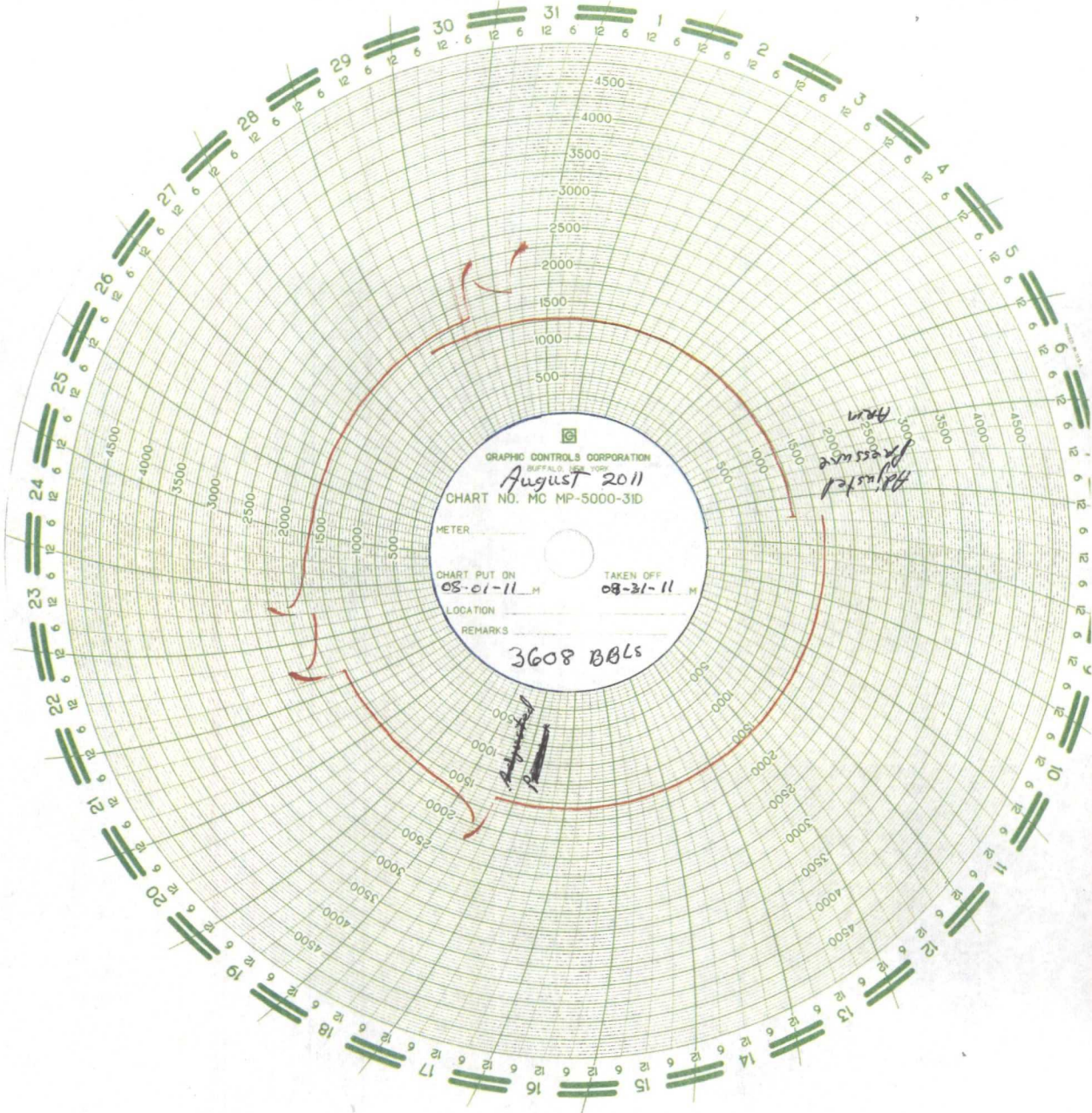
METER TAKEN OFF 06-30-11 M

CHART PUT ON 03-31-11 M

LOCATION

REMARKS





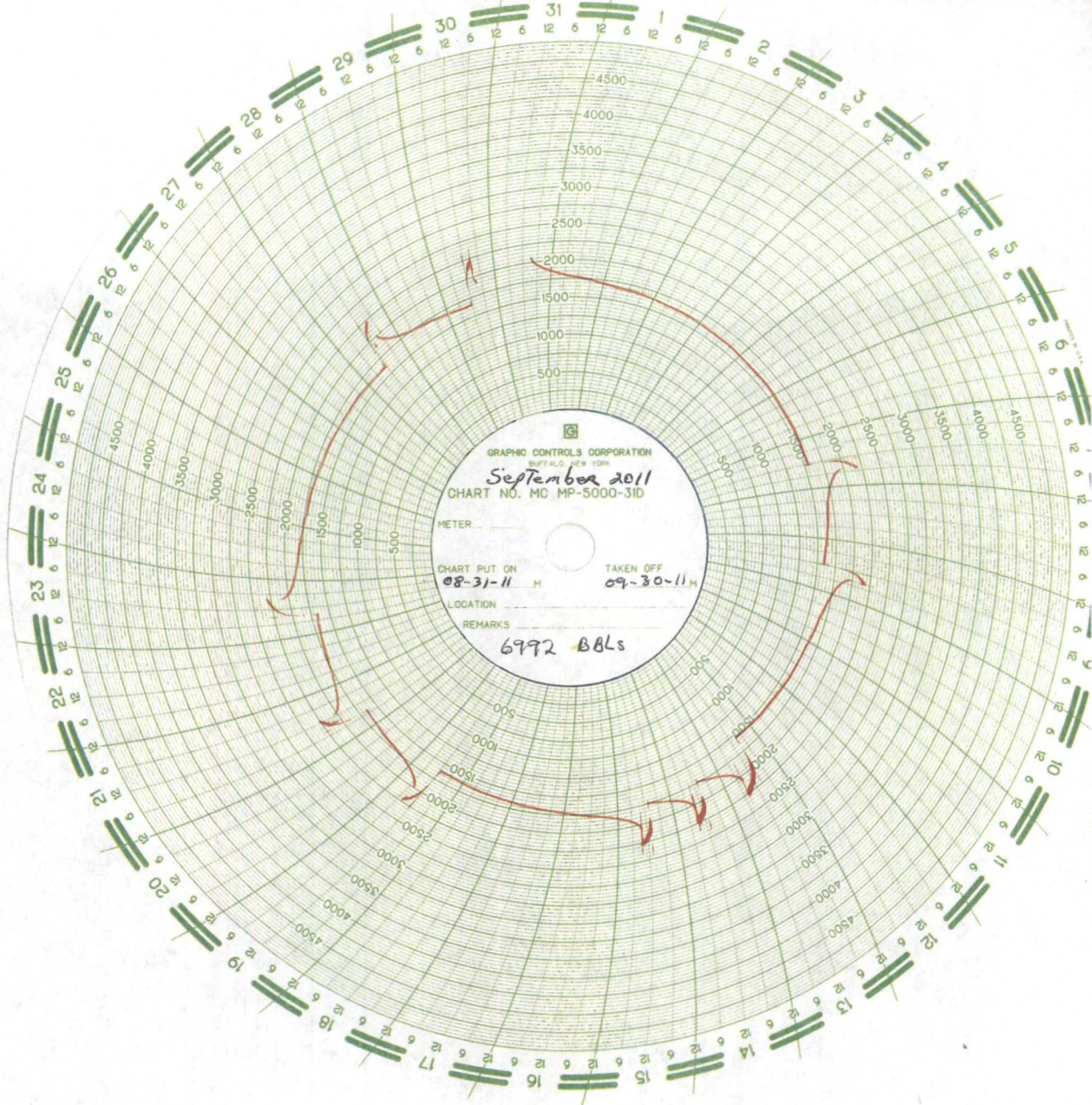
GRAPHIC CONTROLS CORPORATION
BUFFALO, N.Y.
August 2011
CHART NO. MC MP-5000-31D

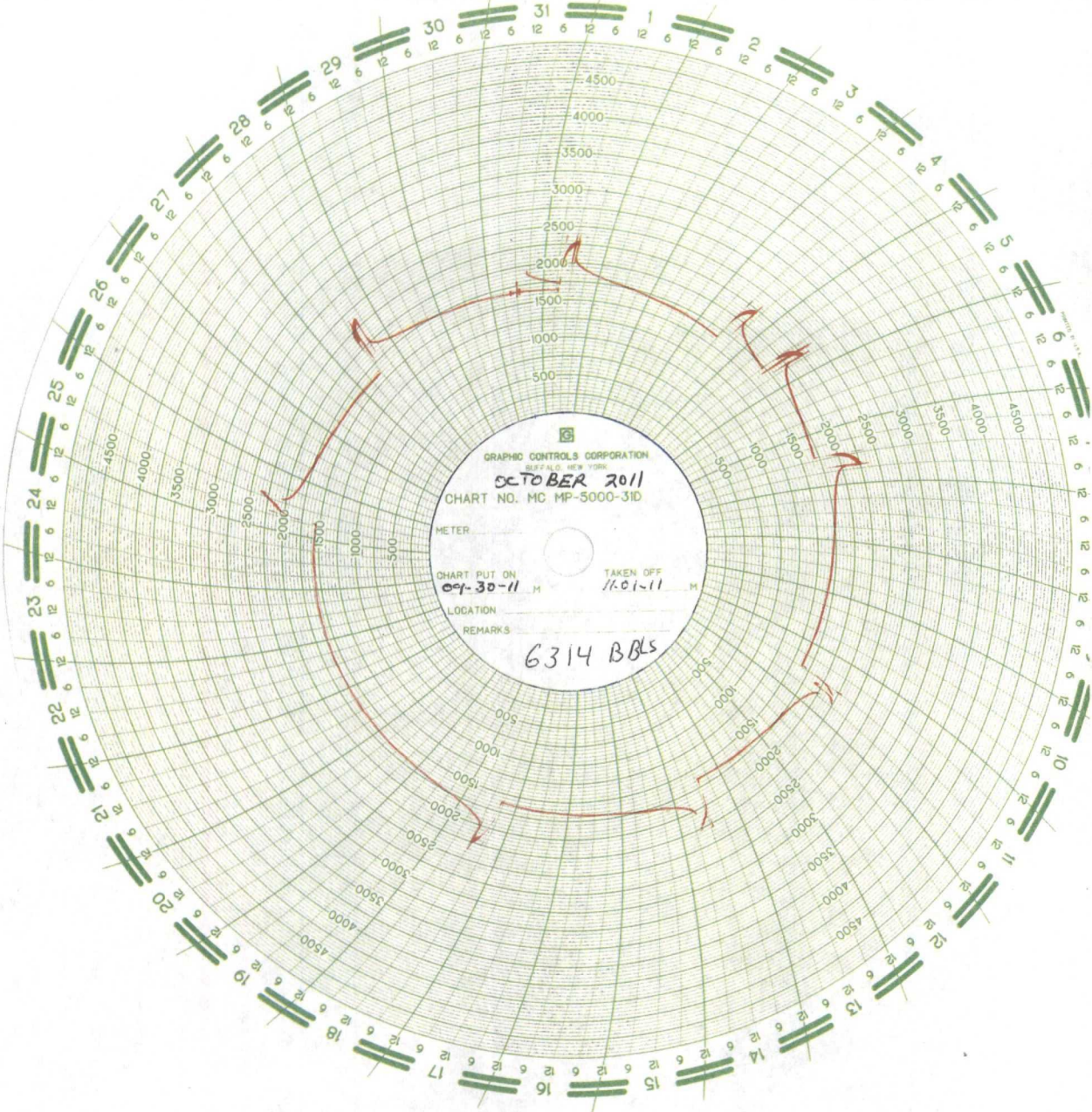
METER _____
CHART PUT ON 08-01-11 M TAKEN OFF 08-31-11 M
LOCATION _____
REMARKS _____

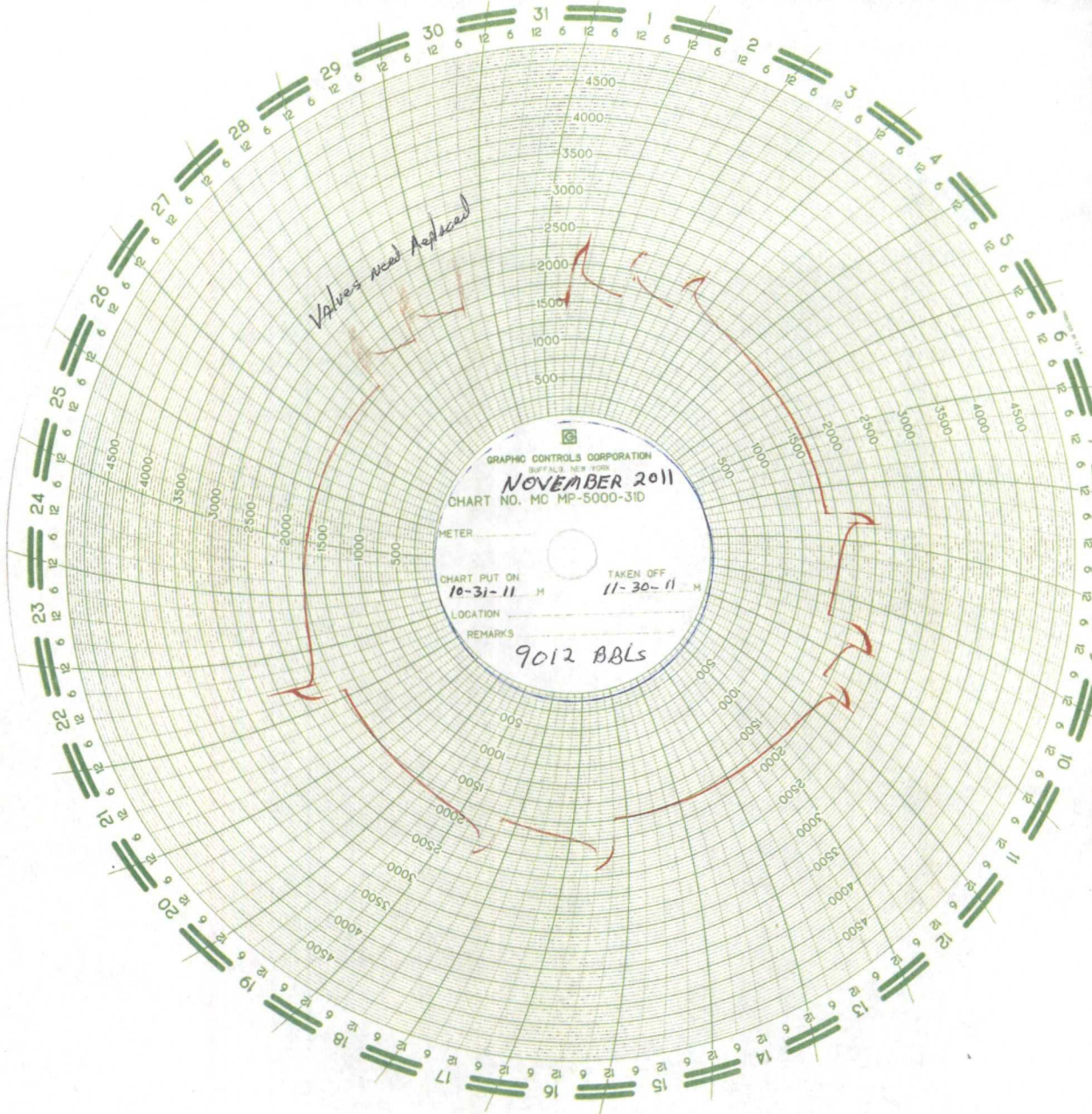
3608 BBLs

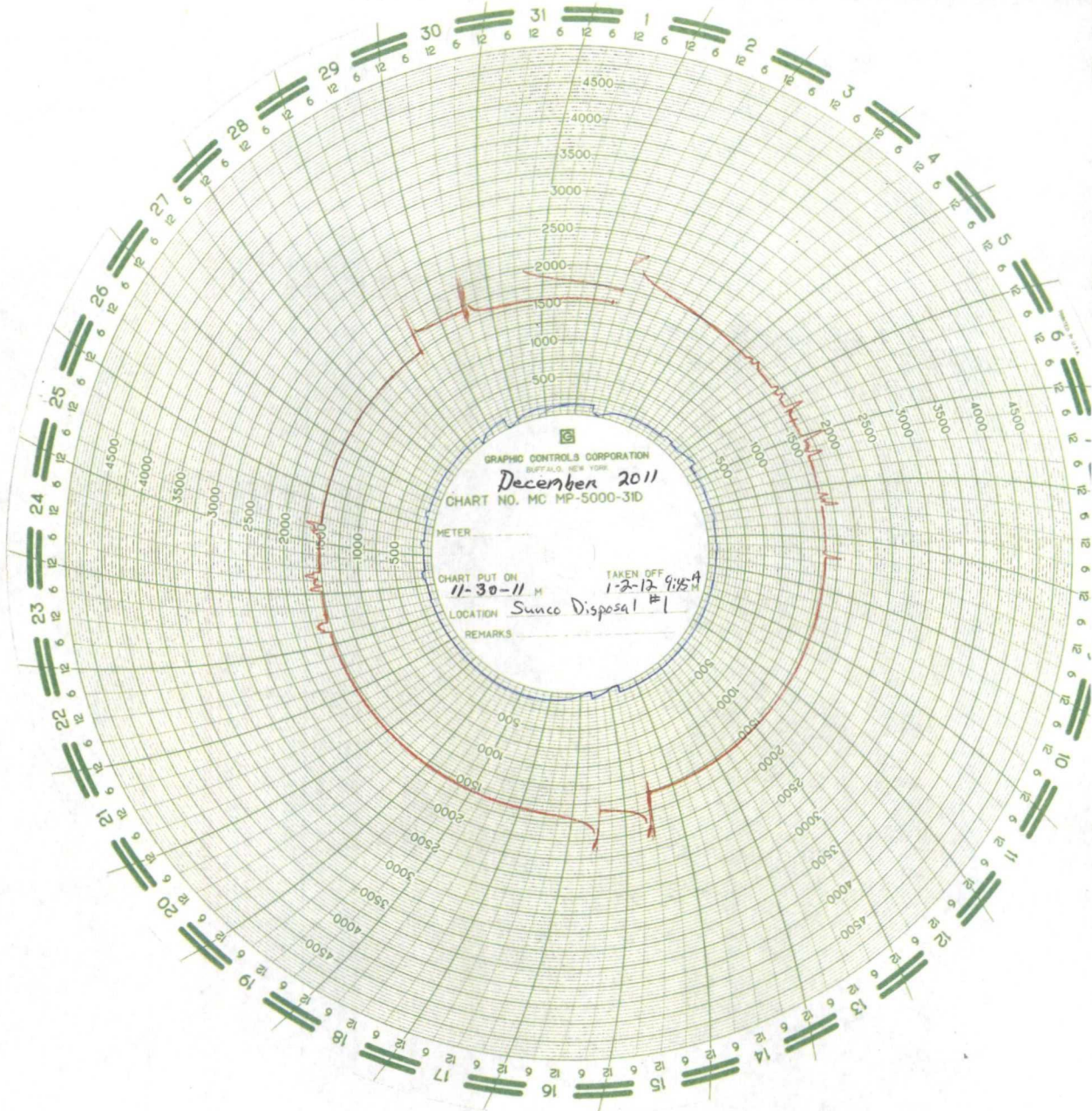
*Adjusted
Pressure
Train*











GRAPHIC CONTROLS CORPORATION
BUFFALO, NEW YORK
December 2011
CHART NO. MC MP-5000-31D

METER _____

CHART PUT ON **11-30-11** M TAKEN OFF **1-2-12 9:15 A**

LOCATION **Sunco Disposal #1**

REMARKS _____

Appendix I
2011 Chemical Analysis
Data

2011 First Quarter Analytical Results

Example:

Safety and Sampling Plan:

Location of Facility: Key Energy Farmington Injection Well UIC-5

Sample Event: 1st Quarter Sampling-2011

Requirements: Permit conditions require the following: VOC 8260, semi-8270 + pesticides and herbicides, WQCC metals + cyanide, General Chemistry (Major Cations/Anions), RCRA (RCI) Reactivity, Corrosivity, and Ignitibility. Special note: 8270 is broken down into TCLP, PAH, and P&H.

Tailgate Safety Meeting: Discuss and point out any onsite safety hazardous:
Note any Hazards and Safety Equipment to be used:

Date, print names and initial:

Sampling Objective and Plan: To collect water samples and perform analytical work pursuant to EPA protocols, procedures and methods per SW-846. Cross-contamination will be reduced by wearing new sampling gloves for each sample. No smoking or engine exhaust near sampling. Bottles will be placed on ice immediately after collection. All labels shall be pre-completed and placed on bottles/vials, except time.

If injection well is running then samples shall be collected from the main pump outlet. If pump is down, then samples may be collected from the suction side of pump, from storage tank outlet, or from a clean bucket that has been used to collect tank samples.

40 ml VOA vials shall have no air bubbles.

Photos Taken: Yes No

Field

Notes: _____

Location Map on back-side for reference:



envirotech
Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS

| | | | |
|--------------------|-----------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 05-02-11 |
| Chain of Custody: | 11228 | Date Sampled: | 04-21-11 |
| Laboratory Number: | 57950 | Date Received: | 04-21-11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 04-22-11 |
| Preservative: | Cool | Analysis Requested: | 8260 VOC |
| Condition: | Cool and intact | | |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | 1,050 | (ug/L) | 1.0 | 1 |
| Toluene | 1,360 | (ug/L) | 1.0 | 1 |
| Ethylbenzene | 46.9 | (ug/L) | 1.0 | 1 |
| p,m Xylene | 378 | (ug/L) | 1.0 | 1 |
| o-Xylene | 121 | (ug/L) | 1.0 | 1 |
| Xylenes, Total | 498 | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | 45.3 | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | 45.3 | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | ND | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



Client: Key Energy
Sample ID: Inj Water
Laboratory Number: 57950

page 2

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|----------------------|--------|------------|-----------------|
| 1,1-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | ND | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | ND | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 3.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

| Surrogates: | | | Rec. Limits | |
|-----------------------|------|------------|-------------|---|
| Dibromofluoromethane | 63.8 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 76.3 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 79.3 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 70.6 | % Recovery | 78.6-115 | 1 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: Key Farmington UIC-5 Inj Water

Analyst

Review



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**QUALITY ASSURANCE / QUALITY CONTROL
DOCUMENTATION**



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8260 Blank | Date Reported: | 05-02-11 |
| Laboratory Number: | 0422BK82 | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 04-22-11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | ND | (ug/L) | 1.0 | 1 |
| Toluene | ND | (ug/L) | 1.0 | 1 |
| Ethylbenzene | ND | (ug/L) | 1.0 | 1 |
| Xylenes, Total | ND | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | ND | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: 8260 Blank
Laboratory Number: 0422BK82

page 2

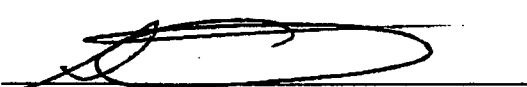
| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|----------------------|--------|------------|-----------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | ND | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | ND | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 1.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethane (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

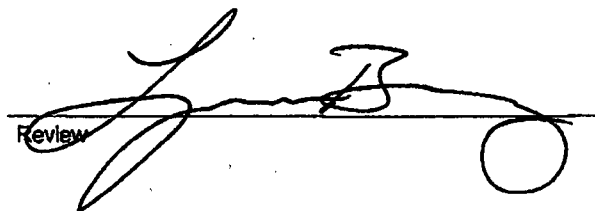
| Surrogates: | | | Rec. Limits | |
|-----------------------|------|------------|-------------|---|
| Dibromofluoromethane | 87.7 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 79.4 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 81.2 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 84.6 | % Recovery | 78.6-115 | 1 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 57950.


Analyst


Review



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Daily Calibration Report

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Daily Calibration | Date Reported: | 05-02-11 |
| Laboratory Number: | 0422CA82 | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 04-22-11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|--------------------------------|-------------------------|--------|-------------|----------------------|
| Benzene | 100 | 100 | 100 | 80 - 120 |
| Toluene | 100 | 100 | 100 | 80 - 120 |
| Ethylbenzene | 100 | 100 | 100 | 80 - 120 |
| Xylenes, Total | 300 | 300 | 100 | 80 - 120 |
| Methyl tert-butyl ether (MTBE) | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3,5-Trimethylbenzene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichloroethane (EDC) | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dibromoethane (EDB) | 100 | 100 | 100 | 80 - 120 |
| Naphthalene | 100 | 100 | 100 | 80 - 120 |
| 1-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| 2-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| Bromobenzene | 100 | 100 | 100 | 80 - 120 |
| Bromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromodichloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromoform | 100 | 100 | 100 | 80 - 120 |
| Bromomethane | 100 | 100 | 100 | 80 - 120 |
| Carbon Tetrachloride | 100 | 100 | 100 | 80 - 120 |
| Chlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Chloroethane | 100 | 100 | 100 | 80 - 120 |
| Chloroform | 100 | 100 | 100 | 80 - 120 |
| Chloromethane | 100 | 100 | 100 | 80 - 120 |
| 2-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| 4-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| cis-1,2-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| cis-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dibromo-3-chloropropane | 100 | 100 | 100 | 80 - 120 |
| Dibromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Dibromoethane | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,4-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Dichlorodifluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 2,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |



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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: Daily Calibration
Laboratory Number: 0422CA82

page 2

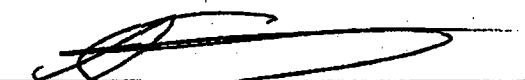
| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|---------------------------|----------------------|--------|-------------|-------------------|
| 1,1-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Hexachlorobutadiene | 100 | 100 | 100 | 80 - 120 |
| Isopropylbenzene | 100 | 100 | 100 | 80 - 120 |
| 4-Isopropyltoluene | 100 | 100 | 100 | 80 - 120 |
| Methylene Chloride | 100 | 100 | 100 | 80 - 120 |
| n-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| n-Propylbenzene | 100 | 100 | 100 | 80 - 120 |
| sec-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| Styrene | 100 | 100 | 100 | 80 - 120 |
| tert-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| Tetrachloroethene (PCE) | 100 | 100 | 100 | 80 - 120 |
| 1,1,1,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| trans-1,2-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| trans-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Trichloroethene (TCE) | 100 | 100 | 100 | 80 - 120 |
| Trichlorofluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,1,1-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichloropropane | 100 | 100 | 100 | 80 - 120 |
| Vinyl Chloride | 100 | 100 | 100 | 80 - 120 |

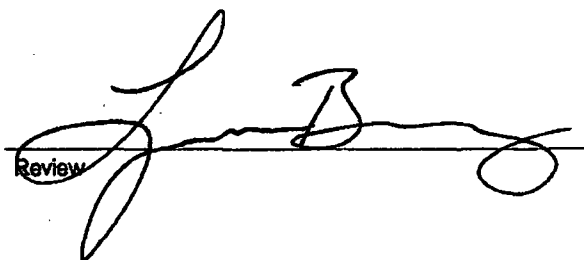
| Surrogates: | | | Rec. Limits |
|-----------------------|-----|------------|-------------|
| Dibromofluoromethane | 100 | % Recovery | 78.6-115 |
| 1,2-Dichloroethane-d4 | 100 | % Recovery | 74.6-123 |
| Toluene-d8 | 100 | % Recovery | 84.2-115 |
| 4-Bromofluorobenzene | 100 | % Recovery | 78.6-115 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 57950.


Analyst


Review



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Matrix Spikes | Date Reported: | 05-02-11 |
| Laboratory Number: | 04-22 VOA - 57950 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 04-22-11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |


| Spike Analyte | Units: ug/L | | | %Recovery | Recovery Limits | Det. Limit |
|-----------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | | | |
| Benzene | 1050 | 100 | 1,110 | 96.5% | 85.3 - 120 | 1.0 |
| Toluene | 1,360 | 100 | 1,380 | 94.5% | 73 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 80.4 | 80.4% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 109 | 109% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 84.7 | 84.7% | 76.1 - 126 | 1.0 |

| Spike Duplicate Analyte | Units: ug/L | | | %Recovery | Recovery Limits | Det. Limit |
|-------------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | | | |
| Benzene | 1050 | 100 | 909 | 79.1% | 85.3 - 120 | 1.0 |
| Toluene | 1,360 | 100 | 1,160 | 79.5% | 73 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 72.0 | 72.0% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 92.2 | 92.2% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 74.9 | 74.9% | 76.1 - 126 | 1.0 |

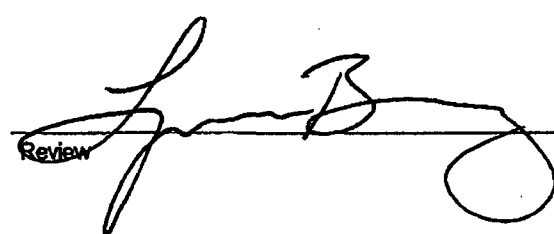
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 57950.



Analyst



Review



| | | | |
|--------------------|------------|------------------|------------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 04/28/11 |
| Laboratory Number: | 57950 | Date Sampled: | 04/21/11 |
| Chain of Custody: | 11228 | Date Received: | 04/21/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 04/27/11 |
| Preservative: | Cool | Date Digested: | 04/25/11 |
| Condition: | Intact | Analysis Needed: | Dissolved Metals |

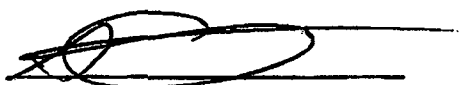
| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------|-------------------------|-------------------------|
| Arsenic | 0.075 | 0.001 |
| Aluminum | 0.079 | 0.001 |
| Barium | 2.833 | 0.001 |
| Cadmium | 0.004 | 0.001 |
| Chromium | 0.067 | 0.001 |
| Cobalt | 0.001 | 0.001 |
| Copper | 0.151 | 0.001 |
| Iron | 47.7 | 0.001 |
| Lead | 0.024 | 0.001 |
| Manganese | 21.6 | 0.001 |
| Molybdenum | 0.008 | 0.001 |
| Mercury | 0.007 | 0.001 |
| Nickel | 0.061 | 0.001 |
| Selenium | 0.116 | 0.001 |
| Silver | ND | 0.001 |
| Zinc | 0.023 | 0.001 |

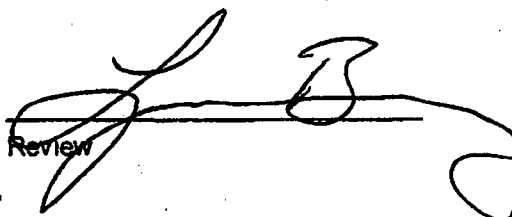
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: **Key Farmington UIC-5 Inj Water**


Analyst


Reviewer



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Analytical Laboratory

TRACE METAL ANALYSIS
Quality Control /
Quality Assurance Report

| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 4-27-TM QA/QC | Date Reported: | 04/27/11 |
| Laboratory Number: | 57953 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | Dissolved Metals | Date Analyzed: | 04/27/11 |
| Condition: | N/A | Date Digested: | 04/25/11 |

| Blank & Duplicate Conc: (mg/L) | Instrument Blank (mg/L) | Method Blank | Detection Limit | Sample | Duplicate | % Diff. | Acceptance Range |
|--------------------------------|-------------------------|--------------|-----------------|--------|-----------|---------|------------------|
| Arsenic | ND | ND | 0.001 | 0.003 | 0.002 | 18.5% | 0% - 30% |
| Aluminum | ND | ND | 0.001 | 0.354 | 0.351 | 0.62% | 0% - 30% |
| Barium | ND | ND | 0.001 | 0.063 | 0.062 | 1.27% | 0% - 30% |
| Cadmium | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Chromium | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Cobalt | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Copper | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Iron | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Lead | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Manganese | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Molybdenum | ND | ND | 0.001 | 0.003 | 0.003 | 0.00% | 0% - 30% |
| Mercury | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Nickel | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Selenium | ND | ND | 0.001 | 0.005 | 0.006 | 27.7% | 0% - 30% |
| Silver | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Zinc | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |

| Spike Conc: (mg/L) | Spike Added | Sample | Spiked Sample | Percent Recovery | Acceptance Range |
|--------------------|-------------|--------|---------------|------------------|------------------|
| Arsenic | 0.250 | 0.003 | 0.238 | 94.0% | 80% - 120% |
| Aluminum | 0.250 | 0.354 | 0.605 | 100% | 80% - 120% |
| Barium | 0.500 | 0.063 | 0.569 | 101% | 80% - 120% |
| Cadmium | 0.250 | ND | 0.225 | 90.1% | 80% - 120% |
| Chromium | 0.500 | ND | 0.453 | 90.7% | 80% - 120% |
| Cobalt | 0.250 | ND | 0.222 | 88.5% | 80% - 120% |
| Copper | 0.500 | ND | 0.437 | 88.8% | 80% - 120% |
| Iron | 0.500 | ND | 0.457 | 91.5% | 80% - 120% |
| Lead | 0.500 | ND | 0.454 | 91.9% | 80% - 120% |
| Manganese | 0.250 | ND | 0.265 | 106% | 80% - 120% |
| Molybdenum | 0.100 | 0.003 | 0.095 | 92.1% | 80% - 120% |
| Mercury | 0.100 | ND | 0.092 | 92.7% | 80% - 120% |
| Nickel | 0.500 | ND | 0.442 | 88.5% | 80% - 120% |
| Selenium | 0.100 | 0.005 | 0.097 | 92.6% | 80% - 120% |
| Silver | 0.100 | ND | 0.087 | 96.5% | 80% - 120% |
| Zinc | 0.500 | ND | 0.450 | 91.3% | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.
Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for Sample 57953-57954, 57950, 57968-57970

Analyst

Review



| | | | |
|--------------------|------------|----------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 04/27/11 |
| Laboratory Number: | 57950 | Date Sampled: | 04/21/11 |
| Chain of Custody: | 11228 | Date Received: | 04/21/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 04/22/11 |
| Preservative: | Cool | | |
| Condition: | Intact | | |

| Parameter | Analytical Result | Units | | |
|-------------------------------|-------------------|----------|-------|-------|
| pH | 6.45 | s.u. | | |
| Conductivity @ 25° C | 19,500 | umhos/cm | | |
| Total Dissolved Solids @ 180C | 15,700 | mg/L | | |
| Total Dissolved Solids (Calc) | 15,200 | mg/L | | |
| SAR | 30.9 | ratio | | |
| Total Alkalinity as CaCO3 | 2,600 | mg/L | | |
| Total Hardness as CaCO3 | 3,540 | mg/L | | |
| Bicarbonate as CaCO3 | 2,600 | mg/L | 42.6 | meq/L |
| Carbonate as CaCO3 | < 0.01 | mg/L | 0.000 | meq/L |
| Hydroxide as CaCO3 | < 0.01 | mg/L | 0.001 | meq/L |
| Nitrate Nitrogen | 1.30 | mg/L | 0.021 | meq/L |
| Nitrite Nitrogen | 0.021 | mg/L | 0.000 | meq/L |
| Chloride | 7,400 | mg/L | 209 | meq/L |
| Fluoride | 1.46 | mg/L | 0.077 | meq/L |
| Phosphate | 0.180 | mg/L | 0.006 | meq/L |
| Sulfate | 413 | mg/L | 8.59 | meq/L |
| Iron | 44.8 | mg/L | 1.60 | meq/L |
| Calcium | 1,310 | mg/L | 65.4 | meq/L |
| Magnesium | 64.7 | mg/L | 5.32 | meq/L |
| Potassium | 205 | mg/L | 5.24 | meq/L |
| Sodium | 4,230 | mg/L | 184 | meq/L |
| Cations | | | 260 | meq/L |
| Anions | | | 260 | meq/L |
| Cation/Anion Difference | | | 0.05% | |

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments **Key Farmington UIC-5 Inj Water**

Analyst

Review



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EPA Method 8100
Polynuclear Aromatic Hydrocarbons

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 04-29-11 |
| Laboratory Number: | 57950 | Date Sampled: | 04-21-11 |
| Chain of custody: | 11228 | Date Received: | 04-21-11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 04-29-11 |
| Preservative: | Cool | Date Concentrated: | 04-26-11 |
| Condition: | Intact | Analysis Requested: | 8100 |

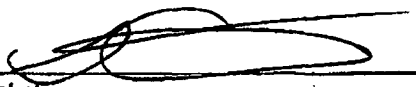
| Parameter | Concentration (mg/Kg) | Det. Limit (mg/Kg) |
|------------------------|-----------------------|--------------------|
| Naphthalene | ND | 0.20 |
| Acenaphthylene | ND | 0.20 |
| Acenaphthene | ND | 0.20 |
| Fluorene | ND | 0.20 |
| Phenanthrene | ND | 0.20 |
| Anthracene | ND | 0.20 |
| Fluoranthene | ND | 0.20 |
| Pyrene | ND | 0.20 |
| Benzo[a]anthracene | ND | 0.20 |
| Chrysene | ND | 0.20 |
| Benzo(b)fluoranthene | ND | 0.20 |
| Benzo[k]fluoranthene | ND | 0.20 |
| Benzo(a)pyrene | ND | 0.20 |
| Indeno[1,2,3]pyrene | ND | 0.20 |
| Dibenzo[a,h]anthracene | ND | 0.20 |
| Benzo(g,h,i)perylene | ND | 0.20 |

ND - Parameter not detected at the stated detection limit.

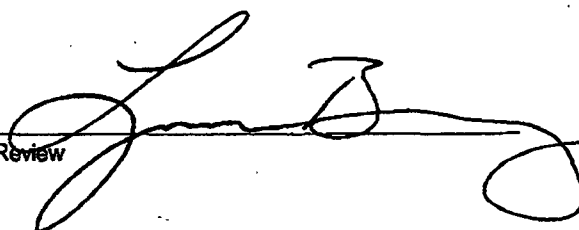
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 81.9 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: Key Farmington UIC-5 Inj Water.



Analyst



Review



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QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION



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Analytical Laboratory

EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Quality Assurance Report

Client: QA/QC
 Sample ID: sample duplicate
 Laboratory Number: 57950
 Sample Matrix: Aqueous
 Analysis Requested: 8100
 Condition: N/A


Project #: QA/QC
 Date Reported: 04-29-11
 Date Sampled: N/A
 Date Received: N/A
 Date Analyzed: 04-29-11

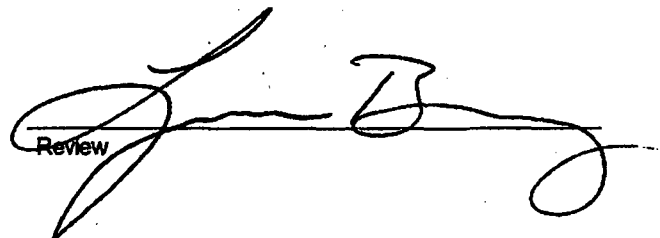
| Parameter | Sample Result (mg/Kg) | Duplicate Sample Result (mg/Kg) | Det. Limit (mg/Kg) | Percent Difference |
|------------------------|-----------------------|---------------------------------|--------------------|--------------------|
| Naphthalene | ND | ND | 0.20 | 0.0% |
| Acenaphthylene | ND | ND | 0.20 | 0.0% |
| Acenaphthene | ND | ND | 0.20 | 0.0% |
| Fluorene | ND | ND | 0.20 | 0.0% |
| Phenanthrene | ND | ND | 0.20 | 0.0% |
| Anthracene | ND | ND | 0.20 | 0.0% |
| Fluoranthene | ND | ND | 0.20 | 0.0% |
| Pyrene | ND | ND | 0.20 | 0.0% |
| Benzo[a]anthracene | ND | ND | 0.20 | 0.0% |
| Chrysene | ND | ND | 0.20 | 0.0% |
| Benzo(b)fluoranthene | ND | ND | 0.20 | 0.0% |
| Benzo[k]fluoranthene | ND | ND | 0.20 | 0.0% |
| Benzo(a)pyrene | ND | ND | 0.20 | 0.0% |
| Indeno[1,2,3]pyrene | ND | ND | 0.20 | 0.0% |
| Dibenzo[a,h]anthracene | ND | ND | 0.20 | 0.0% |
| Benzo(g,h,i)perylene | ND | ND | 0.20 | 0.0% |

ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
 SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 57950.


 Analyst


 Review



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EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Quality Assurance Report

| | | | |
|---------------------|--------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Matrix Spike | Date Reported: | 04-29-11 |
| Laboratory Number: | 57950 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 04-29-11 |
| Condition: | N/A | | |

| Parameter | Sample Result (mg/Kg) | Spike Added (mg/Kg) | Spiked Sample Result (mg/Kg) | Det. Limit (mg/Kg) | Percent Recovery | SW-846 % Rec. Accept. Range |
|------------------------|-----------------------|---------------------|------------------------------|--------------------|------------------|-----------------------------|
| Naphthalene | ND | 100 | 114 | 0.20 | 114% | 10-122 |
| Acenaphthylene | ND | 100 | 129 | 0.20 | 129% | 10-139 |
| Acenaphthene | ND | 100 | 116 | 0.20 | 116% | 10-124 |
| Fluorene | ND | 100 | 113 | 0.20 | 113% | 10-142 |
| Phenanthrene | ND | 100 | 113 | 0.20 | 113% | 10-155 |
| Anthracene | ND | 100 | 115 | 0.20 | 115% | 10-126 |
| Fluoranthene | ND | 100 | 94.6 | 0.20 | 94.6% | 14-123 |
| Pyrene | ND | 100 | 92.6 | 0.20 | 92.6% | 10-140 |
| Benzo[a]anthracene | ND | 100 | 103 | 0.20 | 103% | 10-116 |
| Chrysene | ND | 100 | 82.6 | 0.20 | 82.6% | 12-135 |
| Benzo(b)fluoranthene | ND | 100 | 72.8 | 0.20 | 72.8% | 10-199 |
| Benzo[k]fluoranthene | ND | 100 | 88.7 | 0.20 | 88.7% | 10-150 |
| Benzo(a)pyrene | ND | 100 | 102 | 0.20 | 102% | 10-159 |
| Indeno[1,2,3]pyrene | ND | 100 | 83.2 | 0.20 | 83.2% | 10-128 |
| Dibenzo[a,h]anthracene | ND | 100 | 89.6 | 0.20 | 89.6% | 10-110 |
| Benzo(g,h,i)perylene | ND | 100 | 52.1 | 0.20 | 52.1% | 10-116 |

ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 57950.

Analyst

Review

| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8100 Cal 04-29 | Date Reported: | 04-29-11 |
| Laboratory Number: | 0429CA81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Soil | Date Analyzed: | 04-29-11 |
| Preservative: | N/A | Date Concentrated: | N/A |
| Condition: | N/A | Analysis Requested: | 8100 |

| Parameter | Concentration (mg/L) | Result | % Recovered | % Recovery Limits |
|------------------------|-------------------------|--------|----------------|----------------------|
| Naphthalene | 200 | 194 | 96.8 | 80 - 120 |
| Acenaphthylene | 200 | 200 | 100 | 80 - 120 |
| Acenaphthene | 200 | 200 | 100 | 80 - 120 |
| Fluorene | 200 | 200 | 100 | 80 - 120 |
| Phenanthrene | 200 | 200 | 100 | 80 - 120 |
| Anthracene | 200 | 200 | 100 | 80 - 120 |
| Fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Pyrene | 200 | 200 | 100 | 80 - 120 |
| Benzo[a]anthracene | 200 | 200 | 100 | 80 - 120 |
| Chrysene | 200 | 200 | 100 | 80 - 120 |
| Benzo(b)fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Benzo[k]fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Benzo(a)pyrene | 200 | 291 | 146 | 80 - 120 |
| Indeno[1,2,3]pyrene | 200 | 200 | 100 | 80 - 120 |
| Dibenzo[a,h]anthracene | 200 | 231 | 115 | 80 - 120 |
| Benzo(g,h,i)perylene | 200 | 203 | 101 | 80 - 120 |

ND - Parameter not detected at the stated detection limit.

| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 200 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 57950.

Analyst

Review



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EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Quality Assurance Report

| | | | |
|--------------------|------------------|---------------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Laboratory Blank | Date Reported: | 04-29-11 |
| Laboratory Number: | QA/QC | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 04-29-11 |
| Condition: | N/A | Analysis Requested: | 8100 |

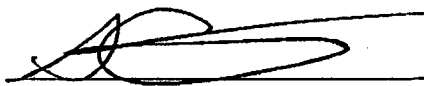
| Parameter | Concentration (ug/L) | Det. Limit (ug/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.2 |
| Acenaphthylene | ND | 0.2 |
| Acenaphthene | ND | 0.2 |
| Fluorene | ND | 0.2 |
| Phenanthrene | ND | 0.2 |
| Anthracene | ND | 0.2 |
| Fluoranthene | ND | 0.2 |
| Pyrene | ND | 0.2 |
| Benzo[a]anthracene | ND | 0.2 |
| Chrysene | ND | 0.2 |
| Benzo(b)fluoranthene | ND | 0.2 |
| Benzo[k]fluoranthene | ND | 0.2 |
| Benzo(a)pyrene | ND | 0.2 |
| Indeno[1,2,3]pyrene | ND | 0.2 |
| Dibenzo[a,h]anthracene | ND | 0.2 |
| Benzo(g,h,i)perylene | ND | 0.2 |

ND - Parameter not detected at the stated detection limit.

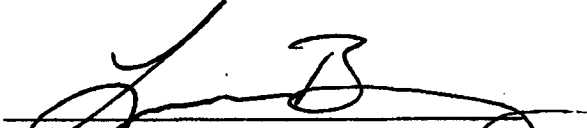
| SURROGATE RECOVERY: | Parameter | Percent Recovery |
|---------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 99.2% |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 57950.



Analyst



Review



| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Method Blank 04-29 | Date Reported: | 04-29-11 |
| Laboratory Number: | 0429MB81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Soil | Date Analyzed: | 04-29-11 |
| Preservative: | N/A | Date Concentrated: | 04-26-11 |
| Condition: | N/A | Analysis Requested: | 8100 |

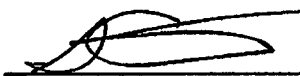
| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.20 |
| Acenaphthylene | ND | 0.20 |
| Acenaphthene | ND | 0.20 |
| Fluorene | ND | 0.20 |
| Phenanthrene | ND | 0.20 |
| Anthracene | ND | 0.20 |
| Fluoranthene | ND | 0.20 |
| Pyrene | ND | 0.20 |
| Benzo[a]anthracene | ND | 0.20 |
| Chrysene | ND | 0.20 |
| Benzo(b)fluoranthene | ND | 0.20 |
| Benzo[k]fluoranthene | ND | 0.20 |
| Benzo(a)pyrene | ND | 0.20 |
| Indeno[1,2,3]pyrene | ND | 0.20 |
| Dibenzo[a,h]anthracene | ND | 0.20 |
| Benzo(g,h,i)perylene | ND | 0.20 |

ND - Parameter not detected at the stated detection limit.

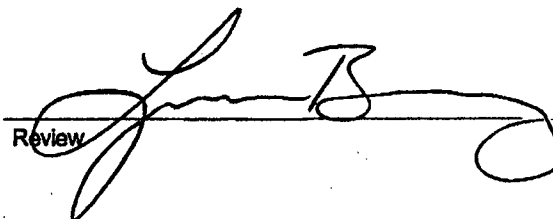
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 103 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 57950.



Analyst



Review



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**EPA METHOD 8260
AROMATIC / HALOGENATED
VOLATILE ORGANICS**

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 04-28-11 |
| Laboratory Number: | 57950 | Date Sampled: | 04-21-11 |
| Chain of Custody: | 11228 | Date Received: | 04-21-11 |
| Sample Matrix: | Aqueous | Date Extracted: | NA |
| Preservative: | Cool | Date Analyzed: | 04-28-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limits (mg/L) |
|----------------------|----------------------|------------------------|--------------------------|
| Vinyl Chloride | ND | 0.001 | 0.2 |
| 2-Butanone (MEK) | ND | 0.001 | 200 |
| 1,1-Dichloroethene | ND | 0.001 | 0.7 |
| Chloroform | ND | 0.001 | 6.0 |
| Carbon Tetrachloride | ND | 0.001 | 0.5 |
| Benzene | 0.979 | 0.001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.001 | 0.5 |
| Trichloroethene | ND | 0.003 | 0.5 |
| Tetrachloroethene | ND | 0.005 | 0.7 |
| Chlorobenzene | ND | 0.003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|----------------------|------------------|
| | Fluorobenzene | 89.8% |
| | 1,4-difluorobenzene | 90.0% |
| | 4-bromochlorobenzene | 97.9% |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 Inj Water**

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Review



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Analytical Laboratory

**EPA METHOD 8260
AROMATIC / HALOGENATED
VOLATILE ORGANICS
Quality Assurance Report**

| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0428TVBK QA/QC | Date Reported: | 04-28-11 |
| Laboratory Number: | 57950 | Date Sampled: | N/A |
| Sample Matrix: | N/A | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 04-28-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Concentration (mg/L) | Detection Limit | Laboratory Blank | Method Blank | Sample Conc. | Duplicate Conc. | Percent Difference |
|---|-----------------|------------------|--------------|--------------|-----------------|--------------------|
| Vinyl Chloride | 0.001 | ND | ND | ND | ND | 0.0% |
| 2-Butanone (MEK) | 0.001 | ND | ND | ND | ND | 0.0% |
| 1,1-Dichloroethene | 0.001 | ND | ND | ND | ND | 0.0% |
| Chloroform | 0.001 | 0.009 | 0.009 | ND | ND | 0.0% |
| Carbon Tetrachloride | 0.001 | ND | ND | ND | ND | 0.0% |
| Benzene | 0.001 | ND | ND | 0.979 | 1.10 | 1.1% |
| 1,2-Dichloroethane | 0.001 | ND | ND | ND | ND | 0.0% |
| Trichloroethene | 0.003 | ND | ND | ND | ND | 0.0% |
| Tetrachloroethene | 0.005 | ND | ND | ND | ND | 0.0% |
| Chlorobenzene | 0.003 | ND | ND | ND | ND | 0.0% |
| 1,4-Dichlorobenzene | 0.002 | ND | ND | ND | ND | 0.0% |

| Matrix Spike Concentration (mg/L) | Amount Spiked | Sample Result | Spike Result | Percent Recovery | Acceptable Range |
|-----------------------------------|---------------|---------------|--------------|------------------|------------------|
| Vinyl Chloride | 0.100 | ND | 0.087 | 87.3% | 26-163 |
| 2-Butanone (MEK) | 0.100 | ND | 0.134 | 134% | 43-143 |
| 1,1-Dichloroethene | 0.100 | ND | 0.092 | 91.6% | 47-132 |
| Chloroform | 0.100 | ND | 0.082 | 82.1% | 49-133 |
| Carbon Tetrachloride | 0.100 | ND | 0.092 | 92.2% | 43-143 |
| Benzene | 0.100 | 0.979 | 1.06 | 98.4% | 39-150 |
| 1,2-Dichloroethane | 0.100 | ND | 0.097 | 96.6% | 51-147 |
| Trichloroethene | 0.100 | ND | 0.093 | 93.4% | 35-146 |
| Tetrachloroethene | 0.100 | ND | 0.082 | 82.2% | 26-162 |
| Chlorobenzene | 0.100 | ND | 0.085 | 84.9% | 38-150 |
| 1,4-Dichlorobenzene | 0.100 | ND | 0.086 | 85.9% | 42-143 |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Comments: QA/QC for Sample 57950 and 57978.

Analyst

Review



| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 05-18-11 |
| Laboratory Number: | 57950 | Date Sampled: | 04-21-11 |
| Chain of Custody: | 11228 | Date Received: | 04-21-11 |
| Sample Matrix: | Aqueous | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 05-05-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|-----------------------|----------------------|------------------------|-------------------------|
| o-Cresol | ND | 0.004 | 200 |
| p,m-Cresol | ND | 0.004 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.004 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.004 | 400 |
| Pentachlorophenol | ND | 0.004 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | 2-Fluorophenol | 37.3% |
| | 2,4,6-Tribromophenol | 22.5% |


References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

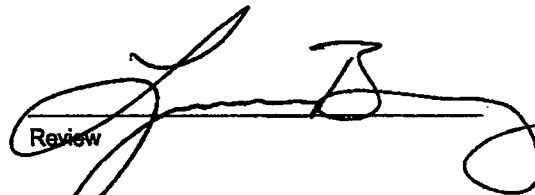
Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5-INJ WATER.**



Analyst



Review



envirotech
Analytical Laboratory

**EPA METHOD 8041
TCLP PHENOLS
Quality Assurance Report**

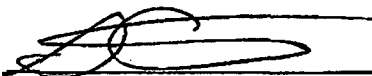
| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0505LB41 QA/QC | Date Reported: | 05-18-11 |
| Laboratory Number: | 57950 | Date Sampled: | N/A |
| Sample Matrix: | 2-Propanol | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 05-05-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| o-Cresol | ND | ND | 0.004 | ND | ND | 0.0% |
| p,m-Cresol | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4,6-Trichlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4,5-Trichlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |
| Pentachlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |

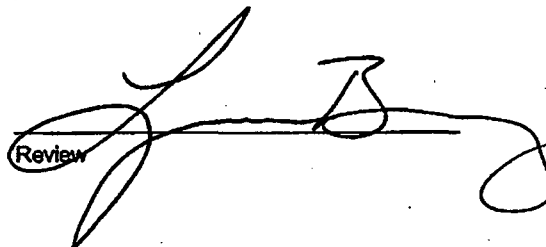
ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8041, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Comments: QA/QC for Sample 57950 and 57978.



Analyst



Review



| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 05-18-11 |
| Laboratory Number: | 57950 | Date Sampled: | 04-21-11 |
| Chain of Custody: | 11228 | Date Received: | 04-21-11 |
| Sample Matrix: | Aqueous | Date Extracted: | 04-28-11 |
| Preservative: | Cool | Date Analyzed: | 05-06-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|---------------------|----------------------|------------------------|-------------------------|
| Pyridine | ND | 0.004 | 5.0 |
| Hexachloroethane | ND | 0.004 | 3.0 |
| Nitrobenzene | ND | 0.004 | 2.0 |
| Hexachlorobutadiene | ND | 0.004 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.004 | 0.13 |
| HexachloroBenzene | ND | 0.004 | 0.13 |


ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|------------------|------------------|
| | 2-fluorobiphenyl | 40.7% |


References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Key Farmington UIC-5-Inj Water.



Analyst



Review




| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0506LB91 QA/QC | Date Reported: | 05-18-11 |
| Laboratory Number: | 57950 | Date Sampled: | N/A |
| Sample Matrix: | Hexane | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 05-06-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| Pyridine | ND | ND | 0.004 | ND | ND | 0.0% |
| Hexachloroethane | ND | ND | 0.004 | ND | ND | 0.0% |
| Nitrobenzene | ND | ND | 0.004 | ND | ND | 0.0% |
| Hexachlorobutadiene | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4-Dinitrotoluene | ND | ND | 0.004 | ND | ND | 0.0% |
| HexachloroBenzene | ND | ND | 0.004 | ND | ND | 0.0% |

ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Comments: QA/QC for Sample 57950, 57967, 57978 and 57988.



Analyst



Review



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Analytical Laboratory

Water Analysis


| | | | |
|--------------------|------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 04/26/11 |
| Laboratory Number: | 57950 | Date Sampled: | 04/21/11 |
| Sample Matrix: | Aqueous | Date Received: | 04/21/11 |
| Preservative: | Cool | Date Analyzed: | 04/22/11 |
| Condition: | Intact | Chain of Custody: | 11228 |

| Parameter | Analytical Result | Units |
|-----------|-------------------|-------|
|-----------|-------------------|-------|

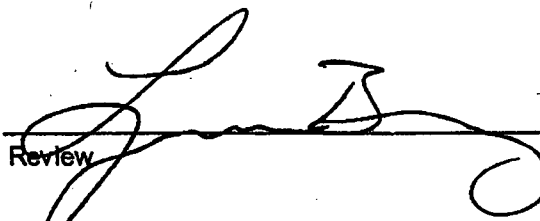
| | | |
|-----------------|----|------|
| Cyanide (total) | ND | mg/L |
|-----------------|----|------|

Reference: U.S.E.P.A., Method 335.3 Cyanide, Total.

Comments: Key Farmington UIC-5 Inj Water



Analyst



Review

CHAIN OF CUSTODY RECORD

11228

| Client: | | | | ANALYSIS / PARAMETERS | | | | | | | | | | | | | | | | | | | |
|---|-------------|-------------|---------|---|--------------------------|-------------------|-------------------|---|-------------------|----------------|------------|-------------|----------|------------|-------------|---------------|-----------|-------------|---------------|------|---------|------|------|
| Project Name / Location: | | | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | HCHAs & Metals | PCBs / CHL | RCI | TCLP | PAH (8100) | TPH (418.1) | CHLORIDE | H8P (H4P) | Sample Cool | Sample Intact | | | | | | | |
| Sample No./ Identification | Sample Date | Sample Time | Lab No. | Sample Matrix | No. Volume of Containers | Preservative | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | HCHAs & Metals | PCBs / CHL | RCI | TCLP | PAH (8100) | TPH (418.1) | CHLORIDE | H8P (H4P) | Sample Cool | Sample Intact | | | | |
| Client: KEY ENERGY | | | | Project Name / Location: KEY FARMINGTON VIC-5 INS | | | | | | | | | | | | | | | | | | | |
| Client Address: 5651 Hwy 64 87401 | | | | Sampler Name: Lester Wayne Price Jr. | | | | | | | | | | | | | | | | | | | |
| Client Phone No.: 832-657-4873 | | | | Price LLC | | | | | | | | | | | | | | | | | | | |
| Client No.: 98065-0013 | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4/11/11 | | 57950 | Soil Sludge (Aqueous) | 2-10 ml | X | X | | X | | | | | | | | | | | | | | |
| 2 | " | " | | Soil Sludge (Aqueous) | 2-10 ml | X | X | | | | | | X | | | | | | | | | | |
| 3 | " | " | | Soil Sludge (Aqueous) | 2-1L Amber | X | X | | | | | | X | | | | | | | | | | |
| 4 | " | " | | Soil Sludge (Aqueous) | 2-1L Amber | X | X | | | | | | X | | | | | | | | | | |
| 5 | " | " | | Soil Sludge (Aqueous) | 2-1L Amber | X | X | | | | | | X | | | | | | | | | | |
| 6 | " | " | | Soil Sludge (Aqueous) | 1-50 ml | X | X | | | | | | X | | | | | | | | | | |
| 7 | " | " | | Soil Sludge (Aqueous) | 1-350 ml | X | X | | | | | | X | | | | | | | | | | |
| 8 | " | " | | Soil Sludge (Aqueous) | 1-145 ml | X | X | | | | | | X | | | | | | | | | | |
| Relinquished by: (Signature) Lester Wayne Price Jr. | | | | Date | 4/11/11 | Time | 3:14 | Received by: (Signature) Lester Wayne Price Jr. | | | | | | | | | | | | Date | 4/21/11 | Time | 3:14 |
| Relinquished by: (Signature) | | | | Received by: (Signature) | | | | | | | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | Received by: (Signature) | | | | | | | | | | | | | | | | | | | |
| Non Rust | | | | | | | | | | | | | | | | | | | | | | | |





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Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

Report Summary

Wednesday May 04, 2011

Report Number: L512841

Samples Received: 04/23/11

Client Project: 98065-0013

Description: Key Energy

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

May 04, 2011

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

Date Received : April 23, 2011
Description : Key Farmington UIC-5 Inj Water
Sample ID : INJ WATER 57950
Collected By : Lester Price Jr
Collection Date : 04/21/11 00:00

ESC Sample # : L512841-01
Site ID :
Project # : 98065-0013

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--------------------------------|--------|------------|--------|--------|----------|------|
| Pesticides | | | | | | |
| Aldrin | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Alpha BHC | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Beta BHC | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Delta BHC | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Gamma BHC | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Chlordane | BDL | 0.00050 | mg/l | 8081A | 04/28/11 | 1 |
| 4,4-DDD | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| 4,4-DDE | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| 4,4-DDT | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Dieldrin | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Endosulfan I | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Endosulfan II | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Endosulfan sulfate | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Endrin | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Endrin aldehyde | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Endrin ketone | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Hexachlorobenzene | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Heptachlor | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Heptachlor epoxide | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Methoxychlor | BDL | 0.000050 | mg/l | 8081A | 04/28/11 | 1 |
| Toxaphene | BDL | 0.00050 | mg/l | 8081A | 04/28/11 | 1 |
| Pesticides Surrogates | | | | | | |
| Decachlorobiphenyl | 30.0 | | % Rec. | 8081A | 04/28/11 | 1 |
| Tetrachloro-m-xylene | 44.8 | | % Rec. | 8081A | 04/28/11 | 1 |
| Herbicides | | | | | | |
| 2,4-D | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| Dalapon | BDL | 0.20 | mg/l | 8151 | 04/28/11 | 1 |
| 2,4-DB | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| Dicamba | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| Dichloroprop | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| Dinoseb | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| MCPA | BDL | 0.10 | mg/l | 8151 | 04/28/11 | 1 |
| MCPP | BDL | 0.10 | mg/l | 8151 | 04/28/11 | 1 |
| 2,4,5-T | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| 2,4,5-TP (Silvex) | BDL | 0.0020 | mg/l | 8151 | 04/28/11 | 1 |
| Surrogate Recovery | | | | | | |
| 2,4-Dichlorophenyl Acetic Acid | 28.1 | | % Rec. | 8151 | 04/28/11 | 1 |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/04/11 10:32 Printed: 05/04/11 10:54

Attachment A
List of Analytes with QC Qualifiers

| Sample Number | Work Group | Sample Type | Analyte | Run ID | Qualifier |
|---------------|------------|-------------|--------------------------------|----------|-----------|
| L512841-01 | WG533069 | SAMP | 2,4-D | R1667456 | L3 |
| | WG533069 | SAMP | Dalapon | R1667456 | L3 |
| | WG533069 | SAMP | 2,4-DB | R1667456 | J3L3 |
| | WG533069 | SAMP | Dicamba | R1667456 | L3 |
| | WG533069 | SAMP | Dichloroprop | R1667456 | L3 |
| | WG533069 | SAMP | Dinoseb | R1667456 | L3 |
| | WG533069 | SAMP | MCPA | R1667456 | L3 |
| | WG533069 | SAMP | MCFP | R1667456 | L3 |
| | WG533069 | SAMP | 2,4,5-T | R1667456 | L3 |
| | WG533069 | SAMP | 2,4,5-TP (Silvex) | R1667456 | L3 |
| | WG533069 | SAMP | 2,4-Dichlorophenyl Acetic Acid | R1667456 | J2 |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|--|
| J2 | Surrogate recovery limits have been exceeded; values are outside lower control limits |
| J3 | The associated batch QC was outside the established quality control range for precision. |
| I3 | (ESC) Sample reanalysis could not be performed due to lack of additional volume. |

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Quality Assurance Report
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May 04, 2011

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|--------------------------------|----------|------------------|-------|------------|----------|----------------|
| | | Units | % Rec | | | |
| 4,4-DDD | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| 4,4-DDE | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| 4,4-DDT | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Aldrin | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Alpha BHC | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Beta BHC | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Chlordane | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Delta BHC | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Dieldrin | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Endosulfan I | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Endosulfan II | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Endosulfan sulfate | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Endrin | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Endrin aldehyde | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Endrin ketone | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Gamma BHC | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Heptachlor | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Heptachlor epoxide | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Hexachlorobenzene | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Methoxychlor | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Toxaphene | < .00005 | mg/l | | | WG532566 | 04/28/11 09:30 |
| Decachlorobiphenyl | | % Rec. | 66.68 | 10-122.6 | WG532566 | 04/28/11 09:30 |
| Tetrachloro-m-xylene | | % Rec. | 65.09 | 15.3-114.2 | WG532566 | 04/28/11 09:30 |
| 2,4,5-T | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| 2,4,5-TP (Silvex) | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| 2,4-D | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| 2,4-DB | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| Dalspon | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| Dicamba | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| Dichloroprop | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| Dinoseb | < .002 | mg/l | | | WG533069 | 04/28/11 18:16 |
| MCPA | < .1 | mg/l | | | WG533069 | 04/28/11 18:16 |
| MCPP | < .1 | mg/l | | | WG533069 | 04/28/11 18:16 |
| 2,4-Dichlorophenyl Acetic Acid | | % | 89.87 | 42-112 | WG533069 | 04/28/11 18:16 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|--------------------|-------|---------------------------|-----------|-------|--------|----------|
| | | Known Val | Result | | | |
| 4,4-DDD | mg/l | .0002 | 0.000169 | 84.5 | 37-142 | WG532566 |
| 4,4-DDE | mg/l | .0002 | 0.000141 | 70.6 | 33-124 | WG532566 |
| 4,4-DDT | mg/l | .0002 | 0.000171 | 85.7 | 32-143 | WG532566 |
| Aldrin | mg/l | .0002 | 0.0000773 | 38.7 | 25-115 | WG532566 |
| Alpha BHC | mg/l | .0002 | 0.000162 | 81.2 | 38-119 | WG532566 |
| Beta BHC | mg/l | .0002 | 0.000164 | 82.1 | 42-126 | WG532566 |
| Delta BHC | mg/l | .0002 | 0.000160 | 80.1 | 24-141 | WG532566 |
| Dieldrin | mg/l | .0002 | 0.000168 | 84.0 | 37-130 | WG532566 |
| Endosulfan I | mg/l | .0002 | 0.000169 | 84.5 | 37-125 | WG532566 |
| Endosulfan II | mg/l | .0002 | 0.000169 | 84.4 | 38-131 | WG532566 |
| Endosulfan sulfate | mg/l | .0002 | 0.000170 | 85.0 | 38-131 | WG532566 |
| Endrin | mg/l | .0002 | 0.000155 | 77.7 | 37-126 | WG532566 |
| Endrin aldehyde | mg/l | .0002 | 0.000106 | 53.1 | 24-154 | WG532566 |
| Endrin ketone | mg/l | .0002 | 0.000160 | 80.0 | 37-139 | WG532566 |
| Gamma BHC | mg/l | .0002 | 0.000163 | 81.7 | 35-114 | WG532566 |
| Heptachlor | mg/l | .0002 | 0.0000868 | 43.4 | 21-123 | WG532566 |
| Heptachlor epoxide | mg/l | .0002 | 0.000161 | 80.7 | 38-121 | WG532566 |
| Hexachlorobenzene | mg/l | .0002 | 0.000117 | 58.5 | 28-115 | WG532566 |
| Methoxychlor | mg/l | .0002 | 0.000184 | 91.9 | 55-150 | WG532566 |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Lynn Berry
5796 US. Highway 64
Farmington, NM 87401

Quality Assurance Report
Level II

L512841

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 04, 2011

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|--------------------------------|-------|---------------------------|---------|-------|------------|----------|
| | | Known Val | Result | | | |
| Decachlorobiphenyl | | | | 57.63 | 10-122.6 | |
| Tetrachloro-m-xylene | | | | 65.28 | 15.3-114.2 | |
| 2,4,5-T | mg/l | .005 | 0.00579 | 116. | 30-136 | WG533069 |
| 2,4,5-TP (Silvex) | mg/l | .005 | 0.00511 | 102. | 33-134 | WG533069 |
| 2,4-D | mg/l | .005 | 0.00511 | 102. | 24-127 | WG533069 |
| 2,4-DB | mg/l | .005 | 0.00400 | 79.9 | 22-198 | WG533069 |
| Dalapon | mg/l | .005 | 0.00364 | 72.8 | 14-121 | WG533069 |
| Dicamba | mg/l | .005 | 0.00491 | 98.2 | 31-135 | WG533069 |
| Dichloroprop | mg/l | .005 | 0.00456 | 91.3 | 30-122 | WG533069 |
| Dinoseb | mg/l | .005 | 0.00505 | 101. | 28-183 | WG533069 |
| MCPA | mg/l | .5 | 0.387 | 77.5 | 32-153 | WG533069 |
| MCPP | mg/l | .5 | 0.502 | 100. | 42-133 | WG533069 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 107.0 | 42-112 | WG533069 |

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|--------------------------------|-------|-------------------------------------|-----------|-------|------------|--------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| 4,4-DDD | mg/l | 0.000168 | 0.000169 | 84.0 | 37-142 | 0.343 | 39 | WG532566 |
| 4,4-DBE | mg/l | 0.000142 | 0.000141 | 71.0 | 33-124 | 0.286 | 37 | WG532566 |
| 4,4-DDT | mg/l | 0.000171 | 0.000171 | 86.0 | 32-143 | 0.0690 | 42 | WG532566 |
| Aldrin | mg/l | 0.0000795 | 0.0000773 | 40.0 | 25-115 | 2.75 | 45 | WG532566 |
| Alpha BHC | mg/l | 0.000160 | 0.000162 | 80.0 | 38-119 | 1.44 | 30 | WG532566 |
| Beta BHC | mg/l | 0.000164 | 0.000164 | 82.0 | 42-126 | 0.0564 | 31 | WG532566 |
| Delta BHC | mg/l | 0.000161 | 0.000160 | 81.0 | 24-141 | 0.743 | 41 | WG532566 |
| Dieldrin | mg/l | 0.000169 | 0.000168 | 84.0 | 37-130 | 0.642 | 36 | WG532566 |
| Endosulfan I | mg/l | 0.000170 | 0.000169 | 85.0 | 37-125 | 0.854 | 35 | WG532566 |
| Endosulfan II | mg/l | 0.000171 | 0.000169 | 85.0 | 38-131 | 1.12 | 36 | WG532566 |
| Endosulfan sulfate | mg/l | 0.000172 | 0.000170 | 86.0 | 38-131 | 0.898 | 37 | WG532566 |
| Endrin | mg/l | 0.000158 | 0.000155 | 79.0 | 37-126 | 1.93 | 37 | WG532566 |
| Endrin aldehyde | mg/l | 0.000107 | 0.000106 | 54.0 | 24-154 | 0.799 | 36 | WG532566 |
| Endrin ketone | mg/l | 0.000162 | 0.000160 | 81.0 | 37-139 | 1.11 | 36 | WG532566 |
| Gamma BHC | mg/l | 0.000163 | 0.000163 | 81.0 | 35-114 | 0.284 | 30 | WG532566 |
| Heptachlor | mg/l | 0.0000931 | 0.0000868 | 46.0 | 21-123 | 7.00 | 38 | WG532566 |
| Heptachlor epoxide | mg/l | 0.000161 | 0.000161 | 81.0 | 38-121 | 0.134 | 33 | WG532566 |
| Hexachlorobenzene | mg/l | 0.000120 | 0.000117 | 60.0 | 28-115 | 2.65 | 29 | WG532566 |
| Methoxychlor | mg/l | 0.000187 | 0.000184 | 94.0 | 55-150 | 1.93 | 40 | WG532566 |
| Decachlorobiphenyl | | | | 58.08 | 10-122.6 | | | WG532566 |
| Tetrachloro-m-xylene | | | | 66.06 | 15.3-114.2 | | | WG532566 |
| 2,4,5-T | mg/l | 0.00543 | 0.00579 | 109. | 30-136 | 6.41 | 31 | WG533069 |
| 2,4,5-TP (Silvex) | mg/l | 0.00473 | 0.00511 | 94.0 | 33-134 | 7.86 | 30 | WG533069 |
| 2,4-D | mg/l | 0.00426 | 0.00511 | 85.0 | 24-127 | 18.1 | 27 | WG533069 |
| 2,4-DB | mg/l | 0.00612 | 0.00400 | 122. | 22-198 | 41.9* | 33 | WG533069 |
| Dalapon | mg/l | 0.00287 | 0.00364 | 57.0 | 14-121 | 23.7 | 31 | WG533069 |
| Dicamba | mg/l | 0.00463 | 0.00491 | 92.0 | 31-135 | 5.96 | 25 | WG533069 |
| Dichloroprop | mg/l | 0.00382 | 0.00456 | 76.0 | 30-122 | 17.8 | 26 | WG533069 |
| Dinoseb | mg/l | 0.00526 | 0.00505 | 105. | 28-183 | 4.03 | 38 | WG533069 |
| MCPA | mg/l | 0.393 | 0.387 | 79.0 | 32-153 | 1.47 | 31 | WG533069 |
| MCPP | mg/l | 0.499 | 0.502 | 100. | 42-133 | 0.547 | 29 | WG533069 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 102.9 | 42-112 | | | WG533069 |

Batch number /Run number / Sample number cross reference

WG532566: R1666732: L512841-01
WG533069: R1667456: L512841-01

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnviroTech- NM
Lynn Berry
5796 US. Highway 64
Farmington, NM 87401

Quality Assurance Report
Level II

L512841

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 04, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address:
EnviroTech- NM

5796 US. Highway 64
 Farmington, NM 87401

Billing Information:

Doris Moore
 5796 US. Highway 64
 Farmington, NM 87401

Report to: **Lynn Berry**

Email to: **lberry@envirotech-inc.com**

Project Description: **Key Farmington UIC-5 inj water**

Client Project #:

98065 - 0013

ESC Key:

Phone: (505) 632-0615

Site/Facility ID#:

P.O.#:

Collected by: (print) **Lester Wayne Price, Jr**

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day..... 200%
 Next Day..... 100%
 Two Day..... 50%
 Three Day..... 25%

Date Results Needed:
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

No. of Conts

Immediately Packed on ice N

Sample ID

Comp/Grab

Matrix*

Depth

Date

Time

No. of Conts

INT WATER 579SD

WW

WW

4/21/11

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Chain of Custody
 Page 11 of 11



Phone: (603) 767-5859
 Phone: (615) 756-5858
 Fax: (615) 756-9859

B007

*Matrix: SS - Soil/Solid GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

21695

1789

2618

pH _____ Temp _____

Other _____

Relinquished by: (Signature)

Date: 4/21/11 Time: 8:14

Received by: (Signature)

Samples returned via: UPS FedEx Counter

Relinquished by: (Signature)

Date: _____ Time: _____

Received by: (Signature)

Relinquished by: (Signature)

Date: _____ Time: _____

Received by: (Signature)

2011 Second Quarter Analytical Results



EPA Method 8260B
Volatile Organic Compounds by GC/MS

| | | | |
|--------------------|-----------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98062-0013 |
| Sample ID: | Inj Water | Date Reported: | 07-06-11 |
| Chain of Custody: | 9949 | Date Sampled: | 06-30-11 |
| Laboratory Number: | 58753 | Date Received: | 06-30-11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 07-01-11 |
| Preservative: | | Analysis Requested: | 8260 VOC |
| Condition: | Cool and Intact | | |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | 214 | (ug/L) | 1.0 | 1 |
| Toluene | 690 | (ug/L) | 1.0 | 1 |
| Ethylbenzene | 82.4 | (ug/L) | 1.0 | 1 |
| Xylenes, Total | 817 | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | 190 | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | 190 | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | 92.8 | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | 16.9 | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | 29.8 | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS

Client: Key Energy
Sample ID: Inj Water
Laboratory Number: 58753

page 2


| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | 14.0 | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | 14.3 | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 3.0 | 1 |
| n-Butylbenzene | 8.70 | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | 21.1 | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | 141 | (ug/L) | 1.0 | 1 |
| Styrene | 19.7 | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

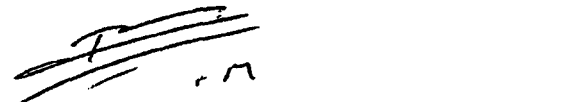
| Surrogates: | | | Rec. Limits | |
|-----------------------|------|------------|-------------|---|
| Dibromofluoromethane | 112 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 110 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 103 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 98.7 | % Recovery | 78.6-115 | 1 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: Key Farmington UIC-5 Inj Water


Analyst


Review



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Analytical Laboratory

**QUALITY ASSURANCE / QUALITY CONTROL
DOCUMENTATION**



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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8260 Blank 07/01 | Date Reported: | 07-06-11 |
| Laboratory Number: | 0701BK82 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-01-11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | ND | (ug/L) | 1.0 | 1 |
| Toluene | ND | (ug/L) | 1.0 | 1 |
| Ethylbenzene | ND | (ug/L) | 1.0 | 1 |
| Xylenes, Total | ND | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | ND | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: 8260 Blank 07/01
Laboratory Number: 0701BK82

page 2


| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | ND | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | ND | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 1.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

| Surrogates: | | | Rec. Limits | |
|-----------------------|-----|------------|-------------|---|
| Dibromofluoromethane | 111 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 109 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 107 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 136 | % Recovery | 78.6-115 | 1 |

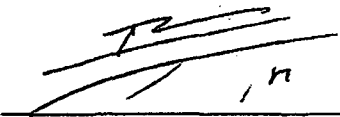
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 58753 and 58764-58766



Analyst



Review



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Daily Calibration Report

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Daily Calibration | Date Reported: | 07-06-11 |
| Laboratory Number: | 0701Cal | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-01-11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|--------------------------------|-------------------------|--------|-------------|----------------------|
| Benzene | 100 | 100 | 100 | 80 - 120 |
| Toluene | 100 | 100 | 100 | 80 - 120 |
| Ethylbenzene | 100 | 100 | 100 | 80 - 120 |
| Xylenes, Total | 300 | 300 | 100 | 80 - 120 |
| Methyl tert-butyl ether (MTBE) | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3,5-Trimethylbenzene | 100 | 98.3 | 98.3 | 80 - 120 |
| 1,2-Dichloroethane (EDC) | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dibromoethane (EDB) | 100 | 100 | 100 | 80 - 120 |
| Naphthalene | 100 | 100 | 100 | 80 - 120 |
| 1-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| 2-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| Bromobenzene | 100 | 100 | 100 | 80 - 120 |
| Bromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromodichloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromoform | 100 | 100 | 100 | 80 - 120 |
| Bromomethane | 100 | 100 | 100 | 80 - 120 |
| Carbon Tetrachloride | 100 | 100 | 100 | 80 - 120 |
| Chlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Chloroethane | 100 | 100 | 100 | 80 - 120 |
| Chloroform | 100 | 100 | 100 | 80 - 120 |
| Chloromethane | 100 | 100 | 100 | 80 - 120 |
| 2-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| 4-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| cis-1,2-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| cis-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dibromo-3-chloropropane | 100 | 100 | 100 | 80 - 120 |
| Dibromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Dibromoethane | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,4-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Dichlorodifluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 2,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |



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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: Daily Calibration
Laboratory Number: 0701Cal

page 2

| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|---------------------------|----------------------|--------|-------------|-------------------|
| 1,1-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Hexachlorobutadiene | 100 | 100 | 100 | 80 - 120 |
| Isopropylbenzene | 100 | 100 | 100 | 80 - 120 |
| 4-Isopropyltoluene | 100 | 100 | 100 | 80 - 120 |
| Methylene Chloride | 100 | 100 | 100 | 80 - 120 |
| n-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| n-Propylbenzene | 100 | 100 | 100 | 80 - 120 |
| sec-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| Styrene | 100 | 100 | 100 | 80 - 120 |
| tert-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| Tetrachloroethene (PCE) | 100 | 100 | 100 | 80 - 120 |
| 1,1,1,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| trans-1,2-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| trans-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Trichloroethene (TCE) | 100 | 100 | 100 | 80 - 120 |
| Trichlorofluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichlorobenzene | 100 | 96.7 | 96.7 | 80 - 120 |
| 1,2,4-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,1,1-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichloropropane | 100 | 100 | 100 | 80 - 120 |
| Vinyl Chloride | 100 | 100 | 100 | 80 - 120 |

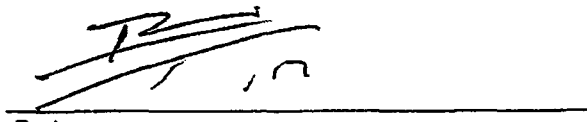
| Surrogates: | | | Rec. Limits |
|-----------------------|-----|------------|-------------|
| Dibromofluoromethane | 100 | % Recovery | 78.6-115 |
| 1,2-Dichloroethane-d4 | 100 | % Recovery | 74.6-123 |
| Toluene-d8 | 100 | % Recovery | 84.2-115 |
| 4-Bromofluorobenzene | 100 | % Recovery | 78.6-115 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Samples 58753 and 58764-58766


Analyst


Review



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Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Matrix Spikes | Date Reported: | 07-06-11 |
| Laboratory Number: | 07-06 VOA - 58764 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-01-11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

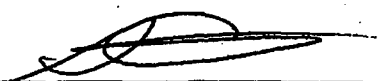
| Spike Analyte | Units: ug/L | | | | Recovery Limits | Det. Limit |
|-----------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | %Recovery | | |
| Benzene | ND | 100 | 114 | 114% | 85.3 - 120 | 1.0 |
| Toluene | ND | 100 | 105 | 105% | 73.0 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 107 | 107% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 94.8 | 94.8% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 104 | 104% | 76.1 - 126 | 1.0 |

| Spike Duplicate Analyte | Units: ug/L | | | | Recovery Limits | Det. Limit |
|-------------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | %Recovery | | |
| Benzene | ND | 100 | 101 | 101% | 85.3 - 120 | 1.0 |
| Toluene | ND | 100 | 101 | 101% | 73.0 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 95.5 | 95.5% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 94.8 | 94.8% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 100 | 100% | 76.1 - 126 | 1.0 |


ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Samples 58753 and 58764-58766



Analyst



Review



| | | | |
|--------------------|------------|------------------|--------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07/14/11 |
| Laboratory Number: | 58753 | Date Sampled: | 06/30/11 |
| Chain of Custody: | 9949 | Date Received: | 06/30/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 07/12/11 |
| Preservative: | Cool | Date Digested: | 07/12/11 |
| Condition: | Intact | Analysis Needed: | Total Metals |


| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------|-------------------------|-------------------------|
| Arsenic | 0.007 | 0.001 |
| Aluminum | 0.989 | 0.001 |
| Barium | 1.25 | 0.001 |
| Cadmium | 0.001 | 0.001 |
| Chromium | 0.014 | 0.001 |
| Cobalt | 0.001 | 0.001 |
| Copper | 0.037 | 0.001 |
| Iron | 12.3 | 0.001 |
| Lead | ND | 0.001 |
| Manganese | 0.292 | 0.001 |
| Molybdenum | 0.131 | 0.001 |
| Mercury | ND | 0.001 |
| Nickel | ND | 0.001 |
| Selenium | ND | 0.001 |
| Silver | 0.068 | 0.001 |
| Zinc | 0.176 | Sample |

ND - Parameter not detected at the stated detection limit.


References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: **Key Farmington UIC-5 Inj Water**



Analyst



Review



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TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 7-12-TM QA/QC | Date Reported: | 07/14/11 |
| Laboratory Number: | 58788 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | Dissolved Metals | Date Analyzed: | 07/12/11 |
| Condition: | N/A | Date Digested: | 07/12/11 |

| Blank & Duplicate Conc. (mg/L) | Instrument Blank (mg/L) | Method Blank | Detection Limit | Sample | Duplicate | % Diff. | Acceptance Range |
|--------------------------------|-------------------------|--------------|-----------------|--------|-----------|---------|------------------|
| Arsenic | ND | ND | 0.001 | 0.002 | 0.003 | 12.5% | 0% - 30% |
| Aluminum | ND | ND | 0.001 | 1.15 | 1.46 | 26.9% | 0% - 30% |
| Barium | ND | ND | 0.001 | 1.68 | 1.63 | 3.39% | 0% - 30% |
| Cadmium | ND | ND | 0.001 | 0.001 | 0.001 | 0.00% | 0% - 30% |
| Chromium | ND | ND | 0.001 | 0.025 | 0.024 | 4.38% | 0% - 30% |
| Cobalt | ND | ND | 0.001 | 0.004 | 0.004 | 0.00% | 0% - 30% |
| Copper | ND | ND | 0.001 | 0.085 | 0.081 | 5.52% | 0% - 30% |
| Iron | ND | ND | 0.001 | 11.3 | 12.3 | 8.86% | 0% - 30% |
| Lead | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Manganese | ND | ND | 0.001 | 0.141 | 0.141 | 0.00% | 0% - 30% |
| Molybdenum | ND | ND | 0.001 | 0.011 | 0.011 | 0.00% | 0% - 30% |
| Mercury | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Nickel | ND | ND | 0.001 | 0.039 | 0.038 | 1.80% | 0% - 30% |
| Selenium | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Silver | ND | ND | 0.001 | 0.007 | 0.007 | 0.00% | 0% - 30% |
| Zinc | ND | ND | 0.001 | 0.270 | 0.261 | 3.37% | 0% - 30% |

| Spike Conc. (mg/L) | Spike Added | Sample | Spiked Sample | Percent Recovery | Acceptance Range |
|--------------------|-------------|--------|---------------|------------------|------------------|
| Arsenic | 0.250 | 0.002 | 0.288 | 114% | 80% - 120% |
| Aluminum | 0.250 | 1.15 | 1.51 | 108% | 80% - 120% |
| Barium | 0.500 | 1.68 | 1.82 | 83.1% | 80% - 120% |
| Cadmium | 0.250 | 0.001 | 0.296 | 118% | 80% - 120% |
| Chromium | 0.500 | 0.025 | 0.574 | 109% | 80% - 120% |
| Cobalt | 0.250 | 0.004 | 0.260 | 102% | 80% - 120% |
| Copper | 0.500 | 0.085 | 0.643 | 110% | 80% - 120% |
| Iron | 0.500 | 11.3 | 10.0 | 85.0% | 80% - 120% |
| Lead | 0.500 | ND | 0.512 | 102% | 80% - 120% |
| Manganese | 0.250 | 0.141 | 0.326 | 83.4% | 80% - 120% |
| Molybdenum | 0.100 | 0.011 | 0.118 | 107% | 80% - 120% |
| Mercury | 0.100 | ND | 0.119 | 118% | 80% - 120% |
| Nickel | 0.500 | 0.039 | 0.622 | 115% | 80% - 120% |
| Selenium | 0.100 | ND | 0.112 | 112% | 80% - 120% |
| Silver | 0.100 | 0.007 | 0.107 | 101% | 80% - 120% |
| Zinc | 0.500 | 0.270 | 0.834 | 108% | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.
Method 8010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for Sample 58788, 58753, 58811

Analyst

Review



| | | | |
|--------------------|------------|----------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07/08/11 |
| Laboratory Number: | 58753 | Date Sampled: | 06/30/11 |
| Chain of Custody: | 9949 | Date Received: | 06/30/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 07/01/11 |
| Preservative: | Cool | | |
| Condition: | Intact | | |

| Parameter | Analytical Result | Units | | |
|-------------------------------|-------------------|----------|-------|-------|
| pH | 5.49 | s.u. | | |
| Conductivity @ 25° C | 62,300 | umhos/cm | | |
| Total Dissolved Solids @ 180C | 32,200 | mg/L | | |
| Total Dissolved Solids (Calc) | 27,800 | mg/L | | |
| SAR | 32.6 | ratio | | |
| Total Alkalinity as CaCO3 | 1,060 | mg/L | | |
| Total Hardness as CaCO3 | 8,160 | mg/L | | |
| Bicarbonate as CaCO3 | 1,060 | mg/L | 17.4 | meq/L |
| Carbonate as CaCO3 | < 0.01 | mg/L | 0.000 | meq/L |
| Hydroxide as CaCO3 | < 0.01 | mg/L | 0.001 | meq/L |
| Nitrate Nitrogen | 7.50 | mg/L | 0.121 | meq/L |
| Nitrite Nitrogen | 0.012 | mg/L | 0.000 | meq/L |
| Chloride | 15,300 | mg/L | 432 | meq/L |
| Fluoride | 1.86 | mg/L | 0.098 | meq/L |
| Phosphate | 3.60 | mg/L | 0.114 | meq/L |
| Sulfate | 1,150 | mg/L | 23.9 | meq/L |
| Iron | 21.1 | mg/L | 0.756 | meq/L |
| Calcium | 3,220 | mg/L | 161 | meq/L |
| Magnesium | 27.5 | mg/L | 2.26 | meq/L |
| Potassium | 640 | mg/L | 16.4 | meq/L |
| Sodium | 6,760 | mg/L | 294 | meq/L |
| Cations | | | 473 | meq/L |
| Anions | | | 473 | meq/L |
| Cation/Anion Difference | | | 0.00% | |

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments **Key Farmington UIC-5 Inj Water**

Analyst

Review



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**SUSPECTED HAZARDOUS
WASTE ANALYSIS**

| | | | |
|----------------|------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07/01/11 |
| Lab ID#: | 58753 | Date Sampled: | 06/30/11 |
| Sample Matrix: | Aqueous | Date Received: | 06/30/11 |
| Preservative: | Cool | Date Analyzed: | 07/01/11 |
| Condition: | Intact | Chain of Custody: | 9949 |

| Parameter | Result |
|-----------|--------|
|-----------|--------|

| | | |
|----------------------|-----------------|------------------|
| IGNITABILITY: | Negative | |
| CORROSIVITY: | Negative | pH = 5.49 |
| REACTIVITY: | Negative | |

RCRA Hazardous Waste Criteria

| | |
|----------------------|--|
| Parameter | Hazardous Waste Criterion |
| IGNITABILITY: | Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. <i>(i.e. Sample Ignition upon direct contact with flame or flash point < 60° C.)</i> |
| CORROSIVITY: | Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. <i>(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)</i> |
| REACTIVITY: | Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. <i>(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)</i> |

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: **Key Farmington UIC-5 Inj Water**

Analyst

Review



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**EPA METHOD 8260
AROMATIC / HALOGENATED
VOLATILE ORGANICS**

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07-05-11 |
| Laboratory Number: | 58753 | Date Sampled: | 06-30-11 |
| Chain of Custody: | 9949 | Date Received: | 06-30-11 |
| Sample Matrix: | Aqueous | Date Extracted: | NA |
| Preservative: | Cool | Date Analyzed: | 07-05-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limits (mg/L) |
|----------------------|----------------------|------------------------|--------------------------|
| Vinyl Chloride | ND | 0.001 | 0.2 |
| 2-Butanone (MEK) | ND | 0.001 | 200 |
| 1,1-Dichloroethene | ND | 0.001 | 0.7 |
| Chloroform | ND | 0.001 | 6.0 |
| Carbon Tetrachloride | ND | 0.001 | 0.5 |
| Benzene | 0.127 | 0.001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.001 | 0.5 |
| Trichloroethene | ND | 0.003 | 0.5 |
| Tetrachloroethene | ND | 0.005 | 0.7 |
| Chlorobenzene | ND | 0.003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.002 | 7.5 |


ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|----------------------|------------------|
| | Fluorobenzene | 78.5% |
| | 1,4-difluorobenzene | 77.6% |
| | 4-bromochlorobenzene | 90.2% |


References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: Key Farmington UIC-5 Inj Water



Analyst



Review



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**QUALITY ASSURANCE / QUALITY CONTROL
DOCUMENTATION**



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**EPA METHOD 8260
AROMATIC / HALOGENATED
VOLATILE ORGANICS
Quality Assurance Report**

| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0705TVBK QA/QC | Date Reported: | 07-05-11 |
| Laboratory Number: | 58753 | Date Sampled: | N/A |
| Sample Matrix: | N/A | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-05-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Concentration (mg/L) | Detection Limit | Laboratory Blank | Method Blank | Sample Conc. | Duplicate Conc. | Percent Difference |
|---|-----------------|------------------|--------------|--------------|-----------------|--------------------|
| Vinyl Chloride | 0.001 | ND | ND | ND | ND | 0.0% |
| 2-Butanone (MEK) | 0.001 | ND | ND | ND | ND | 0.0% |
| 1,1-Dichloroethene | 0.001 | ND | ND | ND | ND | 0.0% |
| Chloroform | 0.001 | ND | ND | ND | ND | 0.0% |
| Carbon Tetrachloride | 0.001 | ND | ND | ND | ND | 0.0% |
| Benzene | 0.001 | ND | ND | 0.127 | 0.143 | 11.2% |
| 1,2-Dichloroethane | 0.001 | ND | ND | ND | ND | 0.0% |
| Trichloroethene | 0.003 | ND | ND | ND | ND | 0.0% |
| Tetrachloroethene | 0.005 | ND | ND | ND | ND | 0.0% |
| Chlorobenzene | 0.003 | ND | ND | ND | ND | 0.0% |
| 1,4-Dichlorobenzene | 0.002 | ND | ND | ND | ND | 0.0% |

| Matrix Spike Concentration (mg/L) | Amount Spiked | Sample Result | Spike Result | Percent Recovery | Acceptable Range |
|-----------------------------------|---------------|---------------|--------------|------------------|------------------|
| Vinyl Chloride | 0.100 | ND | 0.090 | 90.3% | 26-163 |
| 2-Butanone (MEK) | 0.100 | ND | 0.100 | 99.8% | 43-143 |
| 1,1-Dichloroethene | 0.100 | ND | 0.088 | 87.8% | 47-132 |
| Chloroform | 0.100 | ND | 0.062 | 62.4% | 49-133 |
| Carbon Tetrachloride | 0.100 | ND | 0.087 | 87.3% | 43-143 |
| Benzene | 0.100 | 0.127 | 0.220 | 97.3% | 39-150 |
| 1,2-Dichloroethane | 0.100 | ND | 0.097 | 96.8% | 51-147 |
| Trichloroethene | 0.100 | ND | 0.085 | 85.2% | 35-146 |
| Tetrachloroethene | 0.100 | ND | 0.083 | 82.8% | 26-162 |
| Chlorobenzene | 0.100 | ND | 0.085 | 85.5% | 38-150 |
| 1,4-Dichlorobenzene | 0.100 | ND | 0.087 | 87.5% | 42-143 |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Comments: QA/QC for Sample 58753.

Analyst

Review



| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | 06-30-11 |
| Chain of Custody: | 9949 | Date Received: | 06-30-11 |
| Sample Matrix: | Aqueous | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 07-06-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|-----------------------|----------------------|------------------------|-------------------------|
| o-Cresol | ND | 0.004 | 200 |
| p,m-Cresol | ND | 0.004 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.004 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.004 | 400 |
| Pentachlorophenol | ND | 0.004 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | 2-Fluorophenol | 46.0% |
| | 2,4,6-Tribromophenol | 67.3% |


References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.


Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 Inj Water.**



Analyst



Review



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**EPA METHOD 8041
TCLP PHENOLS
Quality Assurance Report**


| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0706LB41 QA/QC | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | N/A |
| Sample Matrix: | 2-Propanol | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-06-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| o-Cresol | ND | ND | 0.004 | ND | ND | 0.0% |
| p,m-Cresol | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4,6-Trichlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4,5-Trichlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |
| Pentachlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |


ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8041, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Comments: QA/QC for Sample 58753.



Analyst



Review



| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | 06-30-11 |
| Chain of Custody: | 9949 | Date Received: | 06-30-11 |
| Sample Matrix: | Aqueous | Date Extracted: | 07-06-11 |
| Preservative: | Cool | Date Analyzed: | 07-07-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|---------------------|----------------------|------------------------|-------------------------|
| Pyridine | ND | 0.004 | 5.0 |
| Hexachloroethane | ND | 0.004 | 3.0 |
| Nitrobenzene | ND | 0.004 | 2.0 |
| Hexachlorobutadiene | ND | 0.004 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.004 | 0.13 |
| HexachloroBenzene | ND | 0.004 | 0.13 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|------------------|------------------|
| | 2-fluorobiphenyl | 42.5% |

References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: Key Farmington UIC-5 Inj Water.

Analyst



Review



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EPA METHOD 8091
Nitroaromatics and Cyclic Ketones
Quality Assurance Report

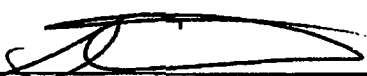
| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0707LB91 QA/QC | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | N/A |
| Sample Matrix: | Hexane | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-07-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| Pyridine | ND | ND | 0.004 | ND | ND | 0.0% |
| Hexachloroethane | ND | ND | 0.004 | ND | ND | 0.0% |
| Nitrobenzene | ND | ND | 0.004 | ND | ND | 0.0% |
| Hexachlorobutadiene | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4-Dinitrotoluene | ND | ND | 0.004 | ND | ND | 0.0% |
| HexachloroBenzene | ND | ND | 0.004 | ND | ND | 0.0% |

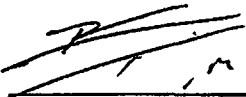
ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Comments: QA/QC for Sample 58753.



Analyst



Review



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EPA Method 8100
Polynuclear Aromatic Hydrocarbons

| | | | |
|--------------------|---------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | 06-30-11 |
| Chain of custody: | 9949 | Date Received: | 06-30-11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 07-12-11 |
| Preservative: | | Date Concentrated: | 07-01-11 |
| Condition: | Cool & Intact | Analysis Requested: | 8100 |

| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.001 |
| Acenaphthylene | ND | 0.001 |
| Acenaphthene | ND | 0.001 |
| Fluorene | ND | 0.001 |
| Phenanthrene | ND | 0.001 |
| Anthracene | ND | 0.001 |
| Fluoranthene | ND | 0.001 |
| Pyrene | ND | 0.001 |
| Benzo[a]anthracene | ND | 0.001 |
| Chrysene | ND | 0.001 |
| Benzo(b)fluoranthene | ND | 0.001 |
| Benzo[k]fluoranthene | ND | 0.001 |
| Benzo(a)pyrene | ND | 0.001 |
| Indeno[1,2,3]pyrene | ND | 0.001 |
| Dibenzo[a,h]anthracene | ND | 0.001 |
| Benzo(g,h,i)perylene | ND | 0.001 |

ND - Parameter not detected at the stated detection limit.

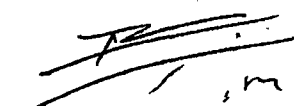
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 54.1 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: Key Farmington UIC-5 Inj Water.



Analyst



Review



| | | | |
|--------------------|-------------------------|---------------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | 8100 Lab Blank 07-12-11 | Date Reported: | 07-13-11 |
| Laboratory Number: | QA/QC | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 07-12-11 |
| Condition: | N/A | Analysis Requested: | 8100 |


| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.00 |
| Acenaphthylene | ND | 0.00 |
| Acenaphthene | ND | 0.00 |
| Fluorene | ND | 0.00 |
| Phenanthrene | ND | 0.00 |
| Anthracene | ND | 0.00 |
| Fluoranthene | ND | 0.00 |
| Pyrene | ND | 0.00 |
| Benzo[a]anthracene | ND | 0.00 |
| Chrysene | ND | 0.00 |
| Benzo(b)fluoranthene | ND | 0.00 |
| Benzo[k]fluoranthene | ND | 0.00 |
| Benzo(a)pyrene | ND | 0.00 |
| Indeno[1,2,3]pyrene | ND | 0.00 |
| Dibenzo[a,h]anthracene | ND | 0.00 |
| Benzo(g,h,i)perylene | ND | 0.00 |

ND - Parameter not detected at the stated detection limit.


| SURROGATE RECOVERY: | Parameter | Percent Recovery |
|---------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 106 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 58753.



Analyst



Review



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Analytical Laboratory

EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Daily Calibration Report

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8100 CAL 07-12 041 | Date Reported: | 07-13-11 |
| Laboratory Number: | 0712CA81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Aqueous | Date Analyzed: | 07-12-11 |
| Preservative: | N/A | Date Concentrated: | N/A |
| Condition: | N/A | Analysis Requested: | 8100 |

| Parameter | Concentration (mg/L) | Result | % Recovered | % Recovery Limits |
|------------------------|-------------------------|--------|----------------|----------------------|
| Naphthalene | 200 | 194 | 96.8 | 80 - 120 |
| Acenaphthylene | 200 | 200 | 100 | 80 - 120 |
| Acenaphthene | 200 | 200 | 100 | 80 - 120 |
| Fluorene | 200 | 200 | 100 | 80 - 120 |
| Phenanthrene | 200 | 200 | 100 | 80 - 120 |
| Anthracene | 200 | 200 | 100 | 80 - 120 |
| Fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Pyrene | 200 | 200 | 100 | 80 - 120 |
| Benzo[a]anthracene | 200 | 200 | 100 | 80 - 120 |
| Chrysene | 200 | 200 | 100 | 80 - 120 |
| Benzo(b)fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Benzo[k]fluoranthene | 200 | 196 | 98.2 | 80 - 120 |
| Benzo(a)pyrene | 200 | 201 | 100 | 80 - 120 |
| Indeno[1,2,3]pyrene | 200 | 200 | 100 | 80 - 120 |
| Dibenzo[a,h]anthracene | 200 | 203 | 101 | 80 - 120 |
| Benzo(g,h,i)perylene | 200 | 196 | 98.2 | 80 - 120 |

ND - Parameter not detected at the stated detection limit.


| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 100 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 58753.



Analyst



Review



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Analytical Laboratory

EPA Method 8100
Polynuclear Aromatic Hydrocarbons

| | | | |
|--------------------|--------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Method Blank 07-12 | Date Reported: | 07-13-11 |
| Laboratory Number: | 0712MB81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Aqueous | Date Analyzed: | 07-12-11 |
| Preservative: | N/A | Date Concentrated: | 07-01-11 |
| Condition: | N/A | Analysis Requested: | 8100 |


| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.00 |
| Acenaphthylene | ND | 0.00 |
| Acenaphthene | ND | 0.00 |
| Fluorene | ND | 0.00 |
| Phenanthrene | ND | 0.00 |
| Anthracene | ND | 0.00 |
| Fluoranthene | ND | 0.00 |
| Pyrene | ND | 0.00 |
| Benzo[a]anthracene | ND | 0.00 |
| Chrysene | ND | 0.00 |
| Benzo(b)fluoranthene | ND | 0.00 |
| Benzo[k]fluoranthene | ND | 0.00 |
| Benzo(a)pyrene | ND | 0.00 |
| Indeno[1,2,3]pyrene | ND | 0.00 |
| Dibenzo[a,h]anthracene | ND | 0.00 |
| Benzo(g,h,i)perylene | ND | 0.00 |

ND - Parameter not detected at the stated detection limit.


| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 63.9 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 58753.



Analyst



Review



envirotech
Analytical Laboratory

EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Quality Assurance Report

| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Sample Duplicate | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 07-12-11 |
| Condition: | N/A | | |

| Parameter | Sample Result (mg/L) | Duplicate Sample Result (mg/L) | Det. Limit (mg/L) | Percent Difference |
|------------------------|----------------------|--------------------------------|-------------------|--------------------|
| Naphthalene | ND | ND | 0.001 | 0.0% |
| Acenaphthylene | ND | ND | 0.001 | 0.0% |
| Acenaphthene | ND | ND | 0.001 | 0.0% |
| Fluorene | ND | ND | 0.001 | 0.0% |
| Phenanthrene | ND | ND | 0.001 | 0.0% |
| Anthracene | ND | ND | 0.001 | 0.0% |
| Fluoranthene | ND | ND | 0.001 | 0.0% |
| Pyrene | ND | ND | 0.001 | 0.0% |
| Benzo[a]anthracene | ND | ND | 0.001 | 0.0% |
| Chrysene | ND | ND | 0.001 | 0.0% |
| Benzo(b)fluoranthene | ND | ND | 0.001 | 0.0% |
| Benzo[k]fluoranthene | ND | ND | 0.001 | 0.0% |
| Benzo(a)pyrene | ND | ND | 0.001 | 0.0% |
| Indeno[1,2,3]pyrene | ND | ND | 0.001 | 0.0% |
| Dibenzo[a,h]anthracene | ND | ND | 0.001 | 0.0% |
| Benzo(g,h,i)perylene | ND | ND | 0.001 | 0.0% |


ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 58753.



Analyst



Review



**EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Quality Assurance Report**

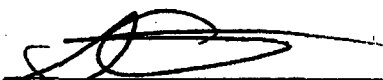
| | | | |
|---------------------|--------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Matrix Spike | Date Reported: | 07-13-11 |
| Laboratory Number: | 58753 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 07-12-11 |
| Condition: | N/A | | |

| Parameter | Sample Result (mg/L) | Spike Added (mg/L) | Spiked Sample Result (mg/L) | Det. Limit (mg/L) | Percent Recovery | SW-846 % Rec. Accept. Range |
|------------------------|----------------------|--------------------|-----------------------------|-------------------|------------------|-----------------------------|
| Naphthalene | ND | 100 | 91.0 | 0.001 | 91.0% | 10-122 |
| Acenaphthylene | ND | 100 | 70.0 | 0.001 | 70.0% | 10-139 |
| Acenaphthene | ND | 100 | 64.9 | 0.001 | 64.9% | 10-124 |
| Fluorene | ND | 100 | 65.8 | 0.001 | 65.8% | 10-142 |
| Phenanthrene | ND | 100 | 73.0 | 0.001 | 73.0% | 10-155 |
| Anthracene | ND | 100 | 81.4 | 0.001 | 81.4% | 10-126 |
| Fluoranthene | ND | 100 | 74.8 | 0.001 | 74.8% | 14-123 |
| Pyrene | ND | 100 | 70.9 | 0.001 | 70.9% | 10-140 |
| Benzo[a]anthracene | ND | 100 | 48.1 | 0.001 | 48.1% | 10-116 |
| Chrysene | ND | 100 | 58.7 | 0.001 | 58.7% | 12-135 |
| Benzo(b)fluoranthene | ND | 100 | 57.2 | 0.001 | 57.2% | 10-199 |
| Benzo[k]fluoranthene | ND | 100 | 86.6 | 0.001 | 86.6% | 10-150 |
| Benzo(a)pyrene | ND | 100 | 54.6 | 0.001 | 54.6% | 10-159 |
| Indeno[1,2,3]pyrene | ND | 100 | 41.7 | 0.001 | 41.7% | 10-128 |
| Dibenzo[a,h]anthracene | ND | 100 | 21.1 | 0.001 | 21.1% | 10-110 |
| Benzo(g,h,i)perylene | ND | 100 | 48.1 | 0.001 | 48.1% | 10-116 |


ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Sample 58753.



Analyst



Review




| | | | |
|--------------------|---------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 07/11/11 |
| Laboratory Number: | 58753 | Date Sampled: | 06/30/11 |
| Sample Matrix: | Aqueous | Date Received: | 06/30/11 |
| Preservative: | Cool | Date Analyzed: | 07/05/11 |
| Condition: | Cool & Intact | Chain of Custody: | 9949 |


| Parameter | Analytical Result | Units |
|-----------------|-------------------|-------|
| Cyanide (total) | 0.147 | mg/L |

Reference: U.S.E.P.A., Method 335.3 Cyanide, Total.

Comments: **Key Farmington UIC-5 Inj Water**



Analyst



Review

CHAIN OF CUSTODY RECORD

09949

| Client Information | | | | ANALYSIS / PARAMETERS | | | | | | | | | | | | | | | | | | | |
|------------------------------|-------------------------------|-------------|-------------|--------------------------------------|--------------------------|--------------------------|----------------------|---------------------------------------|-------------------|-------|----------------|----------------|-------------------|-------------------|-------|-----------|-------------|---------------|----------|-----|-------------|---------------|---------------|
| Client: | Project Name / Location: | | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | PCB's + Dioxin | HCHL + Metals | Organic Compounds | FCI * | TCLP | PAH (816) | TPH (418.1) | CHLORIDE | HAP | CN | Sample Cool | Sample Intact | | | | | |
| Client Address: | Sample No./ Identification | Sample Date | Sample Time | Lab No. | Sample Matrix | No. Volume of Containers | Preservative Vol. ml | TPH | TPH | BTEX | VOC | PCB's + Dioxin | HCHL + Metals | Organic Compounds | FCI * | TCLP | PAH (816) | TPH (418.1) | CHLORIDE | HAP | CN | Sample Cool | Sample Intact |
| KEY Energy | KEY Farmington VTC-S Inj Well | | | Project Name / Location: | | | | | | | | | | | | | | | | | | | |
| Client Address: | 5651 Hwy 64 87401 | | | Sampler Name: Lester Wayne Price Jr. | | | | | | | | | | | | | | | | | | | |
| Client Phone No.: | 832-657-4873 | | | Client No.: 98065-0013 | | | | | | | | | | | | | | | | | | | |
| Sample No./ Identification | Sample Date | Sample Time | Lab No. | Sample Matrix | No. Volume of Containers | Preservative Vol. ml | TPH | TPH | BTEX | VOC | PCB's + Dioxin | HCHL + Metals | Organic Compounds | FCI * | TCLP | PAH (816) | TPH (418.1) | CHLORIDE | HAP | CN | Sample Cool | Sample Intact | |
| INJ WATER | 6/24/11 | | 58753 | Soil Solid | 2-40ml | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 2-40ml | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 2-40ml | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 2-1L | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 2-1L | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 2-1L | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 1-500ml | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 1-250ml | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| " | " | " | | Soil Solid | 1-125ml | | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Relinquished by: (Signature) | Lester Wayne Price Jr | | | Date | 6/30/11 | Time | 4:28 | Received by: (Signature) | | | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | Date | | Time | | Received by: (Signature) Radi Vazquez | | | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | Date | | Time | | Received by: (Signature) | | | | | | | | | | | | | | | |
| New Rush | | | | | | | | | | | | | | | | | | | | | | | |





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Tax I.D. 62-0814289

Est. 1970

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

Report Summary

Monday July 11, 2011

Report Number: L524459

Samples Received: 07/06/11

Client Project: 98065-0013

Description: Key Energy

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

AZLA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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L.A.S S.C.I.E.N.C.E.S

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 11, 2011

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

ESC Sample # : L524459-02

Date Received : July 06, 2011
Description : Key Farmington UIC- 5 Inj Water

Site ID :

Sample ID : INJ WATER 58753

Project # : 98065-0013

Collected By : Lester Wayne
Collection Date : 06/30/11 00:00

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--------------------------------|--------|------------|--------|--------|----------|------|
| Pesticides | | | | | | |
| Aldrin | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Alpha BHC | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Beta BHC | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Delta BHC | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Gamma BHC | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Chlordane | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| 4,4-DDD | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| 4,4-DDE | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| 4,4-DDT | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Dieldrin | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Endosulfan I | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Endosulfan II | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Endosulfan sulfate | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Endrin | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Endrin aldehyde | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Endrin ketone | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Hexachlorobenzene | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Heptachlor | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Heptachlor epoxide | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Methoxychlor | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Toxaphene | BDL | 0.000050 | mg/l | 8081A | 07/08/11 | 1 |
| Pesticides Surrogates | | | | | | |
| Decachlorobiphenyl | 106. | | % Rec. | 8081A | 07/08/11 | 1 |
| Tetrachloro-m-xylene | 121. | | % Rec. | 8081A | 07/08/11 | 1 |
| Herbicides | | | | | | |
| 2,4-D | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| Dalapon | BDL | 0.20 | mg/l | 8151 | 07/07/11 | 1 |
| 2,4-DB | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| Dicamba | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| Dichloroprop | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| Dinoseb | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| MCFA | BDL | 0.10 | mg/l | 8151 | 07/07/11 | 1 |
| MCPFP | BDL | 0.10 | mg/l | 8151 | 07/07/11 | 1 |
| 2,4,5-T | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| 2,4,5-TP (Silvex) | BDL | 0.0020 | mg/l | 8151 | 07/07/11 | 1 |
| Surrogate Recovery | | | | | | |
| 2,4-Dichlorophenyl Acetic Acid | 122. | | % Rec. | 8151 | 07/07/11 | 1 |

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/11/11 16:43 Printed: 07/11/11 16:43

Attachment A
List of Analytes with QC Qualifiers

| Sample Number | Work Group | Sample Type | Analyte | Run ID | Qualifier |
|---------------|----------------------|--------------|--|----------------------|-----------|
| 1524459-02 | WG544246 WG544437 | SAMP SAMP | Tetrachloro-m-xylene 2,4-Dichlorophenyl Acetic Acid | R1752709 R1752390 | J1 J1 |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|---|
| J1 | Surrogate recovery limits have been exceeded; values are outside upper control limits |

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
07/11/11 at 16:43:40

TSR Signing Reports: 288
R5 - Desired TAT

Auto QC on all reports Full TCLP also requires RCI Dry wt

Sample: L524459-02 Account: ENVIROFNM Received: 07/06/11 09:00 Due Date: 07/13/11 00:00 RPT Date: 07/11/11 16:43



YOUR LAB OF CHOICE

EnviroTech- NM
Lynn Berry
5796 US. Highway 64
Farmington, NM 87401

Quality Assurance Report
Level II

LS24459

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(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

July 11, 2011

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|--------------------------------|----------|------------------|-------|------------|----------|----------------|
| | | Units | % Rec | | | |
| 2,4,5-T | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| 2,4,5-TP (Silvex) | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| 2,4-D | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| 2,4-DB | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| Dalapon | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| Dicamba | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| Dichloroprop | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| Dinoseb | < .002 | mg/l | | | WG544437 | 07/07/11 16:29 |
| MCPA | < .1 | mg/l | | | WG544437 | 07/07/11 16:29 |
| MCPP | < .1 | mg/l | | | WG544437 | 07/07/11 16:29 |
| 2,4-Dichlorophenyl Acetic Acid | | † | 90.59 | 42-112 | WG544437 | 07/07/11 16:29 |
| 4,4-DDD | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| 4,4-DDE | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| 4,4-DDT | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Aldrin | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Alpha BHC | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Beta BHC | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Chlordane | < .0005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Delta BHC | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Dieldrin | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Endosulfan I | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Endosulfan II | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Endosulfan sulfate | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Endrin | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Endrin aldehyde | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Endrin ketone | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Gamma BHC | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Heptachlor | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Heptachlor epoxide | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Hexachlorobenzene | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Methoxychlor | < .00005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Toxaphene | < .0005 | mg/l | | | WG544246 | 07/08/11 13:24 |
| Decachlorobiphenyl | | † Rec. | 77.38 | 10-122.6 | WG544246 | 07/08/11 13:24 |
| Tetrachloro-m-xylene | | † Rec. | 58.82 | 15.3-114.2 | WG544246 | 07/08/11 13:24 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|--------------------------------|-------|---------------------------|-----------|-------|--------|----------|
| | | Known Val | Result | | | |
| 2,4,5-T | mg/l | .005 | 0.00461 | 92.1 | 30-136 | WG544437 |
| 2,4,5-TP (Silvex) | mg/l | .005 | 0.00436 | 87.2 | 33-134 | WG544437 |
| 2,4-D | mg/l | .005 | 0.00548 | 110. | 24-127 | WG544437 |
| 2,4-DB | mg/l | .005 | 0.00577 | 115. | 22-198 | WG544437 |
| Dalapon | mg/l | .005 | 0.00395 | 67.0 | 14-121 | WG544437 |
| Dicamba | mg/l | .005 | 0.00441 | 88.2 | 31-135 | WG544437 |
| Dichloroprop | mg/l | .005 | 0.00365 | 73.0 | 30-122 | WG544437 |
| Dinoseb | mg/l | .005 | 0.00394 | 78.0 | 28-183 | WG544437 |
| MCPA | mg/l | .5 | 0.456 | 91.2 | 32-153 | WG544437 |
| MCPP | mg/l | .5 | 0.520 | 104. | 42-133 | WG544437 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 105.6 | 42-112 | WG544437 |
| 4,4-DDD | mg/l | .0002 | 0.000182 | 91.2 | 37-142 | WG544246 |
| 4,4-DDE | mg/l | .0002 | 0.000137 | 68.7 | 33-124 | WG544246 |
| 4,4-DDT | mg/l | .0002 | 0.000166 | 83.1 | 32-143 | WG544246 |
| Aldrin | mg/l | .0002 | 0.0000564 | 28.2 | 25-115 | WG544246 |
| Alpha BHC | mg/l | .0002 | 0.000166 | 82.9 | 38-119 | WG544246 |
| Beta BHC | mg/l | .0002 | 0.000187 | 93.5 | 42-126 | WG544246 |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

July 11, 2011

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|----------------------|-------|---------------------------|-----------|-------|------------|----------|
| | | Known Val | Result | | | |
| Delta BHC | mg/l | .0002 | 0.000186 | 92.9 | 24-141 | WG544246 |
| Dieldrin | mg/l | .0002 | 0.000172 | 85.9 | 37-130 | WG544246 |
| Endosulfan I | mg/l | .0002 | 0.000174 | 87.2 | 37-125 | WG544246 |
| Endosulfan II | mg/l | .0002 | 0.000181 | 90.4 | 38-131 | WG544246 |
| Endosulfan sulfate | mg/l | .0002 | 0.000188 | 94.1 | 38-131 | WG544246 |
| Endrin | mg/l | .0002 | 0.000177 | 88.6 | 37-126 | WG544246 |
| Endrin aldehyde | mg/l | .0002 | 0.000124 | 62.1 | 24-154 | WG544246 |
| Endrin ketone | mg/l | .0002 | 0.000172 | 86.0 | 37-139 | WG544246 |
| Gamma BHC | mg/l | .0002 | 0.000170 | 84.8 | 35-114 | WG544246 |
| Heptachlor | mg/l | .0002 | 0.0000844 | 42.2 | 21-123 | WG544246 |
| Heptachlor epoxide | mg/l | .0002 | 0.000164 | 81.8 | 38-121 | WG544246 |
| Hexachlorobenzene | mg/l | .0002 | 0.000109 | 54.6 | 28-115 | WG544246 |
| Methoxychlor | mg/l | .0002 | 0.000199 | 99.7 | 55-150 | WG544246 |
| Decachlorobiphenyl | | | | 82.26 | 10-122.6 | WG544246 |
| Tetrachloro-m-xylene | | | | 65.47 | 15.3-114.2 | WG544246 |

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|--------------------------------|-------|-------------------------------------|-----------|-------|------------|-------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| 2,4,5-T | mg/l | 0.00456 | 0.00461 | 91.0 | 30-136 | 1.02 | 31 | WG544437 |
| 2,4,5-TP (Silvex) | mg/l | 0.00432 | 0.00436 | 86.0 | 33-134 | 0.856 | 30 | WG544437 |
| 2,4-D | mg/l | 0.00539 | 0.00548 | 108. | 24-127 | 1.75 | 27 | WG544437 |
| 2,4-DB | mg/l | 0.00570 | 0.00577 | 114. | 22-198 | 1.26 | 33 | WG544437 |
| Dalapon | mg/l | 0.00338 | 0.00335 | 98.0 | 14-121 | 0.910 | 31 | WG544437 |
| Dicamba | mg/l | 0.00429 | 0.00441 | 86.0 | 31-135 | 2.77 | 25 | WG544437 |
| Dichloroprop | mg/l | 0.00360 | 0.00365 | 72.0 | 30-122 | 1.19 | 26 | WG544437 |
| Dinoseb | mg/l | 0.00385 | 0.00394 | 77.0 | 28-183 | 2.34 | 38 | WG544437 |
| MCPA | mg/l | 0.454 | 0.456 | 91.0 | 32-153 | 0.436 | 31 | WG544437 |
| MCPP | mg/l | 0.512 | 0.520 | 102. | 42-133 | 1.54 | 29 | WG544437 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 102.4 | 42-112 | | | WG544437 |
| 4,4-DDD | mg/l | 0.000203 | 0.000182 | 102. | 37-142 | 10.7 | 39 | WG544246 |
| 4,4-DDE | mg/l | 0.000164 | 0.000137 | 82.0 | 33-124 | 17.7 | 37 | WG544246 |
| 4,4-DDT | mg/l | 0.000188 | 0.000166 | 94.0 | 32-143 | 12.2 | 42 | WG544246 |
| Aldrin | mg/l | 0.0000801 | 0.0000564 | 40.0 | 25-115 | 34.6 | 45 | WG544246 |
| Alpha BHC | mg/l | 0.000186 | 0.000166 | 93.0 | 38-119 | 11.3 | 30 | WG544246 |
| Beta BHC | mg/l | 0.000214 | 0.000187 | 107. | 42-126 | 13.5 | 31 | WG544246 |
| Delta BHC | mg/l | 0.000215 | 0.000186 | 108. | 24-141 | 14.6 | 41 | WG544246 |
| Dieldrin | mg/l | 0.000197 | 0.000172 | 98.0 | 37-130 | 13.5 | 36 | WG544246 |
| Endosulfan I | mg/l | 0.000200 | 0.000174 | 100. | 37-125 | 13.7 | 35 | WG544246 |
| Endosulfan II | mg/l | 0.000202 | 0.000181 | 101. | 38-131 | 10.9 | 36 | WG544246 |
| Endosulfan sulfate | mg/l | 0.000213 | 0.000188 | 106. | 38-131 | 12.2 | 37 | WG544246 |
| Endrin | mg/l | 0.000203 | 0.000177 | 101. | 37-126 | 13.5 | 37 | WG544246 |
| Endrin aldehyde | mg/l | 0.000140 | 0.000124 | 70.0 | 24-154 | 12.1 | 36 | WG544246 |
| Endrin ketone | mg/l | 0.000194 | 0.000172 | 97.0 | 37-139 | 11.9 | 36 | WG544246 |
| Gamma BHC | mg/l | 0.000192 | 0.000170 | 96.0 | 35-114 | 12.5 | 30 | WG544246 |
| Heptachlor | mg/l | 0.000121 | 0.0000844 | 60.0 | 21-123 | 35.7 | 38 | WG544246 |
| Heptachlor epoxide | mg/l | 0.000189 | 0.000164 | 94.0 | 38-121 | 14.2 | 33 | WG544246 |
| Hexachlorobenzene | mg/l | 0.000130 | 0.000109 | 65.0 | 28-115 | 17.3 | 29 | WG544246 |
| Methoxychlor | mg/l | 0.000222 | 0.000199 | 111. | 55-150 | 10.9 | 40 | WG544246 |
| Decachlorobiphenyl | | | | 82.95 | 10-122.6 | | | WG544246 |
| Tetrachloro-m-xylene | | | | 63.08 | 15.3-114.2 | | | WG544246 |

Batch number /Run number / Sample number cross reference

WG544437: R1752390: L524459-02
WG544246: R1752709: L524459-02

* Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

July 11, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address:

EnviroTech - NM

5796 US. Highway 64
Farmington, NM 87401

Billing Information:

Doris Moore
5796 US. Highway 64
Farmington, NM 87401

Analysis/Container/Preservative

E023

Chain of Custody
Page 1 of 1



Report to: Lynn Berry

Email to: berry@envirotech-nm.com

Project Description: Key Farmington USE-5 Ins. Water

Client Project #: 98065-0613

City/State: ESC Key:

Phone: (505) 632-0615

FAX: Collected by: (print) Leasts Wayne Price Sr.

Site/Facility ID#:

P.O.#:

Collected by (signature):

Returned? (Lab MUST Be Notified)

Date Results Needed:

Immediately Packed on Ice N

Same Day..... 200%
Next Day..... 100%
Two Day..... 50%
Three Day..... 25%

Email? ___ No ___ Yes
FAX? ___ No ___ Yes

No. of Criteria

| Sample ID | Comp/Grab | Matrix | Depth | Date | Title | No. of Criteria | Remarks/Comment | Sample # (lab only) |
|-----------------|-----------|--------|-------|---------|-------|-----------------|-----------------|---------------------|
| INS Water 58753 | | WW | | 1/30/11 | | 2 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Matrix: SS - Soilsolid GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other

pH _____ Temp _____
Flow _____ Other _____

Relinquished by: (Signature)

Date: 1/11 Time: 1:17 PM

Received by: (Signature)

Samples returned via: UPS FedEx Courier

Signature (Lab Only)

Relinquished by: (Signature)

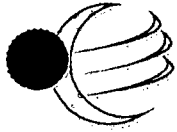
Date: _____ Time: _____

Received by: (Signature)

Samples returned via: UPS FedEx Courier

Signature (Lab Only)

2011 Third Quarter Analytical Results

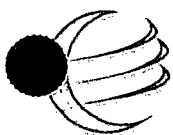


envirotech
Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 10/17/11 |
| Chain of Custody: | 9951 | Date Sampled: | 09/21/11 |
| Laboratory Number: | 59712 | Date Received: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 10/07/11 |
| Preservative: | Cool | Analysis Requested: | 8260 VOC |
| Condition: | Intact | | |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | 1.3 | (ug/L) | 1.0 | 1 |
| Toluene | 12.0 | (ug/L) | 1.0 | 1 |
| Ethylbenzene | 1.6 | (ug/L) | 1.0 | 1 |
| Xylenes, Total | 27.4 | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | 8.5 | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | 3.3 | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | 11.6 | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | 11.5 | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | 14.5 | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



Client: Key Energy
Sample ID: Inj Water
Laboratory Number: 59712

page 2

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | ND | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | ND | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 3.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

| Surrogates: | | | Rec. Limits | |
|-----------------------|------|------------|-------------|---|
| Dibromofluoromethane | 81.0 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 81.3 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 90.0 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 85.5 | % Recovery | 78.6-115 | 1 |

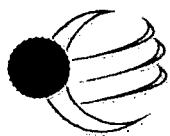
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: **Key Farmington UIC-5 Inj Water**

Analyst

Review

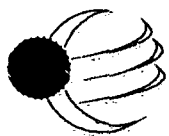


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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8260 Blank 10-07 | Date Reported: | 10/17/11 |
| Laboratory Number: | 1007BK82 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10/07/11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | ND | (ug/L) | 1.0 | 1 |
| Toluene | ND | (ug/L) | 1.0 | 1 |
| Ethylbenzene | ND | (ug/L) | 1.0 | 1 |
| Xylenes, Total | ND | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | ND | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

Client: QA/QC
Sample ID: 8260 Blank 10-07
Laboratory Number: 1007BK82

page 2

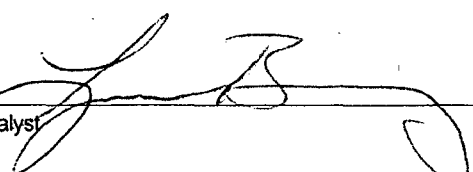
| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|----------------------|--------|------------|-----------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | ND | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | ND | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 1.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |


| Surrogates: | | | Rec. Limits | |
|-----------------------|------|------------|-------------|---|
| Dibromofluoromethane | 82.1 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 82.8 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 89.3 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 79.3 | % Recovery | 78.6-115 | 1 |

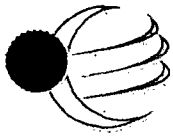
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 59663, 59712, 59792-59794, and 59884.

Analyst 

Review 

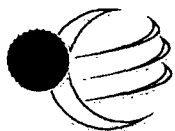


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EPA Method 8260B
Volatile Organic Compounds by GC/MS
Daily Calibration Report

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Daily Calibration | Date Reported: | 10/17/11 |
| Laboratory Number: | 1007CA | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10/07/11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|--------------------------------|-------------------------|--------|-------------|----------------------|
| Benzene | 100 | 100 | 100 | 80 - 120 |
| Toluene | 100 | 100 | 100 | 80 - 120 |
| Ethylbenzene | 100 | 100 | 100 | 80 - 120 |
| Xylenes, Total | 300 | 300 | 100 | 80 - 120 |
| Methyl tert-butyl ether (MTBE) | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3,5-Trimethylbenzene | 100 | 98.0 | 98.0 | 80 - 120 |
| 1,2-Dichloroethane (EDC) | 100 | 98.8 | 98.8 | 80 - 120 |
| 1,2-Dibromoethane (EDB) | 100 | 100 | 100 | 80 - 120 |
| Naphthalene | 100 | 100 | 100 | 80 - 120 |
| 1-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| 2-Methylnaphthalene | 100 | 98.6 | 98.6 | 80 - 120 |
| Bromobenzene | 100 | 100 | 100 | 80 - 120 |
| Bromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromodichloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromoform | 100 | 100 | 100 | 80 - 120 |
| Bromomethane | 100 | 100 | 100 | 80 - 120 |
| Carbon Tetrachloride | 100 | 100 | 100 | 80 - 120 |
| Chlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Chloroethane | 100 | 100 | 100 | 80 - 120 |
| Chloroform | 100 | 100 | 100 | 80 - 120 |
| Chloromethane | 100 | 100 | 100 | 80 - 120 |
| 2-Chlorotoluene | 100 | 102 | 102 | 80 - 120 |
| 4-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| cis-1,2-Dichloroethene | 100 | 101 | 101 | 80 - 120 |
| cis-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dibromo-3-chloropropane | 100 | 100 | 100 | 80 - 120 |
| Dibromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Dibromoethane | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichlorobenzene | 100 | 101 | 101 | 80 - 120 |
| 1,4-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Dichlorodifluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 2,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |



EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | |
|--------------------|-------------------|--------|
| Client: | QA/QC | |
| Sample ID: | Daily Calibration | page 2 |
| Laboratory Number: | 1007CA | |

| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|---------------------------|-------------------------|--------|-------------|----------------------|
| 1,1-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Hexachlorobutadiene | 100 | 100 | 100 | 80 - 120 |
| Isopropylbenzene | 100 | 100 | 100 | 80 - 120 |
| 4-Isopropyltoluene | 100 | 98.6 | 98.6 | 80 - 120 |
| Methylene Chloride | 100 | 100 | 100 | 80 - 120 |
| n-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| n-Propylbenzene | 100 | 100 | 100 | 80 - 120 |
| sec-Butylbenzene | 100 | 98.8 | 98.8 | 80 - 120 |
| Styrene | 100 | 100 | 100 | 80 - 120 |
| tert-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| Tetrachloroethene (PCE) | 100 | 100 | 100 | 80 - 120 |
| 1,1,1,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| trans-1,2-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| trans-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Trichloroethene (TCE) | 100 | 100 | 100 | 80 - 120 |
| Trichlorofluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,1,1-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichloropropane | 100 | 100 | 100 | 80 - 120 |
| Vinyl Chloride | 100 | 100 | 100 | 80 - 120 |

| Surrogates: | | | Rec. Limits |
|-----------------------|-----|------------|-------------|
| Dibromofluoromethane | 100 | % Recovery | 78.6-115 |
| 1,2-Dichloroethane-d4 | 100 | % Recovery | 74.6-123 |
| Toluene-d8 | 100 | % Recovery | 84.2-115 |
| 4-Bromofluorobenzene | 100 | % Recovery | 78.6-115 |

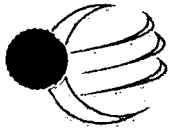
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 59663, 59712, 59792-59794, and 59884.

Analyst

Review



EPA Method 8260B
Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|-----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Matrix Spikes | Date Reported: | 10/17/11 |
| Laboratory Number: | 10-07 VOA 59663 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10/07/11 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

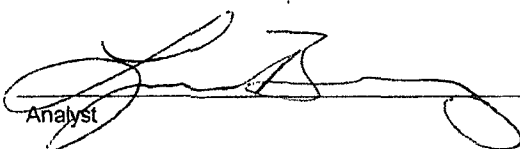
| Spike Analyte | Units: ug/L | | | %Recovery | Recovery Limits | Det. Limit |
|-----------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | | | |
| Benzene | ND | 100 | 92.1 | 92.1% | 85.3 - 120 | 1.0 |
| Toluene | 2.5 | 100 | 78.6 | 76.7% | 73 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 92.2 | 92.2% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 92.3 | 92.3% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 80.5 | 80.5% | 76.1 - 126 | 1.0 |


| Spike Duplicate Analyte | Units: ug/L | | | %Recovery | Recovery Limits | Det. Limit |
|-------------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | | | |
| Benzene | ND | 100 | 90.3 | 90.3% | 85.3 - 120 | 1.0 |
| Toluene | 2.5 | 100 | 84.0 | 81.9% | 73 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 94.9 | 94.9% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 97.8 | 97.8% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 86.2 | 86.2% | 76.1 - 126 | 1.0 |

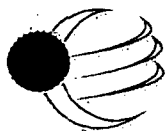
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 59663, 59712, 59792-59794, and 59884.


Analyst


Review



TRACE METAL ANALYSIS

| | | | |
|--------------------|------------|------------------|--------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 09/29/11 |
| Laboratory Number: | 59712 | Date Sampled: | 09/21/11 |
| Chain of Custody: | 9951 | Date Received: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 09/27/11 |
| Preservative: | Cool | Date Digested: | 09/26/11 |
| Condition: | Intact | Analysis Needed: | Total Metals |

| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------|-------------------------|-------------------------|
| Arsenic | 0.194 | 0.001 |
| Aluminum | 0.335 | 0.001 |
| Barium | 2.28 | 0.001 |
| Cadmium | 0.008 | 0.001 |
| Chromium | 0.030 | 0.001 |
| Cobalt | ND | 0.001 |
| Copper | ND | 0.001 |
| Iron | 6.05 | 0.001 |
| Lead | 0.089 | 0.001 |
| Manganese | 0.429 | 0.001 |
| Molybdenum | ND | 0.001 |
| Mercury | 0.067 | 0.001 |
| Nickel | 1.03 | 0.001 |
| Selenium | 0.009 | 0.001 |
| Silver | 0.143 | 0.001 |
| Zinc | 0.046 | 0.001 |


ND - Parameter not detected at the stated detection limit.

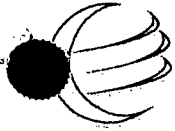
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: **Key Farmington UIC-5 Inj Water**


Analyst


Review



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TRACE METAL ANALYSIS
Quality Control /
Quality Assurance Report

| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 09-27-TM QA/QC | Date Reported: | 09/29/11 |
| Laboratory Number: | 59712 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | Dissolved Metals | Date Analyzed: | 09/27/11 |
| Condition: | N/A | Date Digested: | 09/26/11 |

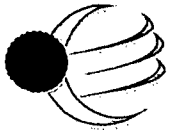
| Blank & Duplicate Conc. (mg/L) | Instrument Blank (mg/L) | Method Blank | Detection Limit | Sample | Duplicate | % Diff. | Acceptance Range |
|--------------------------------|-------------------------|--------------|-----------------|--------|-----------|---------|------------------|
| Arsenic | ND | ND | 0.001 | 0.194 | 0.017 | 12.9% | 0% - 30% |
| Aluminum | ND | ND | 0.001 | 0.335 | 0.400 | 19.4% | 0% - 30% |
| Barium | ND | ND | 0.001 | 2.28 | 2.27 | 0.13% | 0% - 30% |
| Cadmium | ND | ND | 0.001 | 0.008 | 0.011 | 0.00% | 0% - 30% |
| Chromium | ND | ND | 0.001 | 0.030 | 0.032 | 4.7% | 0% - 30% |
| Cobalt | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Copper | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Iron | ND | ND | 0.001 | 6.05 | 6.16 | 1.77% | 0% - 30% |
| Lead | ND | ND | 0.001 | 0.089 | 0.075 | 15.6% | 0% - 30% |
| Manganese | ND | ND | 0.001 | 0.429 | 0.441 | 2.80% | 0% - 30% |
| Molybdenum | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Mercury | ND | ND | 0.001 | 0.067 | 0.068 | 2.40% | 0% - 30% |
| Nickel | ND | ND | 0.001 | 1.03 | 1.04 | 1.16% | 0% - 30% |
| Selenium | ND | ND | 0.001 | 0.009 | 0.010 | 6.45% | 0% - 30% |
| Silver | ND | ND | 0.001 | 0.143 | 0.144 | 0.63% | 0% - 30% |
| Zinc | ND | ND | 0.001 | 0.046 | 0.046 | 0.00% | 0% - 30% |

| Spike Conc. (mg/L) | Spike Added | Sample | Spiked Sample | Percent Recovery | Acceptance Range |
|--------------------|-------------|--------|---------------|------------------|------------------|
| Arsenic | 0.250 | 0.194 | 0.226 | 83.8% | 80% - 120% |
| Aluminum | 0.250 | 0.335 | 0.585 | 100% | 80% - 120% |
| Barium | 0.500 | 2.28 | 2.51 | 90.4% | 80% - 120% |
| Cadmium | 0.250 | 0.008 | 0.210 | 80.6% | 80% - 120% |
| Chromium | 0.500 | 0.030 | 0.473 | 89.3% | 80% - 120% |
| Cobalt | 0.250 | ND | 0.231 | 92.1% | 80% - 120% |
| Copper | 0.500 | ND | 0.502 | 101% | 80% - 120% |
| Iron | 0.500 | 6.05 | 6.21 | 94.7% | 80% - 120% |
| Lead | 0.500 | 0.089 | 0.420 | 71.2% | 80% - 120% |
| Manganese | 0.250 | 0.429 | 0.628 | 92.5% | 80% - 120% |
| Molybdenum | 0.100 | ND | 0.081 | 102% | 80% - 120% |
| Mercury | 0.100 | 0.067 | 0.143 | 86.0% | 80% - 120% |
| Nickel | 0.500 | 1.03 | 1.30 | 84.6% | 80% - 120% |
| Selenium | 0.100 | 0.009 | 0.095 | 86.8% | 80% - 120% |
| Silver | 0.100 | 0.143 | 0.208 | 85.7% | 80% - 120% |
| Zinc | 0.500 | 0.046 | 0.450 | 82.4% | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.
Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: **QA/QC for Sample 59712**



| | | | |
|--------------------|------------|----------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 09/28/11 |
| Laboratory Number: | 59712 | Date Sampled: | 09/21/11 |
| Chain of Custody: | 9951 | Date Received: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 09/23/11 |
| Preservative: | Cool | | |
| Condition: | Intact | | |

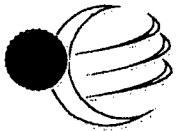
| Parameter | Analytical Result | Units | | |
|-------------------------------|-------------------|----------|-------|-------|
| pH | 5.59 | s.u. | | |
| Conductivity @ 25° C | 15,860 | umhos/cm | | |
| Total Dissolved Solids @ 180C | 17,550 | mg/L | | |
| Total Dissolved Solids (Calc) | 17,850 | mg/L | | |
| SAR | 19.8 | ratio | | |
| Total Alkalinity as CaCO3 | 2,900 | mg/L | | |
| Total Hardness as CaCO3 | 6,390 | mg/L | | |
| Bicarbonate as CaCO3 | 2,900 | mg/L | 47.5 | meq/L |
| Carbonate as CaCO3 | < 0.01 | mg/L | 0.000 | meq/L |
| Hydroxide as CaCO3 | < 0.01 | mg/L | 0.001 | meq/L |
| Nitrate Nitrogen | 3.60 | mg/L | 0.058 | meq/L |
| Nitrite Nitrogen | 0.006 | mg/L | 0.000 | meq/L |
| Chloride | 8,700 | mg/L | 245 | meq/L |
| Fluoride | 5.60 | mg/L | 0.295 | meq/L |
| Phosphate | 1.57 | mg/L | 0.050 | meq/L |
| Sulfate | 500 | mg/L | 10.41 | meq/L |
| Iron | 4.62 | mg/L | 0.165 | meq/L |
| Calcium | 2,540 | mg/L | 127 | meq/L |
| Magnesium | 9.94 | mg/L | 1 | meq/L |
| Potassium | 693 | mg/L | 17.7 | meq/L |
| Sodium | 3,640 | mg/L | 158 | meq/L |
| Cations | | | 304 | meq/L |
| Anions | | | 304 | meq/L |
| Cation/Anion Difference | | | 0.04% | |

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments **Key Farmington UIC-5 Inj Water.**

Analyst

Review



**SUSPECTED HAZARDOUS
WASTE ANALYSIS**

| | | | |
|----------------|------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 09/27/11 |
| Lab ID#: | 59712 | Date Sampled: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Received: | 09/21/11 |
| Preservative: | Cool | Date Analyzed: | 09/26/11 |
| Condition: | Intact | Chain of Custody: | 9951 |

| Parameter | Result |
|-----------|--------|
|-----------|--------|

IGNITABILITY: Negative

CORROSIVITY: Negative pH = 7.29

REACTIVITY: Negative

RCRA Hazardous Waste Criteria

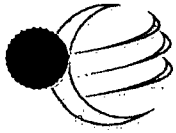
| Parameter | Hazardous Waste Criterion |
|---------------|--|
| IGNITABILITY: | Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. <i>(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)</i> |
| CORROSIVITY: | Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. <i>(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)</i> |
| REACTIVITY: | Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. <i>(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)</i> |

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: **Key Farmington UIC-5 Inj Water.**

Analyst

Review



**EPA METHOD 8260
AROMATIC / HALOGENATED
VOLATILE ORGANICS**

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 10/17/11 |
| Laboratory Number: | 59712 | Date Sampled: | 09/21/11 |
| Chain of Custody: | 9951 | Date Received: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 10/17/11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limits (mg/L) |
|----------------------|----------------------|------------------------|--------------------------|
| Vinyl Chloride | ND | 0.001 | 0.2 |
| 2-Butanone (MEK) | ND | 0.001 | 200 |
| 1,1-Dichloroethene | ND | 0.001 | 0.7 |
| Chloroform | ND | 0.001 | 6.0 |
| Carbon Tetrachloride | ND | 0.001 | 0.5 |
| Benzene | 0.158 | 0.001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.001 | 0.5 |
| Trichloroethene | ND | 0.003 | 0.5 |
| Tetrachloroethene | ND | 0.005 | 0.7 |
| Chlorobenzene | ND | 0.003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.002 | 7.5 |

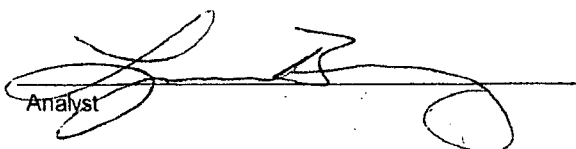
ND - Parameter not detected at the stated detection limit.

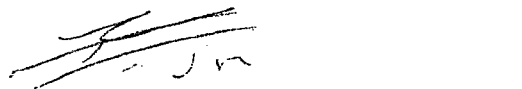
| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|----------------------|------------------|
| | Fluorobenzene | 41.2% |
| | 1,4-difluorobenzene | 57.2% |
| | 4-bromochlorobenzene | 40.5% |

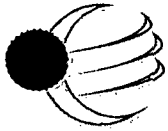
References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 Inj Water**


Analyst


Review



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Analytical Laboratory

**EPA METHOD 8260
AROMATIC / HALOGENATED
VOLATILE ORGANICS
Quality Assurance Report**

| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 1017TVCA QA/QC | Date Reported: | 10/17/11 |
| Laboratory Number: | 59952 | Date Sampled: | N/A |
| Sample Matrix: | N/A | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10/17/11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Concentration (mg/L) | Detection Limit | Laboratory Blank | Method Blank | Sample Conc. | Duplicate Conc. | Percent Difference |
|---|-----------------|------------------|--------------|--------------|-----------------|--------------------|
| Vinyl Chloride | 0.001 | ND | ND | ND | ND | 0.0% |
| 2-Butanone (MEK) | 0.001 | ND | ND | ND | ND | 22.6% |
| 1,1-Dichloroethene | 0.001 | ND | ND | ND | ND | 0.0% |
| Chloroform | 0.001 | ND | ND | ND | ND | 0.0% |
| Carbon Tetrachloride | 0.001 | ND | ND | ND | ND | 0.0% |
| Benzene | 0.001 | ND | ND | 0.1 | 0.1 | 0.0% |
| 1,2-Dichloroethane | 0.001 | ND | ND | ND | ND | 0.0% |
| Trichloroethene | 0.003 | ND | ND | ND | ND | 0.0% |
| Tetrachloroethene | 0.005 | ND | ND | ND | ND | 0.0% |
| Chlorobenzene | 0.003 | ND | ND | ND | ND | 0.0% |
| 1,4-Dichlorobenzene | 0.002 | ND | ND | ND | ND | 0.0% |

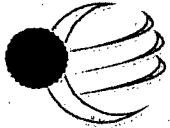
| Matrix Spike Concentration (mg/L) | Amount Spiked | Sample Result | Spike Result | Percent Recovery | Acceptable Range |
|-----------------------------------|---------------|---------------|--------------|------------------|------------------|
| Vinyl Chloride | 0.100 | ND | 0.092 | 91.9% | 26-163 |
| 2-Butanone (MEK) | 0.100 | ND | 0.107 | 107% | 43-143 |
| 1,1-Dichloroethene | 0.100 | ND | 0.088 | 88.3% | 47-132 |
| Chloroform | 0.100 | ND | 0.083 | 83.2% | 49-133 |
| Carbon Tetrachloride | 0.100 | ND | 0.080 | 80.4% | 43-143 |
| Benzene | 0.100 | 0.1 | 0.284 | 123% | 39-150 |
| 1,2-Dichloroethane | 0.100 | ND | 0.087 | 86.6% | 51-147 |
| Trichloroethene | 0.100 | ND | 0.086 | 86.0% | 35-146 |
| Tetrachloroethene | 0.100 | ND | 0.075 | 74.9% | 26-162 |
| Chlorobenzene | 0.100 | ND | 0.084 | 84.0% | 38-150 |
| 1,4-Dichlorobenzene | 0.100 | ND | 0.064 | 63.7% | 42-143 |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Comments: QA/QC for Sample 59712, 59951-59952.

Analyst

Review



**EPA METHOD 8041
TCLP PHENOLS**

| | | | |
|--------------------|--------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj. Water | Date Reported: | 10-12-11 |
| Laboratory Number: | 59712 | Date Sampled: | 09-21-11 |
| Chain of Custody: | 9951 | Date Received: | 09-21-11 |
| Sample Matrix: | TCLP Extract | Date Extracted: | 10-10-11 |
| Preservative: | Cool | Date Analyzed: | 10-11-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|-----------------------|----------------------|------------------------|-------------------------|
| o-Cresol | ND | 0.010 | 200 |
| p,m-Cresol | ND | 0.010 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.010 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.010 | 400 |
| Pentachlorophenol | ND | 0.010 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | 2-Fluorophenol | 50.2% |
| | 2,4,6-Tribromophenol | 97.2% |

References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

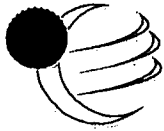
Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 Inj Water**

Analyst

Review



**EPA METHOD 8041
TCLP PHENOLS
Quality Assurance Report**

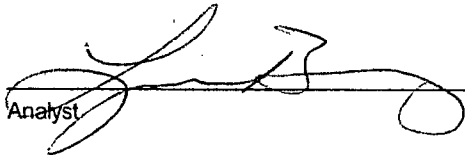
| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 1011CA41 QA/QC | Date Reported: | 10-12-11 |
| Laboratory Number: | 59712 | Date Sampled: | N/A |
| Sample Matrix: | 2-Propanol | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10-11-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

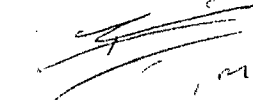
| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample Conc (mg/Kg) | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|------------------------|-----------|------------------|
| o-Cresol | ND | ND | 0.010 | ND | ND | 0.0% |
| p,m-Cresol | ND | ND | 0.010 | ND | ND | 0.0% |
| 2,4,6-Trichlorophenol | ND | ND | 0.010 | ND | ND | 0.0% |
| 2,4,5-Trichlorophenol | ND | ND | 0.010 | ND | ND | 0.0% |
| Pentachlorophenol | ND | ND | 0.010 | ND | ND | 0.0% |

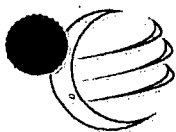
ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 8041, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Comments: **QA/QC for Sample 59559, 59712, and 59723.**

Analyst 


 Review _____



| | | | |
|--------------------|--------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj. Water | Date Reported: | 10-12-11 |
| Laboratory Number: | 59712 | Date Sampled: | 09-21-11 |
| Chain of Custody: | 9951 | Date Received: | 09-21-11 |
| Sample Matrix: | TCLP Extract | Date Extracted: | 10-10-11 |
| Preservative: | Cool | Date Analyzed: | 10-11-11 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|---------------------|----------------------|------------------------|-------------------------|
| Pyridine | ND | 0.100 | 5.0 |
| Hexachloroethane | ND | 0.100 | 3.0 |
| Nitrobenzene | ND | 0.100 | 2.0 |
| Hexachlorobutadiene | ND | 0.100 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.100 | 0.13 |
| HexachloroBenzene | ND | 0.100 | 0.13 |

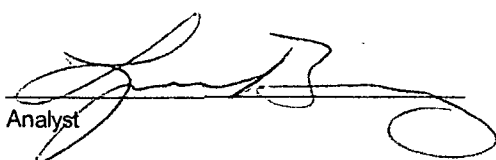
ND - Parameter not detected at the stated detection limit.

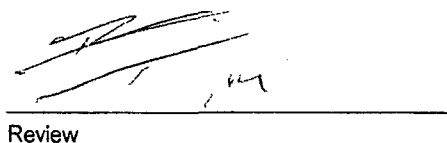
| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|------------------|------------------|
| | 2-fluorobiphenyl | 48.4% |

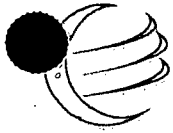
References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC -5 Inj Water**

Analyst 

Review 



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EPA METHOD 8091
Nitroaromatics and Cyclic Ketones
Quality Assurance Report

| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 1011CA92 QA/QC | Date Reported: | 10-12-11 |
| Laboratory Number: | 59559 | Date Sampled: | N/A |
| Sample Matrix: | TCLP Extract | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10-11-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| Pyridine | ND | ND | 0.100 | ND | ND | 0.0% |
| Hexachloroethane | ND | ND | 0.100 | ND | ND | 0.0% |
| Nitrobenzene | ND | ND | 0.100 | ND | ND | 0.0% |
| Hexachlorobutadiene | ND | ND | 0.100 | ND | ND | 0.0% |
| 2,4-Dinitrotoluene | ND | ND | 0.100 | ND | ND | 0.0% |
| HexachloroBenzene | ND | ND | 0.100 | ND | ND | 0.0% |

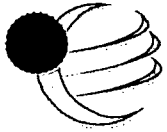
ND - Parameter not detected at the stated detection limit.

References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Comments: **QA/QC for Sample 59559, 59712, and 59723.**

Analyst

Review



| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 10/17/11 |
| Laboratory Number: | 59712 | Date Sampled: | 09/21/11 |
| Chain of custody: | 9951 | Date Received: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Analyzed: | 10/13/11 |
| Preservative: | Cool | Date Concentrated: | 10/10/11 |
| Condition: | Intact | Analysis Requested: | 8100 |

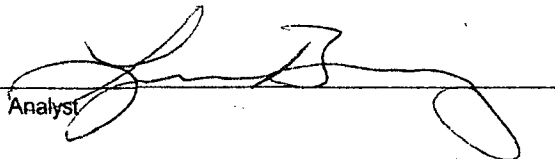
| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.001 |
| Acenaphthylene | ND | 0.001 |
| Acenaphthene | ND | 0.001 |
| Fluorene | ND | 0.001 |
| Phenanthrene | ND | 0.001 |
| Anthracene | ND | 0.001 |
| Fluoranthene | ND | 0.001 |
| Pyrene | ND | 0.001 |
| Benzo[a]anthracene | ND | 0.001 |
| Chrysene | ND | 0.001 |
| Benzo(b)fluoranthene | ND | 0.001 |
| Benzo[k]fluoranthene | ND | 0.001 |
| Benzo(a)pyrene | ND | 0.001 |
| Indeno[1,2,3]pyrene | ND | 0.001 |
| Dibenzo[a,h]anthracene | ND | 0.001 |
| Benzo(g,h,i)perylene | ND | 0.001 |

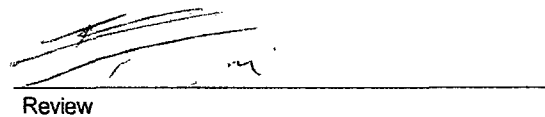
ND - Parameter not detected at the stated detection limit.

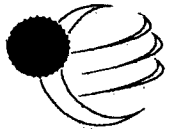
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 69.7 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS ;
SW-846, USEPA, September 1986.

Comments: Key Farmington UIC-5 Inj Water

Analyst 

Review 



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QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION



EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Quality Assurance Report

| | | | |
|--------------------|-----------------------|---------------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | 8100 Laboratory Blank | Date Reported: | 10/17/11 |
| Laboratory Number: | QA/QC | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 10/13/11 |
| Condition: | N/A | Analysis Requested: | 8100 |

| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.00 |
| Acenaphthylene | ND | 0.00 |
| Acenaphthene | ND | 0.00 |
| Fluorene | ND | 0.00 |
| Phenanthrene | ND | 0.00 |
| Anthracene | ND | 0.00 |
| Fluoranthene | ND | 0.00 |
| Pyrene | ND | 0.00 |
| Benzo[a]anthracene | ND | 0.00 |
| Chrysene | ND | 0.00 |
| Benzo(b)fluoranthene | ND | 0.00 |
| Benzo[k]fluoranthene | ND | 0.00 |
| Benzo(a)pyrene | ND | 0.00 |
| Indeno[1,2,3]pyrene | ND | 0.00 |
| Dibenzo[a,h]anthracene | ND | 0.00 |
| Benzo(g,h,i)perylene | ND | 0.00 |

ND - Parameter not detected at the stated detection limit.

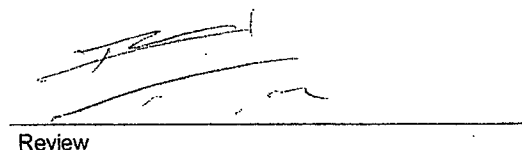
| SURROGATE RECOVERY: | Parameter | Percent Recovery |
|---------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 110 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

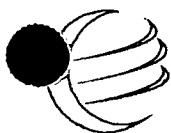
Comments: QA/QC for Samples 59712.



Analyst



Review



EPA Method 8100
Polynuclear Aromatic Hydrocarbons
Daily Calibration Report

| | | | |
|--------------------|------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8100 Calibration | Date Reported: | 10/17/11 |
| Laboratory Number: | 1013CA81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Aqueous | Date Analyzed: | 10/13/11 |
| Preservative: | N/A | Date Concentrated: | N/A |
| Condition: | N/A | Analysis Requested: | 8100 |

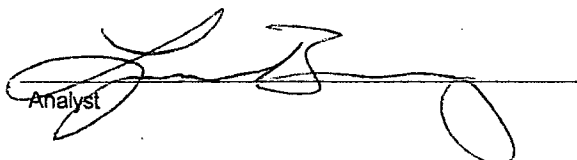
| Parameter | Concentration (mg/L) | Result | % Recovered | % Recovery Limits |
|------------------------|-------------------------|--------|----------------|----------------------|
| Naphthalene | 200 | 194 | 96.8 | 80 - 120 |
| Acenaphthylene | 200 | 202 | 101 | 80 - 120 |
| Acenaphthene | 200 | 200 | 100 | 80 - 120 |
| Fluorene | 200 | 200 | 100 | 80 - 120 |
| Phenanthrene | 200 | 200 | 99.9 | 80 - 120 |
| Anthracene | 200 | 201 | 100 | 80 - 120 |
| Fluoranthene | 200 | 198 | 99.1 | 80 - 120 |
| Pyrene | 200 | 200 | 100 | 80 - 120 |
| Benzo[a]anthracene | 200 | 204 | 102 | 80 - 120 |
| Chrysene | 200 | 198 | 99.0 | 80 - 120 |
| Benzo(b)fluoranthene | 200 | 199 | 100 | 80 - 120 |
| Benzo[k]fluoranthene | 200 | 191 | 95.3 | 80 - 120 |
| Benzo(a)pyrene | 200 | 203 | 101 | 80 - 120 |
| Indeno[1,2,3]pyrene | 200 | 208 | 104 | 80 - 120 |
| Dibenzo[a,h]anthracene | 200 | 200 | 100 | 80 - 120 |
| Benzo(g,h,i)perylene | 200 | 200 | 100 | 80 - 120 |

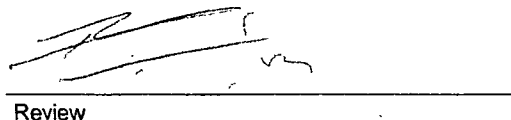
ND - Parameter not detected at the stated detection limit.

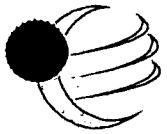
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 100 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Samples 59712.

Analyst 

Review 



| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8100 Method Blank | Date Reported: | 10/17/11 |
| Laboratory Number: | 1013MB81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Aqueous | Date Analyzed: | 10/13/11 |
| Preservative: | N/A | Date Concentrated: | 10/10/11 |
| Condition: | N/A | Analysis Requested: | 8100 |

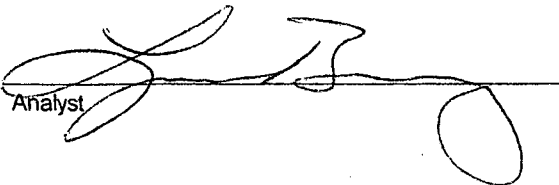
| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.00 |
| Acenaphthylene | ND | 0.00 |
| Acenaphthene | ND | 0.00 |
| Fluorene | ND | 0.00 |
| Phenanthrene | ND | 0.00 |
| Anthracene | ND | 0.00 |
| Fluoranthene | ND | 0.00 |
| Pyrene | ND | 0.00 |
| Benzo[a]anthracene | ND | 0.00 |
| Chrysene | ND | 0.00 |
| Benzo(b)fluoranthene | ND | 0.00 |
| Benzo[k]fluoranthene | ND | 0.00 |
| Benzo(a)pyrene | ND | 0.00 |
| Indeno[1,2,3]pyrene | ND | 0.00 |
| Dibenzo[a,h]anthracene | ND | 0.00 |
| Benzo(g,h,i)perylene | ND | 0.00 |

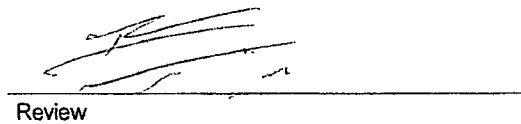
ND - Parameter not detected at the stated detection limit.

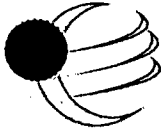
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 28.0 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Samples 59712.

Analyst 

Review 



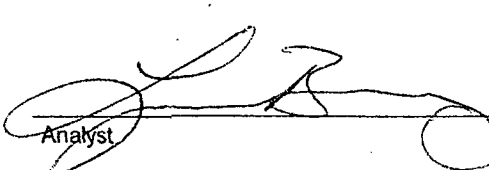
| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Sample Duplicate | Date Reported: | 10/17/11 |
| Laboratory Number: | 59712 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 10/13/11 |
| Condition: | N/A | | |

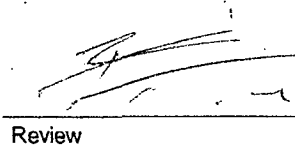
| Parameter | Sample Result (mg/L) | Duplicate Sample Result (mg/L) | Det. Limit (mg/L) | Percent Difference |
|------------------------|----------------------|--------------------------------|-------------------|--------------------|
| Naphthalene | ND | ND | 0.001 | 0.0% |
| Acenaphthylene | ND | ND | 0.001 | 0.0% |
| Acenaphthene | ND | ND | 0.001 | 0.0% |
| Fluorene | ND | ND | 0.001 | 0.0% |
| Phenanthrene | ND | ND | 0.001 | 0.0% |
| Anthracene | ND | ND | 0.001 | 0.0% |
| Fluoranthene | ND | ND | 0.001 | 0.0% |
| Pyrene | ND | ND | 0.001 | 0.0% |
| Benzo[a]anthracene | ND | ND | 0.001 | 0.0% |
| Chrysene | ND | ND | 0.001 | 0.0% |
| Benzo(b)fluoranthene | ND | ND | 0.001 | 0.0% |
| Benzo[k]fluoranthene | ND | ND | 0.001 | 0.0% |
| Benzo(a)pyrene | ND | ND | 0.001 | 0.0% |
| Indeno[1,2,3]pyrene | ND | ND | 0.001 | 0.0% |
| Dibenzo[a,h]anthracene | ND | ND | 0.001 | 0.0% |
| Benzo(g,h,i)perylene | ND | ND | 0.001 | 0.0% |

ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Samples 59712.


Analyst


Review



| | | | |
|---------------------|--------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Matrix Spike | Date Reported: | 10/17/11 |
| Laboratory Number: | 59712 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 10/13/11 |
| Condition: | N/A | | |

| Parameter | Sample Result (mg/L) | Spike Added (mg/L) | Spiked Sample Result (mg/L) | Det. Limit (mg/L) | Percent Recovery | SW-846 % Rec. Accept. Range |
|------------------------|----------------------|--------------------|-----------------------------|-------------------|------------------|-----------------------------|
| Naphthalene | ND | 100.0 | 66.2 | 0.001 | 66.2% | 10-122 |
| Acenaphthylene | ND | 100.0 | 70.5 | 0.001 | 70.5% | 10-139 |
| Acenaphthene | ND | 100.0 | 69.8 | 0.001 | 69.8% | 10-124 |
| Fluorene | ND | 100.0 | 76.1 | 0.001 | 76.1% | 10-142 |
| Phenanthrene | ND | 100.0 | 68.3 | 0.001 | 68.3% | 10-155 |
| Anthracene | ND | 100.0 | 88.4 | 0.001 | 88.4% | 10-126 |
| Fluoranthene | ND | 100.0 | 68.7 | 0.001 | 68.7% | 14-123 |
| Pyrene | ND | 100.0 | 69.2 | 0.001 | 69.2% | 10-140 |
| Benzo[a]anthracene | ND | 100.0 | 76.7 | 0.001 | 76.7% | 10-116 |
| Chrysene | ND | 100.0 | 25.5 | 0.001 | 25.5% | 12-135 |
| Benzo(b)fluoranthene | ND | 100.0 | 50.9 | 0.001 | 50.9% | 10-199 |
| Benzo[k]fluoranthene | ND | 100.0 | 10.2 | 0.001 | 10.2% | 10-150 |
| Benzo(a)pyrene | ND | 100.0 | 22.9 | 0.001 | 22.9% | 10-159 |
| Indeno[1,2,3]pyrene | ND | 100.0 | 118 | 0.001 | 118% | 10-128 |
| Dibenzo[a,h]anthracene | ND | 100.0 | 91.7 | 0.001 | 91.7% | 10-110 |
| Benzo(g,h,i)perylene | ND | 100.0 | 42.3 | 0.001 | 42.3% | 10-116 |

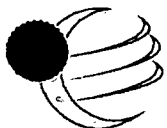
ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: QA/QC for Samples 59712.

Analyst

Review



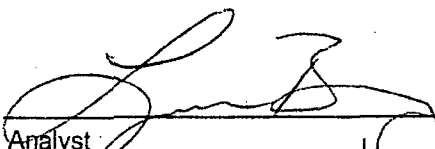
| | | | |
|--------------------|------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | Inj Water | Date Reported: | 09/23/11 |
| Laboratory Number: | 59712 | Date Sampled: | 09/21/11 |
| Sample Matrix: | Aqueous | Date Received: | 09/21/11 |
| Preservative: | Cool | Date Analyzed: | 09/23/11 |
| Condition: | Intact | Chain of Custody: | 9951 |

| Parameter | Analytical Result | Units |
|-----------|-------------------|-------|
|-----------|-------------------|-------|

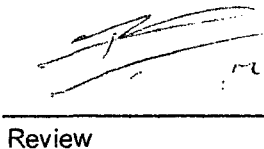
| | | |
|------------------------|--------------|------|
| Cyanide (total) | 0.150 | mg/L |
|------------------------|--------------|------|

Reference: U.S.E.P.A., Method 335.3 Cyanide, Total.

Comments: **Key Farmington UIC-5 Inj Water.**



Analyst



Review

CHAIN OF CUSTODY RECORD

09951

| Client: | | Project Name / Location: | | ANALYSIS / PARAMETERS | | | | | | | | | | Date | Time | | | | | | |
|--------------------------------|-------------|--------------------------------|---------|-----------------------|--------------------------|--------------------------|----------------------|---------------------------|-------------------|----------------------|---------------------------|--------------------------|--------------|----------|-------------|-------------|---------------|--------------------------|-------------|---------------|--|
| KEY ENERGY | | KEY FARMINGTON VIC-5 INJ WATER | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals + 2000 | Cation / Anion + GEN CHEM | FCI | TCDF WITH HF | PAH 8100 | TPH (418.1) | CHLORIDE | HHP * | CU | Sample Cool | Sample Intact | | | | |
| Client Address: | | Sampler Name: | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals + 2000 | Cation / Anion + GEN CHEM | FCI | TCDF WITH HF | PAH 8100 | TPH (418.1) | CHLORIDE | HHP * | CU | Sample Cool | Sample Intact | | | | |
| 5651 Hwy 64 - Farmington 87401 | | WAYNE PRICE | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals + 2000 | Cation / Anion + GEN CHEM | FCI | TCDF WITH HF | PAH 8100 | TPH (418.1) | CHLORIDE | HHP * | CU | Sample Cool | Sample Intact | | | | |
| Client Phone No.: | | Client No.: | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals + 2000 | Cation / Anion + GEN CHEM | FCI | TCDF WITH HF | PAH 8100 | TPH (418.1) | CHLORIDE | HHP * | CU | Sample Cool | Sample Intact | | | | |
| 505-715-2809 | | 98065-0013 | | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals + 2000 | Cation / Anion + GEN CHEM | FCI | TCDF WITH HF | PAH 8100 | TPH (418.1) | CHLORIDE | HHP * | CU | Sample Cool | Sample Intact | | | | |
| Sample No./ Identification. | Sample Date | Sample Time | Lab No. | Sample Matrix | No. Volume of Containers | Preservative | TPH (Method 8015) | BTEX (Method 8021) | VOC (Method 8260) | RCRA 8 Metals + 2000 | Cation / Anion + GEN CHEM | FCI | TCDF WITH HF | PAH 8100 | TPH (418.1) | CHLORIDE | HHP * | CU | Sample Cool | Sample Intact | |
| INS WATER | 9/21/11 | 3:30 PM | 59712 | Soil Solid | 2-40 mL VDA | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59713 | Soil Solid | 2-40 mL | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59714 | Soil Solid | ANER | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59715 | Soil Solid | 2-1L | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59716 | Soil Solid | " | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59717 | Soil Solid | " | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59718 | Soil Solid | 1-50 mL | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59719 | Soil Solid | 1-250 mL | None | X | | X | | | | | | | | | | X | X | |
| " | " | " | 59720 | Soil Solid | 1-125 mL | None | X | | X | | | | | | | | | | X | X | |
| Relinquished by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | |
| Wayne Price | | 9/21/11 | | 4:50 PM | | Paul K Carpenter | | 9-21-11 | | 4:35 | | Paul K Carpenter | | 9-21-11 | | 4:35 | | Paul K Carpenter | | 9-21-11 | |
| Relinquished by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | |
| Wayne Price | | 9/21/11 | | 4:50 PM | | Paul K Carpenter | | 9-21-11 | | 4:35 | | Paul K Carpenter | | 9-21-11 | | 4:35 | | Paul K Carpenter | | 9-21-11 | |
| Relinquished by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | | Time | | Received by: (Signature) | | Date | |
| Wayne Price | | 9/21/11 | | 4:50 PM | | Paul K Carpenter | | 9-21-11 | | 4:35 | | Paul K Carpenter | | 9-21-11 | | 4:35 | | Paul K Carpenter | | 9-21-11 | |





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Tax: I.D. 62-0814289
Est. 1970

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

Report Summary

Friday October 07, 2011

Report Number: L538982

Samples Received: 09/29/11

Client Project: 98065-0013

Description: Key Energy

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915, PA - 68-02979

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Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

October 07, 2011

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

ESC Sample # : L538982-01

Date Received : September 29, 2011
Description : Key Farmington

Site ID :

Sample ID : 5972-IN WATER

Project # : 98065-0013

Collected By : W.P.
Collection Date : 09/21/11 15:30

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--------------------------------|--------|------------|--------|--------|----------|------|
| Pesticides | | | | | | |
| Aldrin | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Alpha BHC | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Beta BHC | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Delta BHC | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Gamma BHC | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Chlordane | BDL | 0.00050 | mg/l | 8081A | 10/06/11 | 1 |
| 4,4-DDD | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| 4,4-DDE | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| 4,4-DDT | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Dieldrin | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Endosulfan I | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Endosulfan II | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Endosulfan sulfate | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Endrin | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Endrin aldehyde | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Endrin ketone | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Hexachlorobenzene | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Heptachlor | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Heptachlor epoxide | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Methoxychlor | BDL | 0.000050 | mg/l | 8081A | 10/06/11 | 1 |
| Toxaphene | BDL | 0.00050 | mg/l | 8081A | 10/06/11 | 1 |
| Pesticides Surrogates | | | | | | |
| Decachlorobiphenyl | 119. | | % Rec. | 8081A | 10/06/11 | 1 |
| Tetrachloro-m-xylene | 169. | | % Rec. | 8081A | 10/06/11 | 1 |
| Herbicides | | | | | | |
| 2,4-D | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| Dalapon | BDL | 4.0 | mg/l | 8151 | 10/04/11 | 20 |
| 2,4-DB | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| Dicamba | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| Dichloroprop | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| Dinoseb | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| MCPA | BDL | 2.0 | mg/l | 8151 | 10/04/11 | 20 |
| MCPP | BDL | 2.0 | mg/l | 8151 | 10/04/11 | 20 |
| 2,4,5-T | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| 2,4,5-TP (Silvex) | BDL | 0.040 | mg/l | 8151 | 10/04/11 | 20 |
| Surrogate Recovery | | | | | | |
| 2,4-Dichlorophenyl Acetic Acid | 0.00 | | % Rec. | 8151 | 10/04/11 | 20. |

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)

Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/07/11 15:00 Printed: 10/07/11 15:45
L538982-01 (SV8151) - Dilution due to matrix

Attachment A
List of Analytes with QC Qualifiers

| Sample Number | Work Group | Sample Type | Analyte | Run ID | Qualifier |
|---------------|------------|-------------|--------------------------------|----------|-----------|
| L538982-01 | WG558418 | SAMP | Tetrachloro-m-xylene | R1885392 | J1 |
| | WG558509 | SAMP | 2,4-D | R1882013 | O |
| | WG558509 | SAMP | Dalapon | R1882013 | O |
| | WG558509 | SAMP | 2,4-DB | R1882013 | O |
| | WG558509 | SAMP | Dicamba | R1882013 | O |
| | WG558509 | SAMP | Dichloroprop | R1882013 | O |
| | WG558509 | SAMP | Dinoseb | R1882013 | O |
| | WG558509 | SAMP | MCPA | R1882013 | O |
| | WG558509 | SAMP | MCPP | R1882013 | O |
| | WG558509 | SAMP | 2,4,5-T | R1882013 | O |
| | WG558509 | SAMP | 2,4,5-TP (Silvex) | R1882013 | O |
| | WG558509 | SAMP | 2,4-Dichlorophenyl Acetic Acid | R1882013 | J7 |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|--|
| J1 | Surrogate recovery limits have been exceeded; values are outside upper control limits |
| J7 | Surrogate recovery limits cannot be evaluated; surrogates were diluted out |
| O | (ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution. |

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



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Lynn Berry
5796 US. Highway 64
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Quality Assurance Report
Level II

L538982

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Est. 1970

October 07, 2011

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|--------------------------------|----------|------------------|-------|------------|----------|----------------|
| | | Units | % Rec | | | |
| 2,4,5-T | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| 2,4,5-TP (Silvex) | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| 2,4-D | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| 2,4-DB | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| Dalapon | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| Dicamba | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| Dichloroprop | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| Dinoseb | < .002 | mg/l | | | WG558509 | 10/03/11 18:53 |
| MCPA | < .1 | mg/l | | | WG558509 | 10/03/11 18:53 |
| MCPP | < .1 | mg/l | | | WG558509 | 10/03/11 18:53 |
| 2,4-Dichlorophenyl Acetic Acid | | % | 82.26 | 42-112 | WG558509 | 10/03/11 18:53 |
| 4,4-DDD | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| 4,4-DDE | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| 4,4-DDT | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Aldrin | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Alpha BHC | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Beta BHC | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Chlordane | < .0005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Delta BHC | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Dieldrin | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Endosulfan I | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Endosulfan II | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Endosulfan sulfate | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Endrin | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Endrin aldehyde | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Endrin ketone | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Gamma BHC | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Heptachlor | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Heptachlor epoxide | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Hexachlorobenzene | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Methoxychlor | < .00005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Toxaphene | < .0005 | mg/l | | | WG558418 | 10/06/11 09:22 |
| Decachlorobiphenyl | | % Rec. | 94.60 | 10-122.6 | WG558418 | 10/06/11 09:22 |
| Tetrachloro-m-xylene | | % Rec. | 88.80 | 15.3-114.2 | WG558418 | 10/06/11 09:22 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|--------------------------------|-------|---------------------------|----------|-------|--------|----------|
| | | Known Val | Result | | | |
| 2,4,5-T | mg/l | .005 | 0.00407 | 81.5 | 47-120 | WG558509 |
| 2,4,5-TP (Silvex) | mg/l | .005 | 0.00472 | 94.5 | 46-125 | WG558509 |
| 2,4-D | mg/l | .005 | 0.00444 | 88.8 | 39-112 | WG558509 |
| 2,4-DB | mg/l | .005 | 0.00468 | 93.6 | 29-133 | WG558509 |
| Dalapon | mg/l | .005 | 0.00352 | 70.3 | 34-97 | WG558509 |
| Dicamba | mg/l | .005 | 0.00439 | 87.8 | 47-119 | WG558509 |
| Dichloroprop | mg/l | .005 | 0.00446 | 89.2 | 35-110 | WG558509 |
| Dinoseb | mg/l | .005 | 0.00421 | 84.1 | 29-111 | WG558509 |
| MCPA | mg/l | .5 | 0.393 | 78.6 | 16-189 | WG558509 |
| MCPP | mg/l | .5 | 0.557 | 111. | 16-189 | WG558509 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 95.00 | 42-112 | WG558509 |
| 4,4-DDD | mg/l | .0002 | 0.000189 | 94.4 | 60-123 | WG558418 |
| 4,4-DDE | mg/l | .0002 | 0.000186 | 93.0 | 50-120 | WG558418 |
| 4,4-DDT | mg/l | .0002 | 0.000195 | 97.3 | 61-121 | WG558418 |
| Aldrin | mg/l | .0002 | 0.000159 | 79.5 | 10-136 | WG558418 |
| Alpha BHC | mg/l | .0002 | 0.000181 | 90.7 | 58-114 | WG558418 |
| Beta BHC | mg/l | .0002 | 0.000196 | 98.2 | 61-120 | WG558418 |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnviroTech- NM
Lynn Berry
5796 US. Highway 64
Farmington, NM 87401

Quality Assurance Report
Level II

L538982

12065 Lebanon Rd.
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(615) 758-5858
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Fax: (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 07, 2011

| Analyte | Units | Laboratory Control Known Val | Sample Result | % Rec | Limit | Batch |
|----------------------|-------|------------------------------|---------------|-------|------------|----------|
| Delta BHC | mg/l | .0002 | 0.000202 | 101. | 57-120 | WG558418 |
| Dieldrin | mg/l | .0002 | 0.000186 | 93.2 | 62-123 | WG558418 |
| Endosulfan I | mg/l | .0002 | 0.000198 | 98.9 | 63-123 | WG558418 |
| Endosulfan II | mg/l | .0002 | 0.000200 | 100. | 63-124 | WG558418 |
| Endosulfan sulfate | mg/l | .0002 | 0.000226 | 113. | 59-125 | WG558418 |
| Endrin | mg/l | .0002 | 0.000202 | 101. | 60-123 | WG558418 |
| Endrin aldehyde | mg/l | .0002 | 0.000134 | 66.8 | 42-92 | WG558418 |
| Endrin ketone | mg/l | .0002 | 0.000198 | 99.0 | 60-117 | WG558418 |
| Gamma BHC | mg/l | .0002 | 0.000192 | 95.9 | 59-116 | WG558418 |
| Heptachlor | mg/l | .0002 | 0.000167 | 83.3 | 10-131 | WG558418 |
| Heptachlor epoxide | mg/l | .0002 | 0.000191 | 95.4 | 61-118 | WG558418 |
| Hexachlorobenzene | mg/l | .0002 | 0.000153 | 76.6 | 28-116 | WG558418 |
| Methoxychlor | mg/l | .0002 | 0.000194 | 96.8 | 66-122 | WG558418 |
| Decachlorobiphenyl | | | | 91.88 | 10-122.6 | WG558418 |
| Tetrachloro-m-xylene | | | | 87.40 | 15.3-114.2 | WG558418 |

| Analyte | Units | Laboratory Control Result | Sample Ref | Duplicate %Rec | Limit | RPD | Limit | Batch |
|--------------------------------|-------|---------------------------|------------|----------------|------------|-------|-------|----------|
| 2,4,5-T | mg/l | 0.00365 | 0.00407 | 73.0 | 47-120 | 11.1 | 22 | WG558509 |
| 2,4,5-TP (Silvex) | mg/l | 0.00470 | 0.00472 | 94.0 | 46-125 | 0.453 | 25 | WG558509 |
| 2,4-D | mg/l | 0.00403 | 0.00444 | 81.0 | 39-112 | 9.69 | 23 | WG558509 |
| 2,4-DB | mg/l | 0.00449 | 0.00468 | 90.0 | 29-133 | 4.01 | 34 | WG558509 |
| Dalapon | mg/l | 0.00349 | 0.00352 | 70.0 | 34-97 | 0.718 | 35 | WG558509 |
| Dicamba | mg/l | 0.00425 | 0.00439 | 85.0 | 47-119 | 3.29 | 22 | WG558509 |
| Dichloroprop | mg/l | 0.00440 | 0.00446 | 88.0 | 35-110 | 1.27 | 23 | WG558509 |
| Dinoseb | mg/l | 0.00405 | 0.00421 | 81.0 | 29-111 | 3.75 | 27 | WG558509 |
| MCPA | mg/l | 0.373 | 0.393 | 75.0 | 16-189 | 5.18 | 31 | WG558509 |
| MCPP | mg/l | 0.541 | 0.557 | 108. | 16-189 | 2.82 | 31 | WG558509 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 91.27 | 42-112 | | | WG558509 |
| 4,4-DDD | mg/l | 0.000201 | 0.000189 | 100. | 60-123 | 6.31 | 20 | WG558418 |
| 4,4-DDE | mg/l | 0.000193 | 0.000186 | 97.0 | 50-120 | 3.91 | 22 | WG558418 |
| 4,4-DDT | mg/l | 0.000207 | 0.000195 | 103. | 61-121 | 5.99 | 20 | WG558418 |
| Aldrin | mg/l | 0.000155 | 0.000159 | 77.0 | 10-136 | 2.84 | 33 | WG558418 |
| Alpha BHC | mg/l | 0.000190 | 0.000181 | 95.0 | 58-114 | 4.65 | 21 | WG558418 |
| Beta BHC | mg/l | 0.000206 | 0.000196 | 103. | 61-120 | 4.75 | 20 | WG558418 |
| Delta BHC | mg/l | 0.000213 | 0.000202 | 106. | 57-120 | 5.60 | 21 | WG558418 |
| Dieldrin | mg/l | 0.000197 | 0.000186 | 99.0 | 62-123 | 5.72 | 20 | WG558418 |
| Endosulfan I | mg/l | 0.000208 | 0.000198 | 104. | 63-123 | 4.94 | 20 | WG558418 |
| Endosulfan II | mg/l | 0.000212 | 0.000200 | 106. | 63-124 | 5.94 | 20 | WG558418 |
| Endosulfan sulfate | mg/l | 0.000237 | 0.000226 | 118. | 59-125 | 4.77 | 21 | WG558418 |
| Endrin | mg/l | 0.000214 | 0.000202 | 107. | 60-123 | 6.01 | 20 | WG558418 |
| Endrin aldehyde | mg/l | 0.000140 | 0.000134 | 70.0 | 42-92 | 4.72 | 21 | WG558418 |
| Endrin ketone | mg/l | 0.000211 | 0.000198 | 106. | 60-117 | 6.52 | 20 | WG558418 |
| Gamma BHC | mg/l | 0.000202 | 0.000192 | 101. | 59-116 | 5.39 | 20 | WG558418 |
| Heptachlor | mg/l | 0.000166 | 0.000167 | 83.0 | 10-131 | 0.592 | 28 | WG558418 |
| Heptachlor epoxide | mg/l | 0.000201 | 0.000191 | 101. | 61-118 | 5.38 | 20 | WG558418 |
| Hexachlorobenzene | mg/l | 0.000157 | 0.000153 | 79.0 | 28-116 | 2.66 | 27 | WG558418 |
| Methoxychlor | mg/l | 0.000207 | 0.000194 | 103. | 66-122 | 6.64 | 20 | WG558418 |
| Decachlorobiphenyl | | | | 97.47 | 10-122.6 | | | WG558418 |
| Tetrachloro-m-xylene | | | | 91.43 | 15.3-114.2 | | | WG558418 |

Batch number / Run number / Sample number cross reference

WG558509: R1882013: L538982-01

WG558418: R1885392: L538982-01

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Lynn Berry
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Farmington, NM 87401

Quality Assurance Report
Level II

L538982

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(615) 758-5858
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Tax: I.D. 62-0814289

Est. 1970

October 07, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address:
EnviroTech - NM

5796 US. Highway 64
 Farmington, NM 87401

Billing Information:

Doris Moore
 5796 US. Highway 64
 Farmington, NM 87401

Report to: **Lynn Berry**

Email to: **lberry@envirotech.com**

Project Description: **Key Farmington N.C.S. Water**

City/State Collected

Phone: (505) 632-0615

Client Project #:

ESC Key:

FAX: (505) 632-1805

48005-0013

Collected by: (print) **W.P.**

Site/Facility ID#:

P.O.#:

Collected by (signature):

Rush? (Lab MUST Be Notified)

Date Results Needed:

CoCode: **ENVIROTM** (lab use only)

Immediately Packed on Ice N Y

Same Day: 200%
 Next Day: 100%
 Two Day: 50%
 Three Day: 25%

Email? No Yes
 FAX? No Yes

Template/Prelog In

Sample ID

Comp/Grab

Matrix*

Depth

Date

Time

Remarks/Contaminant

59712-Inj Water

OT

9-21-11

3:30 PM

2

LS39982-01

Analysis/Container/Preservative

Herbicides # 8151
 Pesticides # ~~8151~~ 8081 JM

F205

Chain of Custody
 Page ___ of ___



*Matrix: SS - Soil/Solid GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other Liquid
 Remarks: 4/24/98 23 0856 Flow _____ pH _____ Temp _____

Relinquished by: (Signature) **JAMILL WAINMAN** Date: 9-28-11 Time: 10:30 AM
 Received by: (Signature) _____ Date: _____ Time: _____
 Relinquished by: (Signature) _____ Date: _____ Time: _____
 Received by: (Signature) _____ Date: _____ Time: _____

Samples returned Via: UPS FedEx Courier
 Bottles Received: _____
 Condition: (lab use only) N/A
 PH Checked: _____ NCF: _____

2011 Fourth Quarter Analytical Results



envirotech

Analytical Laboratory Volatile Organic Compounds by GC/MS

EPA Method 8260B

Client: Key Energy
 Sample ID: INJ Water
 Chain of Custody: 13165
 Laboratory Number: 60768
 Sample Matrix: Aqueous
 Preservative:
 Condition: Cool and Intact

Project #: 98065-0013
 Date Reported: 01-16-12
 Date Sampled: 01-10-12
 Date Received: 01-10-12
 Date Analyzed: 01-13-12
 Analysis Requested: 8260 VOC

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|----------------------|--------|------------|-----------------|
| Benzene | 834 | (ug/L) | 1.0 | 1 |
| Toluene | 6,750 | (ug/L) | 1.0 | 1 |
| Ethylbenzene | 273 | (ug/L) | 1.0 | 1 |
| Xylenes, Total | 4,190 | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | 490 | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | 862 | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | 159 | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | 2590 | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | 2020 | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |





envirotech

Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS

Client: Key Energy
Sample ID: INJ Water
Laboratory Number: 60768

page 2

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | 51.6 | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | 48.1 | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 3.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

| Surrogates: | | | Rec. Limits | |
|-----------------------|------|------------|-------------|---|
| Dibromofluoromethane | 84.4 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 75.8 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 89.6 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 96.7 | % Recovery | 78.6-115 | 1 |

ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: **Key Farmington UIC-5 INJ Water**

Analyst

Review



QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION



envirotech

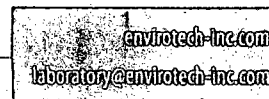
Analytical Laboratory

EPA Method 8260B

Volatile Organic Compounds by GC/MS
Quality Assurance Report

| | | | |
|--------------------|----------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 8260 Blank 01-11 011 | Date Reported: | 01-16-12 |
| Laboratory Number: | 0113BK82 | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 01-13-12 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|--------------------------------|-------------------------|--------|---------------|--------------------|
| Benzene | ND | (ug/L) | 1.0 | 1 |
| Toluene | ND | (ug/L) | 1.0 | 1 |
| Ethylbenzene | ND | (ug/L) | 1.0 | 1 |
| Xylenes, Total | ND | (ug/L) | 1.0 | 1 |
| Methyl tert-butyl ether (MTBE) | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3,5-Trimethylbenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloroethane (EDC) | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromoethane (EDB) | ND | (ug/L) | 1.0 | 1 |
| Naphthalene | ND | (ug/L) | 1.0 | 1 |
| 1-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| 2-Methylnaphthalene | ND | (ug/L) | 2.0 | 1 |
| Bromobenzene | ND | (ug/L) | 1.0 | 1 |
| Bromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromodichloromethane | ND | (ug/L) | 1.0 | 1 |
| Bromoform | ND | (ug/L) | 1.0 | 1 |
| Bromomethane | ND | (ug/L) | 1.0 | 1 |
| Carbon Tetrachloride | ND | (ug/L) | 1.0 | 1 |
| Chlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Chloroethane | ND | (ug/L) | 2.0 | 1 |
| Chloroform | ND | (ug/L) | 1.0 | 1 |
| Chloromethane | ND | (ug/L) | 1.0 | 1 |
| 2-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| 4-Chlorotoluene | ND | (ug/L) | 1.0 | 1 |
| cis-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| cis-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dibromo-3-chloropropane | ND | (ug/L) | 2.0 | 1 |
| Dibromochloromethane | ND | (ug/L) | 1.0 | 1 |
| Dibromoethane | ND | (ug/L) | 2.0 | 1 |
| 1,2-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,4-Dichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| Dichlorodifluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| 1,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 1,3-Dichloropropane | ND | (ug/L) | 1.0 | 1 |
| 2,2-Dichloropropane | ND | (ug/L) | 1.0 | 1 |



Client: QA/QC
Sample ID: 8260 Blank 01-11 011
Laboratory Number: 0113BK82

page 2


| Parameter | Concentration (ug/L) | Units | Det. Limit | Dilution Factor |
|---------------------------|-------------------------|--------|---------------|--------------------|
| 1,1-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Hexachlorobutadiene | ND | (ug/L) | 1.0 | 1 |
| Isopropylbenzene | ND | (ug/L) | 1.0 | 1 |
| 4-Isopropyltoluene | ND | (ug/L) | 1.0 | 1 |
| Methylene Chloride | ND | (ug/L) | 1.0 | 1 |
| n-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| n-Propylbenzene | ND | (ug/L) | 1.0 | 1 |
| sec-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Styrene | ND | (ug/L) | 1.0 | 1 |
| tert-Butylbenzene | ND | (ug/L) | 1.0 | 1 |
| Tetrachloroethene (PCE) | ND | (ug/L) | 1.0 | 1 |
| 1,1,1,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | (ug/L) | 1.0 | 1 |
| trans-1,2-Dichloroethene | ND | (ug/L) | 1.0 | 1 |
| trans-1,3-Dichloropropene | ND | (ug/L) | 1.0 | 1 |
| Trichloroethene (TCE) | ND | (ug/L) | 1.0 | 1 |
| Trichlorofluoromethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,2,4-Trichlorobenzene | ND | (ug/L) | 1.0 | 1 |
| 1,1,1-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,1,2-Trichloroethane | ND | (ug/L) | 1.0 | 1 |
| 1,2,3-Trichloropropane | ND | (ug/L) | 2.0 | 1 |
| Vinyl Chloride | ND | (ug/L) | 2.0 | 1 |

| Surrogates: | Rec. Limits | | | |
|-----------------------|-------------|------------|----------|---|
| Dibromofluoromethane | 105 | % Recovery | 78.6-115 | 1 |
| 1,2-Dichloroethane-d4 | 96.7 | % Recovery | 74.6-123 | 1 |
| Toluene-d8 | 104 | % Recovery | 84.2-115 | 1 |
| 4-Bromofluorobenzene | 107 | % Recovery | 78.6-115 | 1 |


ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 60768.



Analyst



Review



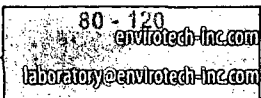
envirotech

Analytical Laboratory

EPA Method 8260B
Volatile Organic Compounds by GC/MS
Daily Calibration Report

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Daily Calibration | Date Reported: | 01-16-12 |
| Laboratory Number: | 0113CA82 | Date Sampled: | N/A |
| Sample Matrix: | Water | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 01-13-12 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |

| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|--------------------------------|-------------------------|--------|-------------|----------------------|
| Benzene | 100 | 101 | 101 | 80 - 120 |
| Toluene | 100 | 100 | 100 | 80 - 120 |
| Ethylbenzene | 100 | 100 | 100 | 80 - 120 |
| Xylenes, Total | 100 | 100 | 100 | 80 - 120 |
| Methyl tert-butyl ether (MTBE) | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3,5-Trimethylbenzene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dichloroethane (EDC) | 100 | 98.9 | 98.9 | 80 - 120 |
| 1,2-Dibromoethane (EDB) | 100 | 100 | 100 | 80 - 120 |
| Naphthalene | 100 | 100 | 100 | 80 - 120 |
| 1-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| 2-Methylnaphthalene | 100 | 100 | 100 | 80 - 120 |
| Bromobenzene | 100 | 100 | 100 | 80 - 120 |
| Bromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromodichloromethane | 100 | 100 | 100 | 80 - 120 |
| Bromoform | 100 | 100 | 100 | 80 - 120 |
| Bromomethane | 100 | 200 | 100 | 80 - 120 |
| Carbon Tetrachloride | 100 | 100 | 100 | 80 - 120 |
| Chlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Chloroethane | 100 | 100 | 100 | 80 - 120 |
| Chloroform | 100 | 100 | 100 | 80 - 120 |
| Chloromethane | 100 | 100 | 100 | 80 - 120 |
| 2-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| 4-Chlorotoluene | 100 | 100 | 100 | 80 - 120 |
| cis-1,2-Dichloroethene | 100 | 100 | 100 | 80 - 120 |
| cis-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| 1,2-Dibromo-3-chloropropane | 100 | 100 | 100 | 80 - 120 |
| Dibromochloromethane | 100 | 100 | 100 | 80 - 120 |
| Dibromoethane | 100 | 101 | 101 | 80 - 120 |
| 1,2-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,4-Dichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| Dichlorodifluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1-Dichloroethene | 100 | 99.1 | 99.1 | 80 - 120 |
| 1,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 1,3-Dichloropropane | 100 | 100 | 100 | 80 - 120 |
| 2,2-Dichloropropane | 100 | 100 | 100 | 80 - 120 |



Client: QA/QC
 Sample ID: Daily Calibration
 Laboratory Number: 0113CA82

page 2

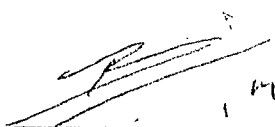
| Parameter | Concentration (ug/L) | Result | % Recovered | % Recovery Limits |
|---------------------------|-------------------------|--------|-------------|----------------------|
| 1,1-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Hexachlorobutadiene | 100 | 100 | 100 | 80 - 120 |
| Isopropylbenzene | 100 | 100 | 100 | 80 - 120 |
| 4-Isopropyltoluene | 100 | 100 | 100 | 80 - 120 |
| Methylene Chloride | 100 | 100 | 100 | 80 - 120 |
| n-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| n-Propylbenzene | 100 | 100 | 100 | 80 - 120 |
| sec-Butylbenzene | 100 | 98.9 | 98.9 | 80 - 120 |
| Styrene | 100 | 100 | 100 | 80 - 120 |
| tert-Butylbenzene | 100 | 100 | 100 | 80 - 120 |
| Tetrachloroethene (PCE) | 100 | 99.1 | 99.1 | 80 - 120 |
| 1,1,1,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,1,2,2-Tetrachloroethane | 100 | 100 | 100 | 80 - 120 |
| trans-1,2-Dichloroethene | 100 | 101 | 101 | 80 - 120 |
| trans-1,3-Dichloropropene | 100 | 100 | 100 | 80 - 120 |
| Trichloroethene (TCE) | 100 | 100 | 100 | 80 - 120 |
| Trichlorofluoromethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,2,4-Trichlorobenzene | 100 | 100 | 100 | 80 - 120 |
| 1,1,1-Trichloroethane | 100 | 99.7 | 99.7 | 80 - 120 |
| 1,1,2-Trichloroethane | 100 | 100 | 100 | 80 - 120 |
| 1,2,3-Trichloropropane | 100 | 100 | 100 | 80 - 120 |
| Vinyl Chloride | 100 | 100 | 100 | 80 - 120 |

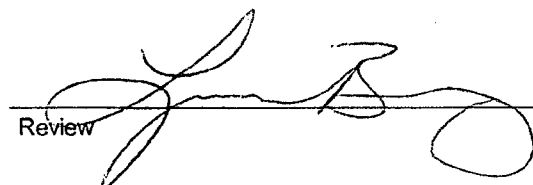
| Surrogates: | | | Rec. Limits |
|-----------------------|------|------------|-------------|
| Dibromofluoromethane | 84.4 | % Recovery | 78.6-115 |
| 1,2-Dichloroethane-d4 | 100 | % Recovery | 74.6-123 |
| Toluene-d8 | 100 | % Recovery | 84.2-115 |
| 4-Bromofluorobenzene | 100 | % Recovery | 78.6-115 |

ND = Parameter not detected at the stated detection limit.

 References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 60768.


 Analyst


 Review

| | | | |
|--------------------|-------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Matrix Spikes | Date Reported: | 01-16-12 |
| Laboratory Number: | 01-13 VOA - 60768 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 01-13-12 |
| Condition: | N/A | Analysis Requested: | 8260 VOC |


| Spike Analyte | Units: ug/L | | | %Recovery | Recovery Limits | Det. Limit |
|-----------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | | | |
| Benzene | 834 | 100 | 927 | 99.2% | 85.3 - 120 | 1.0 |
| Toluene | 6,750 | 100 | 6,640 | 96.9% | 73 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 96.3 | 96.3% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 91.9 | 91.9% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 97.1 | 97.1% | 76.1 - 126 | 1.0 |

| Spike Duplicate Analyte | Units: ug/L | | | %Recovery | Recovery Limits | Det. Limit |
|-------------------------|-------------|-------|--------|-----------|-----------------|------------|
| | Sample | Added | Result | | | |
| Benzene | 834 | 100 | 941 | 101% | 85.3 - 120 | 1.0 |
| Toluene | 6,750 | 100 | 6,700 | 97.8% | 73 - 123 | 1.0 |
| Chlorobenzene | ND | 100 | 103 | 103% | 84.7 - 119 | 1.0 |
| 1,1-Dichloroethene | ND | 100 | 97.5 | 97.5% | 83.4 - 122 | 1.0 |
| Trichloroethene (TCE) | ND | 100 | 102 | 102% | 76.1 - 126 | 1.0 |

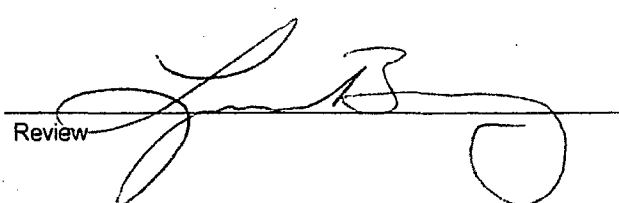
ND = Parameter not detected at the stated detection limit.

References: Method 5030, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
Method 8260, Volatile Organic Compounds by Gas Chromatography / Mass Spectrometry, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992

Comments: QA/QC for Sample 60768.



Analyst



Review

| | | | |
|--------------------|------------|------------------|--------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01/12/12 |
| Laboratory Number: | 60768 | Date Sampled: | 01/10/12 |
| Chain of Custody: | 13165 | Date Received: | 01/10/12 |
| Sample Matrix: | Aqueous | Date Analyzed: | 01/11/12 |
| Preservative: | Cool | Date Digested: | 01/11/12 |
| Condition: | Intact | Analysis Needed: | Total Metals |

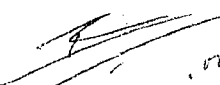
| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------|----------------------|-------------------|
| Arsenic | 0.005 | 0.001 |
| Aluminum | 0.056 | 0.001 |
| Barium | 4.26 | 0.001 |
| Boron | 0.954 | 0.001 |
| Cadmium | ND | 0.001 |
| Chromium | 0.008 | 0.001 |
| Cobalt | ND | 0.001 |
| Copper | 0.006 | 0.001 |
| Iron | 9.38 | 0.001 |
| Lead | 0.037 | 0.001 |
| Manganese | 0.384 | 0.001 |
| Molybdenum | 0.130 | 0.001 |
| Mercury | ND | 0.001 |
| Nickel | 0.050 | 0.001 |
| Selenium | ND | 0.001 |
| Silver | ND | 0.001 |
| Zinc | 0.095 | 0.001 |

ND - Parameter not detected at the stated detection limit.


References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: **Key Farmington UIC-5 INJ Water**



Analyst



Review

| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 01-11-TM QA/QC | Date Reported: | 01/12/12 |
| Laboratory Number: | 60768 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | Dissolved Metals | Date Analyzed: | 01/11/12 |
| Condition: | N/A | Date Digested: | 01/11/12 |

| Blank & Duplicate Conc. (mg/L) | Instrument Blank (mg/L) | Method Blank | Detection Limit | Sample | Duplicate | % Diff. | Acceptance Range |
|--------------------------------|-------------------------|--------------|-----------------|--------|-----------|---------|------------------|
| Arsenic | ND | ND | 0.001 | 0.005 | 0.004 | 15.4% | 0% - 30% |
| Aluminum | ND | ND | 0.001 | 0.056 | 0.060 | 6.57% | 0% - 30% |
| Barium | ND | ND | 0.001 | 4.26 | 4.25 | 0.31% | 0% - 30% |
| Boron | ND | ND | 0.001 | 0.954 | 0.952 | 0.20% | 0% - 30% |
| Cadmium | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Chromium | ND | ND | 0.001 | 0.008 | 0.010 | 23.8% | 0% - 30% |
| Cobalt | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Copper | ND | ND | 0.001 | 0.006 | 0.005 | 5.45% | 0% - 30% |
| Iron | ND | ND | 0.001 | 9.38 | 9.44 | 0.62% | 0% - 30% |
| Lead | ND | ND | 0.001 | 0.037 | 0.038 | 1.08% | 0% - 30% |
| Manganese | ND | ND | 0.001 | 0.384 | 0.387 | 0.86% | 0% - 30% |
| Molybdenum | ND | ND | 0.001 | 0.130 | 0.122 | 6.32% | 0% - 30% |
| Mercury | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Nickel | ND | ND | 0.001 | 0.050 | 0.050 | 0.00% | 0% - 30% |
| Selenium | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Silver | ND | ND | 0.001 | ND | ND | 0.00% | 0% - 30% |
| Zinc | ND | ND | 0.001 | 0.095 | 0.095 | 0.00% | 0% - 30% |

| Spike Conc. (mg/L) | Spike Added | Sample | Spiked Sample | Percent Recovery | Acceptance Range |
|--------------------|-------------|--------|---------------|------------------|------------------|
| Arsenic | 0.250 | 0.005 | 0.243 | 95.2% | 80% - 120% |
| Aluminum | 0.250 | 0.056 | 0.321 | 105% | 80% - 120% |
| Barium | 0.500 | 4.26 | 4.46 | 93.7% | 80% - 120% |
| Boron | 0.500 | 0.954 | 1.40 | 96.1% | 80% - 120% |
| Cadmium | 0.250 | ND | 0.213 | 85.0% | 80% - 120% |
| Chromium | 0.500 | 0.008 | 0.470 | 92.4% | 80% - 120% |
| Cobalt | 0.250 | ND | 0.225 | 89.9% | 80% - 120% |
| Copper | 0.500 | 0.006 | 0.426 | 84.2% | 80% - 120% |
| Iron | 0.500 | 9.38 | 9.33 | 94.4% | 80% - 120% |
| Lead | 0.500 | 0.037 | 0.462 | 86.1% | 80% - 120% |
| Manganese | 0.250 | 0.384 | 0.589 | 92.9% | 80% - 120% |
| Molybdenum | 0.100 | 0.130 | 0.192 | 83.7% | 80% - 120% |
| Mercury | 0.100 | ND | 0.080 | 80.4% | 80% - 120% |
| Nickel | 0.500 | 0.050 | 0.468 | 85.1% | 80% - 120% |
| Selenium | 0.100 | ND | 0.083 | 83.3% | 80% - 120% |
| Silver | 0.100 | ND | 0.094 | 94.4% | 80% - 120% |
| Zinc | 0.500 | 0.095 | 0.546 | 91.7% | 80% - 120% |

ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.
Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for Sample 60768.

[Signature]
Analyst


[Signature]
Review


| | | | |
|--------------------|------------|----------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-12-12 |
| Laboratory Number: | 60768 | Date Sampled: | 01-10-12 |
| Chain of Custody: | 13165 | Date Received: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Analyzed: | 01-10-12 |
| Preservative: | Cool | | |
| Condition: | Intact | | |

| Parameter | Analytical Result | Units | | |
|-------------------------------|-------------------|----------|-------|-------|
| pH | 7.91 | s.u. | | |
| Conductivity @ 25° C | 8,110 | umhos/cm | | |
| Total Dissolved Solids @ 180C | 4,920 | mg/L | | |
| Total Dissolved Solids (Calc) | 4,910 | mg/L | | |
| SAR | 21.7 | ratio | | |
| Total Alkalinity as CaCO3 | 970 | mg/L | | |
| Total Hardness as CaCO3 | 879 | mg/L | | |
| Bicarbonate as CaCO3 | 970 | mg/L | 15.9 | meq/L |
| Carbonate as CaCO3 | < 0.01 | mg/L | 0.000 | meq/L |
| Hydroxide as CaCO3 | < 0.01 | mg/L | 0.001 | meq/L |
| Nitrate Nitrogen | 4.30 | mg/L | 0.069 | meq/L |
| Nitrite Nitrogen | 0.016 | mg/L | 0.000 | meq/L |
| Chloride | 2,300 | mg/L | 65 | meq/L |
| Fluoride | 1.17 | mg/L | 0.062 | meq/L |
| Phosphate | 0.160 | mg/L | 0.005 | meq/L |
| Sulfate | 135 | mg/L | 2.81 | meq/L |
| Iron | 4.35 | mg/L | 0.156 | meq/L |
| Calcium | 311 | mg/L | 16 | meq/L |
| Magnesium | 24.7 | mg/L | 2 | meq/L |
| Potassium | 74.8 | mg/L | 1.9 | meq/L |
| Sodium | 1,480 | mg/L | 64 | meq/L |
| Cations | | | 84 | meq/L |
| Anions | | | 84 | meq/L |
| Cation/Anion Difference | | | 0.16% | |

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
 Standard Methods For The Examination of Water And Waste Water", 18th ed., 1992.

Comments **Key Farmington UIC-5 INJ Water**


 Analyst


 Review

**SUSPECTED HAZARDOUS
WASTE ANALYSIS**

| | | | |
|----------------|------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-11-12 |
| Lab ID#: | 60768 | Date Sampled: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Received: | 01-10-12 |
| Preservative: | Cool | Date Analyzed: | 01-11-12 |
| Condition: | Intact | Chain of Custody: | 13165 |

| Parameter | Result |
|-----------|--------|
|-----------|--------|

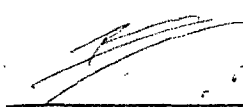
| | | |
|----------------------|-----------------|------------------|
| IGNITABILITY: | Negative | |
| CORROSIVITY: | Negative | pH = 7.88 |
| REACTIVITY: | Negative | |

RCRA Hazardous Waste Criteria

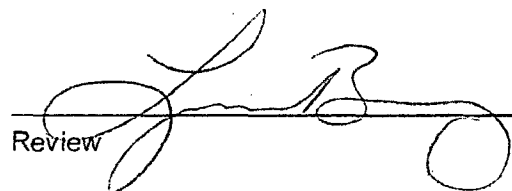
| | |
|---------------|--|
| Parameter | Hazardous Waste Criterion |
| IGNITABILITY: | Characteristic of Ignitability as defined by 40 CFR, Subpart C, Sec. 261.21. <i>(i.e. Sample ignition upon direct contact with flame or flash point < 60° C.)</i> |
| CORROSIVITY: | Characteristic of Corrosivity as defined by 40 CFR, Subpart C, Sec. 261.22. <i>(i.e. pH less than or equal to 2.0 or pH greater than or equal to 12.5)</i> |
| REACTIVITY: | Characteristic of Reactivity as defined by 40 CFR, Subpart C, Sec. 261.23. <i>(i.e. Violent reaction with water, strong base, strong acid, or the generation of Sulfide or Cyanide gases at STP with pH between 2.0 and 12.5)</i> |

Reference: 40 CFR part 261 Subpart C sections 261.21 - 261.23, July 1, 1992.

Comments: **Key Farmington UIC- 5 INJ Water**



Analyst



Review

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-18-12 |
| Laboratory Number: | 60768 | Date Sampled: | 01-10-12 |
| Chain of Custody: | 13165 | Date Received: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Extracted: | N/A |
| Preservative: | Cool | Date Analyzed: | 01-18-12 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limits (mg/L) |
|----------------------|----------------------|------------------------|--------------------------|
| Vinyl Chloride | ND | 0.001 | 0.2 |
| 2-Butanone (MEK) | ND | 0.001 | 200 |
| 1,1-Dichloroethene | ND | 0.001 | 0.7 |
| Chloroform | ND | 0.001 | 6.0 |
| Carbon Tetrachloride | ND | 0.001 | 0.5 |
| Benzene | 1.10 | 0.001 | 0.5 |
| 1,2-Dichloroethane | ND | 0.001 | 0.5 |
| Trichloroethene | ND | 0.003 | 0.5 |
| Tetrachloroethene | ND | 0.005 | 0.7 |
| Chlorobenzene | ND | 0.003 | 100 |
| 1,4-Dichlorobenzene | ND | 0.002 | 7.5 |

ND - Parameter not detected at the stated detection limit.

| QA/QC Acceptance Criteria | Parameter | Percent Recovery |
|---------------------------|----------------------|------------------|
| | Fluorobenzene | 130% |
| | 1,4-difluorobenzene | 42.2% |
| | 4-bromochlorobenzene | 127% |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
Method 8260B, Determination of Volatile Organics using GC/MS

Note: Regulatory Limits based on 40 CFR part 261 Subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 INJ Water**

Analyst

Review

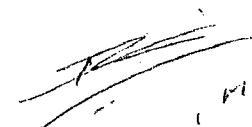
| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0118TVCA QA/QC | Date Reported: | 08-25-11 |
| Laboratory Number: | 60719 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 08-23-11 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Concentration (mg/L) | Detection Limit | Laboratory Blank | Method Blank | Sample Conc. | Duplicate Conc. | Percent Difference |
|---|-----------------|------------------|--------------|--------------|-----------------|--------------------|
| Vinyl Chloride | 0.001 | ND | ND | ND | ND | 0.0% |
| 2-Butanone (MEK) | 0.001 | ND | ND | ND | ND | 0.0% |
| 1,1-Dichloroethene | 0.001 | ND | ND | ND | ND | 0.0% |
| Chloroform | 0.001 | ND | ND | ND | ND | 0.0% |
| Carbon Tetrachloride | 0.001 | ND | ND | ND | ND | 0.0% |
| Benzene | 0.001 | ND | ND | ND | ND | 0.0% |
| 1,2-Dichloroethane | 0.001 | ND | ND | ND | ND | 0.0% |
| Trichloroethene | 0.003 | ND | ND | ND | ND | 0.0% |
| Tetrachloroethene | 0.005 | ND | ND | ND | ND | 0.0% |
| Chlorobenzene | 0.003 | ND | ND | ND | ND | 0.0% |
| 1,4-Dichlorobenzene | 0.002 | ND | ND | ND | ND | 0.0% |

| Matrix Spike Concentration (mg/L) | Amount Spiked | Sample Result | Spike Result | Percent Recovery | Acceptable Range |
|-----------------------------------|---------------|---------------|--------------|------------------|------------------|
| Vinyl Chloride | 0.100 | ND | 0.085 | 84.6% | 26-163 |
| 2-Butanone (MEK) | 0.100 | ND | 0.104 | 104% | 43-143 |
| 1,1-Dichloroethene | 0.100 | ND | 0.094 | 93.7% | 47-132 |
| Chloroform | 0.100 | ND | 0.099 | 98.6% | 49-133 |
| Carbon Tetrachloride | 0.100 | ND | 0.097 | 97.2% | 43-143 |
| Benzene | 0.100 | ND | 0.099 | 98.5% | 39-150 |
| 1,2-Dichloroethane | 0.100 | ND | 0.103 | 103% | 51-147 |
| Trichloroethene | 0.100 | ND | 0.103 | 103% | 35-146 |
| Tetrachloroethene | 0.100 | ND | 0.095 | 94.9% | 26-162 |
| Chlorobenzene | 0.100 | ND | 0.098 | 97.8% | 38-150 |
| 1,4-Dichlorobenzene | 0.100 | ND | 0.102 | 102% | 42-143 |

References: Method 1311, Toxicity Characteristic Leaching Procedure, SW-846, USEPA, July 1992.
 Method 5030, Purge-and-Trap, SW-846, USEPA, July 1992.
 Method 8260B, Determination of Volatile Organics using GC/MS

Comments: QA/QC for Sample 60719, 60768.




| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-17-12 |
| Laboratory Number: | 60768 | Date Sampled: | 01-10-12 |
| Chain of Custody: | 13165 | Date Received: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Extracted: | 01-12-12 |
| Preservative: | Cool | Date Analyzed: | 01-16-12 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|-----------------------|----------------------|------------------------|-------------------------|
| o-Cresol | 0.059 | 0.004 | 200 |
| p,m-Cresol | 0.118 | 0.004 | 200 |
| 2,4,6-Trichlorophenol | ND | 0.004 | 2.0 |
| 2,4,5-Trichlorophenol | ND | 0.004 | 400 |
| Pentachlorophenol | ND | 0.004 | 100 |

ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|----------------------|------------------|
| | 2-Fluorophenol | 65.2% |
| | 2,4,6-Tribromophenol | 113% |

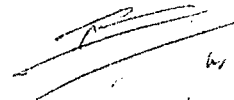
References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.

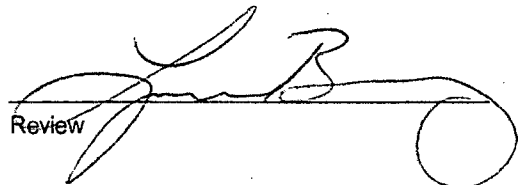
Method 8040, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 INJ Water**



Analyst



Review

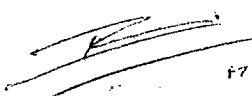
| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0116BK41 QA/QC | Date Reported: | 01-17-12 |
| Laboratory Number: | 60768 | Date Sampled: | N/A |
| Sample Matrix: | 2-Propanol | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 01-16-12 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| o-Cresol | ND | ND | 0.004 | ND | ND | 0.0% |
| p,m-Cresol | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4,6-Trichlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4,5-Trichlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |
| Pentachlorophenol | ND | ND | 0.004 | ND | ND | 0.0% |

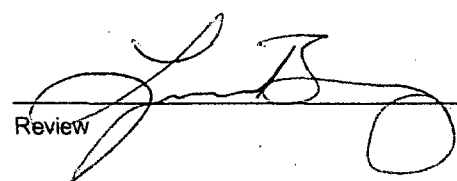
ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 8041, Phenols, Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept. 1986.

Comments: **QA/QC for Sample 60768**



 Analyst



 Review

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-18-12 |
| Laboratory Number: | 60768 | Date Sampled: | 01-10-12 |
| Chain of Custody: | 13165 | Date Received: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Extracted: | 01-12-12 |
| Preservative: | Cool | Date Analyzed: | 01-17-12 |
| Condition: | Intact | Analysis Requested: | TCLP |

| Parameter | Concentration (mg/L) | Detection Limit (mg/L) | Regulatory Limit (mg/L) |
|---------------------|----------------------|------------------------|-------------------------|
| Pyridine | ND | 0.004 | 5.0 |
| Hexachloroethane | ND | 0.004 | 3.0 |
| Nitrobenzene | ND | 0.004 | 2.0 |
| Hexachlorobutadiene | ND | 0.004 | 0.5 |
| 2,4-Dinitrotoluene | ND | 0.004 | 0.13 |
| HexachloroBenzene | ND | 0.004 | 0.13 |


ND - Parameter not detected at the stated detection limit.

| Surrogate Recoveries: | Parameter | Percent Recovery |
|-----------------------|------------------|------------------|
| | 2-fluorobiphenyl | 42.5% |

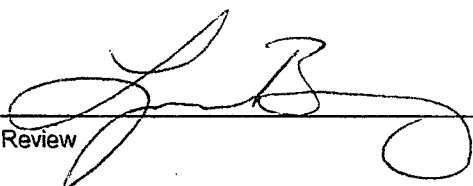
References: Method 3510, Separatory Funnel Liquid-Liquid Extraction, SW-846, USEPA, July 1992.
Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Note: Regulatory Limits based on 40 CFR part 261 subpart C section 261.24, July 1, 1992.

Comments: **Key Farmington UIC-5 INJ Water**



Analyst



Review


| | | | |
|--------------------|----------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | 0117BK91 QA/QC | Date Reported: | 01-18-12 |
| Laboratory Number: | 60768 | Date Sampled: | N/A |
| Sample Matrix: | Hexane | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 01-17-12 |
| Condition: | N/A | Analysis Requested: | TCLP |

| Blanks & Duplicate Conc (mg/L) | Instrument Blank | Method Blank | Detection Limit | Sample | Duplicate | Percent Diff. |
|-----------------------------------|---------------------|-----------------|--------------------|--------|-----------|------------------|
| Pyridine | ND | ND | 0.004 | ND | ND | 0.0% |
| Hexachloroethane | ND | ND | 0.004 | ND | ND | 0.0% |
| Nitrobenzene | ND | ND | 0.004 | ND | ND | 0.0% |
| Hexachlorobutadiene | ND | ND | 0.004 | ND | ND | 0.0% |
| 2,4-Dinitrotoluene | ND | ND | 0.004 | ND | ND | 0.0% |
| HexachloroBenzene | ND | ND | 0.004 | ND | ND | 0.0% |


ND - Parameter not detected at the stated detection limit.

References: Method 1311, Toxicity Characteristic Leaching Procedure Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 3510, Separatory Funnel Liquid-Liquid Extraction, Test Methods for Evaluating Solid Waste, SW-846, USEPA, July 1992.
 Method 8270, Determination of Semi-Volatile Organics by Capillary Column GC/MS

Comments: **QA/QC for Sample 60768**



 Analyst



 Review

| | | | |
|--------------------|------------|---------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-18-12 |
| Laboratory Number: | 60768 | Date Sampled: | 01-10-12 |
| Chain of custody: | 13165 | Date Received: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Analyzed: | 01-18-12 |
| Preservative: | Cool | Date Concentrated: | 01-17-12 |
| Condition: | Intact | Analysis Requested: | 8100 |

| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | 34.2 | 0.001 |
| Acenaphthylene | ND | 0.001 |
| Acenaphthene | ND | 0.001 |
| Fluorene | ND | 0.001 |
| Phenanthrene | ND | 0.001 |
| Anthracene | ND | 0.001 |
| Fluoranthene | ND | 0.001 |
| Pyrene | ND | 0.001 |
| Benzo[a]anthracene | ND | 0.001 |
| Chrysene | ND | 0.001 |
| Benzo(b)fluoranthene | ND | 0.001 |
| Benzo[k]fluoranthene | ND | 0.001 |
| Benzo(a)pyrene | ND | 0.001 |
| Indeno[1,2,3]pyrene | ND | 0.001 |
| Dibenzo[a,h]anthracene | ND | 0.001 |
| Benzo(g,h,i)perylene | ND | 0.001 |

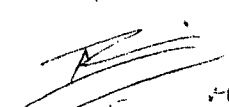
ND - Parameter not detected at the stated detection limit.

| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|-----------|------------------|
|--------------------|-----------|------------------|

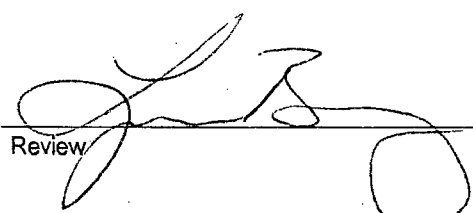
| | | |
|--|---------------------|------|
| | 1-fluoronaphthalene | 49.0 |
|--|---------------------|------|

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
SW-846, USEPA, September 1986.

Comments: Key Farmington UIC-5 INJ Water



Analyst



Review



QUALITY ASSURANCE / QUALITY CONTROL

DOCUMENTATION

| | | | |
|--------------------|------------------|---------------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Laboratory Blank | Date Reported: | 01-18-12 |
| Laboratory Number: | QA/QC | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Preservative: | N/A | Date Analyzed: | 01-18-12 |
| Condition: | N/A | Analysis Requested: | 8100 |

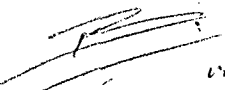
| Parameter | Concentration (mg/L) | Det. Limit (mg/L) |
|------------------------|----------------------|-------------------|
| Naphthalene | ND | 0.00 |
| Acenaphthylene | ND | 0.00 |
| Acenaphthene | ND | 0.00 |
| Fluorene | ND | 0.00 |
| Phenanthrene | ND | 0.00 |
| Anthracene | ND | 0.00 |
| Fluoranthene | ND | 0.00 |
| Pyrene | ND | 0.00 |
| Benzo[a]anthracene | ND | 0.00 |
| Chrysene | ND | 0.00 |
| Benzo(b)fluoranthene | ND | 0.00 |
| Benzo[k]fluoranthene | ND | 0.00 |
| Benzo(a)pyrene | ND | 0.00 |
| Indeno[1,2,3]pyrene | ND | 0.00 |
| Dibenzo[a,h]anthracene | ND | 0.00 |
| Benzo(g,h,i)perylene | ND | 0.00 |

ND - Parameter not detected at the stated detection limit.


| SURROGATE RECOVERY: | Parameter | Percent Recovery |
|---------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 93.0 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
 SW-846, USEPA, September 1986.

Comments: **QA/QC for Samples 60768**



Analyst



Review

| | | | |
|--------------------|----------------------|---------------------|----------|
| Client: | QA/QC | Project #: | N/A |
| Sample ID: | Calibration Standard | Date Reported: | 01-18-12 |
| Laboratory Number: | 0117CA81 QA/QC | Date Sampled: | N/A |
| Chain of custody: | N/A | Date Received: | N/A |
| Sample Matrix: | Aqueous | Date Analyzed: | 01-18-12 |
| Preservative: | N/A | Date Concentrated: | N/A |
| Condition: | N/A | Analysis Requested: | 8100 |

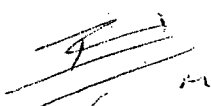
| Parameter | Concentration (mg/L) | Result | % Recovered | % Recovery Limits |
|------------------------|-------------------------|--------|----------------|----------------------|
| Naphthalene | 200 | 194 | 96.8 | 80 - 120 |
| Acenaphthylene | 200 | 200 | 100 | 80 - 120 |
| Acenaphthene | 200 | 200 | 100 | 80 - 120 |
| Fluorene | 200 | 200 | 100 | 80 - 120 |
| Phenanthrene | 200 | 200 | 100 | 80 - 120 |
| Anthracene | 200 | 200 | 100 | 80 - 120 |
| Fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Pyrene | 200 | 200 | 100 | 80 - 120 |
| Benzo[a]anthracene | 200 | 200 | 100 | 80 - 120 |
| Chrysene | 200 | 200 | 100 | 80 - 120 |
| Benzo(b)fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Benzo[k]fluoranthene | 200 | 200 | 100 | 80 - 120 |
| Benzo(a)pyrene | 200 | 200 | 100 | 80 - 120 |
| Indeno[1,2,3]pyrene | 200 | 200 | 100 | 80 - 120 |
| Dibenzo[a,h]anthracene | 200 | 200 | 100 | 80 - 120 |
| Benzo(g,h,i)perylene | 200 | 200 | 100 | 80 - 120 |

ND - Parameter not detected at the stated detection limit.

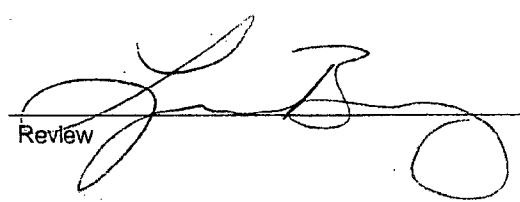
| SURROGATE RECOVERY | Parameter | Percent Recovery |
|--------------------|---------------------|------------------|
| | 1-fluoronaphthalene | 100 |

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
 SW-846, USEPA, September 1986.

Comments: **QA/QC for Samples 60768**



Analyst



Review

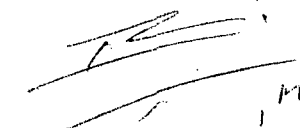
| | | | |
|---------------------|------------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Sample Duplicate | Date Reported: | 01-18-12 |
| Laboratory Number: | 60768 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 01-18-12 |
| Condition: | N/A | | |

| Parameter | Sample Result (mg/L) | Duplicate Sample Result (mg/L) | Det. Limit (mg/L) | Percent Difference |
|------------------------|----------------------|--------------------------------|-------------------|--------------------|
| Naphthalene | 34.2 | 40.9 | 0.001 | 19.6% |
| Acenaphthylene | ND | ND | 0.001 | 0.0% |
| Acenaphthene | ND | ND | 0.001 | 0.0% |
| Fluorene | ND | ND | 0.001 | 0.0% |
| Phenanthrene | ND | ND | 0.001 | 0.0% |
| Anthracene | ND | ND | 0.001 | 0.0% |
| Fluoranthene | ND | ND | 0.001 | 0.0% |
| Pyrene | ND | ND | 0.001 | 0.0% |
| Benzo[a]anthracene | ND | ND | 0.001 | 0.0% |
| Chrysene | ND | ND | 0.001 | 0.0% |
| Benzo(b)fluoranthene | ND | ND | 0.001 | 0.0% |
| Benzo[k]fluoranthene | ND | ND | 0.001 | 0.0% |
| Benzo(a)pyrene | ND | ND | 0.001 | 0.0% |
| Indeno[1,2,3]pyrene | ND | ND | 0.001 | 0.0% |
| Dibenzo[a,h]anthracene | ND | ND | 0.001 | 0.0% |
| Benzo(g,h,i)perylene | ND | ND | 0.001 | 0.0% |

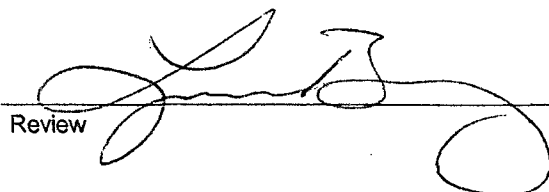
ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
 SW-846, USEPA, September 1986.

Comments: QA/QC for Samples 60768



Analyst



Review

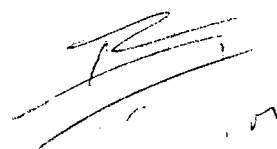
| | | | |
|---------------------|--------------|----------------|----------|
| Client: | QA/QC | Project #: | QA/QC |
| Sample ID: | Matrix Spike | Date Reported: | 01-18-12 |
| Laboratory Number: | 60768 | Date Sampled: | N/A |
| Sample Matrix: | Aqueous | Date Received: | N/A |
| Analysis Requested: | 8100 | Date Analyzed: | 01-18-12 |
| Condition: | N/A | | |

| Parameter | Sample Result (mg/L) | Spike Added (mg/L) | Spiked Sample Result (mg/L) | Det. Limit (mg/L) | Percent Recovery | SW-846 % Rec. Accept. Range |
|------------------------|----------------------|--------------------|-----------------------------|-------------------|------------------|-----------------------------|
| Naphthalene | 34.2 | 100 | 95.9 | 0.001 | 71.5% | 10-122 |
| Acenaphthylene | ND | 100 | 64.3 | 0.001 | 64.3% | 10-139 |
| Acenaphthene | ND | 100 | 56.4 | 0.001 | 56.4% | 10-124 |
| Fluorene | ND | 100 | 63.6 | 0.001 | 63.6% | 10-142 |
| Phenanthrene | ND | 100 | 78.4 | 0.001 | 78.4% | 10-155 |
| Anthracene | ND | 100 | 78.4 | 0.001 | 78.4% | 10-126 |
| Fluoranthene | ND | 100 | 79.7 | 0.001 | 79.7% | 14-123 |
| Pyrene | ND | 100 | 67.3 | 0.001 | 67.3% | 10-140 |
| Benzo[a]anthracene | ND | 100 | 69.2 | 0.001 | 69.2% | 10-116 |
| Chrysene | ND | 100 | 69.2 | 0.001 | 69.2% | 12-135 |
| Benzo(b)fluoranthene | ND | 100 | 29.5 | 0.001 | 29.5% | 10-199 |
| Benzo[k]fluoranthene | ND | 100 | 31.8 | 0.001 | 31.8% | 10-150 |
| Benzo(a)pyrene | ND | 100 | 31.5 | 0.001 | 31.5% | 10-159 |
| Indeno[1,2,3]pyrene | ND | 100 | 37.1 | 0.001 | 37.1% | 10-128 |
| Dibenzo[a,h]anthracene | ND | 100 | 28.4 | 0.001 | 28.4% | 10-110 |
| Benzo(g,h,i)perylene | ND | 100 | 29.6 | 0.001 | 29.6% | 10-116 |

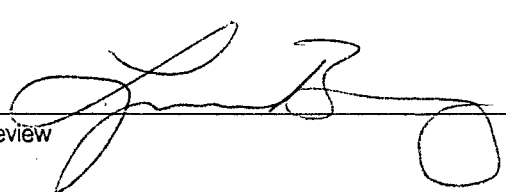
ND - Parameter not detected at the stated detection limit.

References: Method 8270, Semi-Volatile Organics by Capillary Column GC/MS
 SW-846, USEPA, September 1986.

Comments: **QA/QC for Samples 60768**



 Analyst



 Review

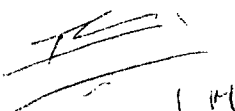
| | | | |
|--------------------|------------|-------------------|------------|
| Client: | Key Energy | Project #: | 98065-0013 |
| Sample ID: | INJ Water | Date Reported: | 01-12-12 |
| Laboratory Number: | 60768 | Date Sampled: | 01-10-12 |
| Sample Matrix: | Aqueous | Date Received: | 01-10-12 |
| Preservative: | Cool | Date Analyzed: | 01-12-12 |
| Condition: | Intact | Chain of Custody: | 13165 |

| Parameter | Analytical Result | Units |
|-----------|-------------------|-------|
|-----------|-------------------|-------|


| | | |
|-----------------|-------|------|
| Cyanide (total) | 0.041 | mg/L |
|-----------------|-------|------|

Reference: U.S.E.P.A., Method 335.3 Cyanide, Total.

Comments: Key Farmington UIC-5 INJ Water



 Analyst



 Review

13165

CHAIN OF CUSTODY RECORD

| Client: KEY Energy | | | | Project Name / Location: KEY FARMINGTON VIC - SINK WATER | | | | ANALYSIS / PARAMETERS | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------------------------|--|---|--|-------------|--|-----------------------|--|--------------------------|--|-----------------------|--|-------------------|--|--------------------|--|-------------------|--|-------------|--|----------|--|------------|--|-------------|--|---------------|--|
| Email results to: Wayne price 77 beauty@key.net | | Sampler Name: Price LLC | | Sample Date | | Sample Time | | Lab No. | | No./Volume of Containers | | Preservative | | VOC (Method 8260) | | BTEX (Method 8021) | | TPH (Method 8015) | | TPH (418.1) | | CHLORIDE | | PAH (8100) | | Sample Cool | | Sample Intact | |
| Client Phone No.: 505-715-2809 | | Client No.: KEY Energy | | 11/10/12 | | 12:45PM | | 60768 | | 2-40 ml | | HgCl ₂ HCl | | X | | X | | | | | | | | CN | | X | | X | |
| Wayne price 77 beauty@key.net | | Lester Wayne Price Jr. | | " | | 12:45PM | | 60769 | | 2-40 ml | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | 12:45PM | | 60770 | | 2-1L Amber | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | 12:45PM | | 60771 | | 2-1L Amber | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | 12:45PM | | 60772 | | 2-1L Amber | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | 12:45PM | | 60773 | | 1-500 ml | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | 12:45PM | | 60774 | | 1-250 ml | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | 12:45PM | | 60775 | | 1-125 ml | | | | X | | X | | | | | | | | | | | | | |
| " | | " | | " | | " | | TC 1/12/12 | | | | | | | | | | | | | | | | | | | | | |

Relinquished by: (Signature) **Lester Wayne Price Jr.** Date **11/10/12** Time **1:50PM** Received by: (Signature) **Cristina Stamer** Date **1/10/12** Time **1:50**

Relinquished by: (Signature) _____ Received by: (Signature) _____

Sample Matrix
 Soil Solid Sludge Aqueous Other

Sample(s) dropped off after hours to secure drop off area.

RUSH



envirotech
Analytical Laboratory



YOUR LAB OF CHOICE

12065 Lebanon Rd.
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1-800-767-5859
Fax: (615) 758-5859

Tax: I.D. 62-0814289

Est. 1970

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

Report Summary

Friday January 20, 2012

Report Number: L555653
Samples Received: 01/13/12
Client Project: 98065-0013

Description: Key Energy

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By: Daphne R Richards
Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

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REPORT OF ANALYSIS

January 20, 2012

Lynn Berry
EnviroTech- NM
5796 US. Highway 64
Farmington, NM 87401

ESC Sample # : L555653-01

Date Received : January 13, 2012
Description : Key Farmington UIC-SINJ Water

Site ID :

Sample ID : 60768-INJ WATER

Project # : 98065-0013

Collected By : Price
Collection Date : 01/10/12 12:45

| Parameter | Result | Det. Limit | Units | Method | Date | Dil. |
|--------------------------------|--------|------------|--------|--------|----------|------|
| Herbicides | | | | | | |
| 2,4-D | 0.041 | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| Dalapon | BDL | 4.0 | mg/l | 8151 | 01/19/12 | 20 |
| 2,4-DB | BDL | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| Dicamba | BDL | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| Dichloroprop | BDL | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| Dinoseb | BDL | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| MCPA | BDL | 2.0 | mg/l | 8151 | 01/19/12 | 20 |
| MCPP | BDL | 2.0 | mg/l | 8151 | 01/19/12 | 20 |
| 2,4,5-T | BDL | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| 2,4,5-TP (Silvex) | BDL | 0.040 | mg/l | 8151 | 01/19/12 | 20 |
| Surrogate Recovery | | | | | | |
| 2,4-Dichlorophenyl Acetic Acid | 0.00 | | % Rec. | 8151 | 01/19/12 | 20 |

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 01/20/12 10:41 Printed: 01/20/12 10:42



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Est. 1970

REPORT OF ANALYSIS

January 20, 2012

Lynn Berry
 EnviroTech- NM
 5796 US. Highway 64
 Farmington, NM 87401

Date Received : January 13, 2012
 Description : Key Farmington UIC-SINJ Water
 Sample ID : 60768-INJ WATER
 Collected By : Price
 Collection Date : 01/10/12 12:45

ESC Sample # : L555653-02

Site ID :

Project : 98065-0013

| Parameter | Result | Det. Limit | Units | Limit | Method | Date/Time | By | Dil |
|----------------------|--------|------------|--------|--------|--------|---------------|-----|-----|
| TCLP Extraction | - | | | | 1311 | 01/14/12 0000 | AJN | 1 |
| TCLP Pesticides | | | | | | | | |
| Chlordane | BDL | 0.0050 | mg/l | 0.030 | 8081A | 01/16/12 1423 | ADF | 1 |
| Endrin | BDL | 0.0050 | mg/l | 0.020 | 8081A | 01/16/12 1423 | ADF | 1 |
| Heptachlor | BDL | 0.0050 | mg/l | 0.0080 | 8081A | 01/16/12 1423 | ADF | 1 |
| Lindane | BDL | 0.0050 | mg/l | 0.40 | 8081A | 01/16/12 1423 | ADF | 1 |
| Methoxychlor | BDL | 0.0050 | mg/l | 10. | 8081A | 01/16/12 1423 | ADF | 1 |
| Toxaphene | BDL | 0.010 | mg/l | 0.50 | 8081A | 01/16/12 1423 | ADF | 1 |
| Surrogate Recovery | | | | | | | | |
| Decachlorobiphenyl | 50.3 | | % Rec. | 123. | 8081A | 01/16/12 1423 | ADF | 1 |
| Tetrachloro-m-xylene | 64.5 | | % Rec. | 114. | 8081A | 01/16/12 1423 | ADF | 1 |

BDL - Below Detection Limit

Det. Limit - Estimated Quantitation Limit (EQL)

Limit - Maximum Contaminant Level as established by the US EPA

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 01/20/12 10:41 Printed: 01/20/12 10:42

Attachment A
List of Analytes with QC Qualifiers

| Sample Number | Work Group | Sample Type | Analyte | Run ID | Qualifier |
|---------------|------------|-------------|--------------------------------|----------|-----------|
| L555653-01 | WG574242 | SAMP | Dichloroprop | R2006492 | J3 |
| | WG574242 | SAMP | 2,4-Dichlorophenyl Acetic Acid | R2006492 | J7 |

Attachment B
Explanation of QC Qualifier Codes

| Qualifier | Meaning |
|-----------|--|
| J3 | The associated batch QC was outside the established quality control range for precision. |
| J7 | Surrogate recovery limits cannot be evaluated; surrogates were diluted out |

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and, as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
01/20/12 at 10:42:07

TSR Signing Reports: 288
RX - Priority Rush

Auto QC on all reports Full TCLP also requires RCI Dry wt

Sample: L555653-01 Account: ENVIROFNM Received: 01/13/12 09:00 Due Date: 01/20/12 00:00 RPT Date: 01/20/12 10:41

Sample: L555653-02 Account: ENVIROFNM Received: 01/13/12 09:00 Due Date: 01/20/12 00:00 RPT Date: 01/20/12 10:41



YOUR LAB OF CHOICE

EnviroTech- NM
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Quality Assurance Report
Level II
L555653

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1-800-767-5859
Fax: (615) 758-5859

Tax: I.D. 62-0814269

Est. 1970

January 20, 2012

| Analyte | Result | Laboratory Blank | | Limit | Batch | Date Analyzed |
|--------------------------------|----------|------------------|-------|------------|----------|----------------|
| | | Units | % Rec | | | |
| Chlordane | < .0005 | mg/l | | | WG574119 | 01/16/12 08:51 |
| Endrin | < .00005 | mg/l | | | WG574119 | 01/16/12 08:51 |
| Lindane | < .00005 | mg/l | | | WG574119 | 01/16/12 08:51 |
| Heptachlor | < .00005 | mg/l | | | WG574119 | 01/16/12 08:51 |
| Methoxychlor | < .00005 | mg/l | | | WG574119 | 01/16/12 08:51 |
| Toxaphene | < .0005 | mg/l | | | WG574119 | 01/16/12 08:51 |
| Decachlorobiphenyl | | % Rec. | 91.70 | 10-122.6 | WG574119 | 01/16/12 08:51 |
| Tetrachloro-m-xylene | | % Rec. | 83.50 | 15.3-114.2 | WG574119 | 01/16/12 08:51 |
| 2,4,5-T | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| 2,4,5-TP (Silvex) | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| 2,4-D | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| 2,4-DB | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| Dalapon | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| Dicamba | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| Dichloroprop | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| Dinoseb | < .002 | mg/l | | | WG574242 | 01/19/12 14:14 |
| MCPA | < .1 | mg/l | | | WG574242 | 01/19/12 14:14 |
| MCPP | < .1 | mg/l | | | WG574242 | 01/19/12 14:14 |
| 2,4-Dichlorophenyl Acetic Acid | | % | 87.80 | 42-112 | WG574242 | 01/19/12 14:14 |

| Analyte | Units | Laboratory Control Sample | | % Rec | Limit | Batch |
|--------------------------------|-------|---------------------------|----------|-------|------------|----------|
| | | Known Val | Result | | | |
| Endrin | mg/l | .0002 | 0.000183 | 91.5 | 60-123 | WG574119 |
| Lindane | mg/l | .0002 | 0.000197 | 98.4 | 59-116 | WG574119 |
| Heptachlor | mg/l | .0002 | 0.000176 | 87.8 | 10-131 | WG574119 |
| Methoxychlor | mg/l | .0002 | 0.000199 | 99.7 | 66-122 | WG574119 |
| Decachlorobiphenyl | | | | 88.29 | 10-122.6 | WG574119 |
| Tetrachloro-m-xylene | | | | 72.16 | 15.3-114.2 | WG574119 |
| 2,4,5-T | mg/l | .005 | 0.00410 | 82.0 | 47-120 | WG574242 |
| 2,4,5-TP (Silvex) | mg/l | .005 | 0.00475 | 95.1 | 46-125 | WG574242 |
| 2,4-D | mg/l | .005 | 0.00545 | 109. | 39-112 | WG574242 |
| 2,4-DB | mg/l | .005 | 0.00499 | 99.8 | 29-133 | WG574242 |
| Dalapon | mg/l | .005 | 0.00342 | 68.4 | 34-97 | WG574242 |
| Dicamba | mg/l | .005 | 0.00454 | 90.8 | 47-119 | WG574242 |
| Dichloroprop | mg/l | .005 | 0.00544 | 109. | 35-110 | WG574242 |
| Dinoseb | mg/l | .005 | 0.00291 | 58.1 | 29-111 | WG574242 |
| MCPA | mg/l | .5 | 0.321 | 64.2 | 16-189 | WG574242 |
| MCPP | mg/l | .5 | 0.504 | 101. | 16-189 | WG574242 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 83.41 | 42-112 | WG574242 |

| Analyte | Units | Laboratory Control Sample Duplicate | | | Limit | RPD | Limit | Batch |
|----------------------|-------|-------------------------------------|----------|-------|------------|------|-------|----------|
| | | Result | Ref | %Rec | | | | |
| Endrin | mg/l | 0.000189 | 0.000183 | 94.0 | 60-123 | 3.25 | 20 | WG574119 |
| Lindane | mg/l | 0.000207 | 0.000197 | 103. | 59-116 | 4.93 | 20 | WG574119 |
| Heptachlor | mg/l | 0.000182 | 0.000176 | 91.0 | 10-131 | 3.86 | 28 | WG574119 |
| Methoxychlor | mg/l | 0.000203 | 0.000199 | 101. | 66-122 | 1.72 | 20 | WG574119 |
| Decachlorobiphenyl | | | | 88.82 | 10-122.6 | | | WG574119 |
| Tetrachloro-m-xylene | | | | 74.31 | 15.3-114.2 | | | WG574119 |
| 2,4,5-T | mg/l | 0.00402 | 0.00410 | 80.0 | 47-120 | 2.02 | 22 | WG574242 |
| 2,4,5-TP (Silvex) | mg/l | 0.00443 | 0.00475 | 88.0 | 46-125 | 7.11 | 25 | WG574242 |
| 2,4-D | mg/l | 0.00503 | 0.00545 | 100. | 39-112 | 8.14 | 23 | WG574242 |

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

EnviroTech- NM
Lynn Berry
5796 US. Highway 64
Farmington, NM 87401

Quality Assurance Report
Level II
L555653

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(615) 758-5858
1-800-767-5859
Fax: (615) 758-5859

Tax: I.D. 62-0814289
Est. 1970

January 20, 2012

| Analyte | Laboratory Control Sample Duplicate | | | | Limit | RPD | Limit | Batch |
|--------------------------------|-------------------------------------|---------|---------|-------|--------|-------|-------|----------|
| | Units | Result | Ref | %Rec | | | | |
| 2,4-DB | mg/l | 0.00396 | 0.00499 | 79.0 | 29-133 | 22.9 | 34 | WG574242 |
| Dalapon | mg/l | 0.00312 | 0.00342 | 62.0 | 34-97 | 9.28 | 35 | WG574242 |
| Dicamba | mg/l | 0.00415 | 0.00454 | 83.0 | 47-119 | 9.01 | 22 | WG574242 |
| Dichloroprop | mg/l | 0.00422 | 0.00544 | 84.0 | 35-110 | 25.2* | 23 | WG574242 |
| Dinoseb | mg/l | 0.00315 | 0.00291 | 63.0 | 29-111 | 8.14 | 27 | WG574242 |
| MCPA | mg/l | 0.377 | 0.321 | 75.0 | 16-189 | 16.2 | 31 | WG574242 |
| MCPP | mg/l | 0.525 | 0.504 | 105. | 16-189 | 4.13 | 31 | WG574242 |
| 2,4-Dichlorophenyl Acetic Acid | | | | 85.03 | 42-112 | | | WG574242 |

| Analyte | Units | Matrix Spike | | | | Limit | Ref Samp | Batch |
|----------------------|-------|--------------|---------|------|-------|------------|------------|----------|
| | | MS Res | Ref Res | TV | % Rec | | | |
| Endrin | mg/l | 0.00133 | 0 | .002 | 66.5 | 36-135 | L555653-02 | WG574119 |
| Lindane | mg/l | 0.00145 | 0 | .002 | 72.7 | 43-105 | L555653-02 | WG574119 |
| Heptachlor | mg/l | 0.00113 | 0 | .002 | 56.4 | 10-165 | L555653-02 | WG574119 |
| Methoxychlor | mg/l | 0.00128 | 0 | .002 | 63.8 | 10-147 | L555653-02 | WG574119 |
| Decachlorobiphenyl | | | | | 48.20 | 10-122.6 | | WG574119 |
| Tetrachloro-m-xylene | | | | | 52.40 | 15.3-114.2 | | WG574119 |

| Analyte | Units | Matrix Spike Duplicate | | | | Limit | RPD | Limit | Ref Samp | Batch |
|----------------------|-------|------------------------|---------|------|--------|------------|-----|------------|----------|-------|
| | | MSD | Ref | %Rec | | | | | | |
| Endrin | mg/l | 0.00122 | 0.00133 | 61.2 | 36-135 | 8.41 | 26 | L555653-02 | WG574119 | |
| Lindane | mg/l | 0.00142 | 0.00145 | 71.2 | 43-105 | 2.07 | 24 | L555653-02 | WG574119 | |
| Heptachlor | mg/l | 0.00114 | 0.00113 | 56.8 | 10-165 | 0.743 | 39 | L555653-02 | WG574119 | |
| Methoxychlor | mg/l | 0.00119 | 0.00128 | 59.5 | 10-147 | 7.10 | 40 | L555653-02 | WG574119 | |
| Decachlorobiphenyl | | | | | 42.50 | 10-122.6 | | | WG574119 | |
| Tetrachloro-m-xylene | | | | | 53.60 | 15.3-114.2 | | | WG574119 | |

Batch number /Run number / Sample number cross reference

WG573981: R2000252: L555653-02
WG574119: R2001334: L555653-02
WG574242: R2006492: L555653-01

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Est. 1970

January 20, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address:

EnviroTech- NM

5796 US. Highway 64
Farmington, NM 87401

Billing Information:

Doris Moore
5796 US. Highway 64
Farmington, NM 87401

Report to:

Lynn Berry

Email to: lberry@envirotech-inc.com

Project

Description: Key Farmington VIC - SINSJ Water

Phone: (505) 632-0615

Client Project #: 98065-0013

FAX:

Collected by: (print) Price

Site/Facility ID#: 19046

Collected by (signature):

Rush? (Lab MUST Be Notified)
 Same Day..... 200%
 Next Day..... 100%
 Two Day..... 50%
 Three Day..... 25%

Immediately Packed on Ice N Y X

Sample ID

60768-INSJ Water

Comp/Grab

Matrix* OFOM OT

Date

1-10-12 12:45

Time

Date Results Needed:
 Email? No Yes
 FAX? X No Y Yes

No

of

Cntrs

2

Analysis/Container/Preservative

Herbicides & Pesticides - TLF (8081)
 (851)



12065 Lebanon Road
 Mt Juliet, TN 37122
 Phone: (800) 767-5859
 Phone: (615) 758-5858
 Fax: (615) 758-5859

CoCode ENVIROFNN (lab use only)
 Template/Releasin
 Shipped Via

Remarks/Contaminant

LS55653-01 / -02

Sample # (lab only)

*Matrix: SS - Soil/Solid GW - Groundwater WW - Wastewater DW - Drinking Water OT - Other: Aq

pH _____ Temp _____

Remarks:

4341 9623 0477

Samples returned via: UPS Courier

Temp: 31.6 Bottles Received: 2

Date: 1/13/12

Condition: OK (lab use only) TD
 CoC/Seals Intact: Y N / NA
 pH Checked: NCF

Relinquished by: (Signature) *Blanca [Signature]*
 Relinquished by: (Signature) *[Signature]*
 Relinquished by: (Signature) *[Signature]*

Received by: (Signature) *[Signature]*
 Received by: (Signature) *[Signature]*
 Received for lab by: (Signature) *[Signature]*

Date: 1-12-12 Time: 11:00am
 Date: _____ Time: _____
 Date: _____ Time: _____

Appendix J
2011 Bradenhead Test
Report and MIT Report
with chart.

From: "Kuehling, Monica, EMNRD" <monica.kuehling@state.nm.us>
Subject: **RE: C-103 subsequent Farmington Key UIC-5 Injection Well**
Date: November 16, 2011 8:16:59 AM MST
To: wayne price <wayneprice77@earthlink.net>
Cc: "Perrin, Charlie, EMNRD" <charlie.perrin@state.nm.us>, "Chavez, Carl J, EMNRD" <CarlJ.Chavez@state.nm.us>, "Powell, Brandon, EMNRD" <Brandon.Powell@state.nm.us>, "VonGonten, Glenn, EMNRD" <Glenn.VonGonten@state.nm.us>, "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>

Good morning Wayne,

The Bradenhead test and Mechanical Integrity test were witnessed by me. The forms for the day of the test are in our well files, thus our District is satisfied with the paperwork that we have and do not require a C-103.

Have a great Thanksgiving.

Monica Kuehling

Compliance Officer
NM Oil Conservation Division
Aztec New Mexico
Office Phone 505-334-6178
Cell Phone 505-320-0243

From: wayne price [mailto:wayneprice77@earthlink.net]
Sent: Tuesday, November 15, 2011 11:12 AM
To: Chavez, Carl J, EMNRD; Kuehling, Monica, EMNRD; Jones, Brad A., EMNRD
Cc: VonGonten, Glenn, EMNRD
Subject: Fwd: C-103 subsequent Farmington Key UIC-5 Injection Well

Good Morning,

As you know, We recently ran a Bradenhead/MIT on Key's Injection Well, Do we need to submit a subsequent C-103? Also, We continue to perform some general housekeeping at the facility.

Begin forwarded message:

From: wayne price <wayneprice77@earthlink.net>
Date: November 13, 2011 4:47:17 PM MST
To: Perrin Perrin <charlie.perrin@state.nm.us>, Kuehling <monica.kuehling@state.nm.us>, Glenn.VonGonten@state.nm.us, carlj.chavez@state.nm.us, daniel.sanchez@state.nm.us
Cc: Dan Gibson <dgibson@keyenergy.com>, Steve Wilson <swilson03@keyenergy.com>
Subject: C-103 subsequent Farmington Key UIC-5 Injection Well

Dear OCD,

We recently ran a Bradenhead/MIT on Key's Injection Well. Do we need to submit a subsequent C-103?

From: wayne price <wayneprice77@earthlink.net>

Subject: **C-103 Farmington UIC-5 MIT test**

Date: October 26, 2011 11:48:55 AM MDT

To: Perrin Perrin <charlie.perrin@state.nm.us>, carlj.chavez@state.nm.us, Kuehling <monica.kuehling@state.nm.us>

Cc: Dan Gibson <dgibson@keyenergy.com>



Charlie, Monica and Carl,

Since we are not unseating or disconnecting anything, do we need a C-103?



NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE
1000 RIO BRAZOS ROAD
AZTEC NM 87410
(505) 334-6178 FAX: (505) 334-6170
<http://enmrd.state.nm.us/ocd/District/3/district.htm>

BRADENHEAD TEST REPORT

(submit 1 copy to above address)

Date of Test 11-1-11 Operator Key Energy API #30-0 45-28653
Property Name Sunco Disposal Well No. 1 Location: Unit Section 2 Township 09 Range 12
Well Status (Shut-In or Producing) Producing Initial PSI: Tubing 1800 Intermediate N/A Casing 0 Bradenhead 0

OPEN BRADENHEAD AND INTERMEDIATE TO ATMOSPHERE INDIVIDUALLY FOR 15 MINUTES EACH

| Testing | PRESSURE | | | | |
|---------|------------|-----|-----|--------|-----|
| | Bradenhead | | | INTERM | |
| | BH | Int | Csg | Int | Csg |
| 5 min | 0 | | 0 | | |
| 10 min | 0 | | 0 | | |
| 15 min | 0 | | 0 | | |
| 20 min | | | | | |
| 25 min | | | | | |
| 30 min | | | | | |

| | FLOW CHARACTERISTICS | |
|-----------------|-------------------------------------|----------------|
| | BRADENHEAD | INTERMEDIATE |
| Steady Flow | | |
| Surges | | |
| Down to Nothing | <input checked="" type="checkbox"/> | |
| Nothing | | |
| Gas | | DIST. 3 |
| Gas & Water | | OIL CONS. DIV. |
| Water | | RCVD NOV 1 '11 |

If bradenhead flowed water, check all of the descriptions that apply below:

CLEAR FRESH SALTY SULFUR BLACK

5 MINUTE SHUT-IN PRESSURE BRADENHEAD 0 INTERMEDIATE N/A

REMARKS: BH dead in 10 seconds.

By [Signature]
Key Energy
(Position)

Witness [Signature]

E-mail address _____



NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

MECHANICAL INTEGRITY TEST REPORT (TA OR UIC)

Date of Test 10-31-11 Operator Key Energy API # 30-0 45-28653
Property Name Sunco Disposal Well # 1 Location: Unit 2 Sec 2 Twn 2 Rge 12

Land Type:

State _____
Federal _____
Private X
Indian _____

Well Type:

Water Injection _____
Salt Water Disposal /
Gas Injection _____
Producing Oil/Gas _____
Pressure observation _____

Temporarily Abandoned Well (Y/N) (N) TA Expires: _____

Casing Pres. 0 Tbg. SI Pres. _____ Max. Inj. Pres. _____
Bradenhead Pres. 0 Tbg. Inj. Pres. _____
Tubing Pres. 1800
Int. Casing Pres. N/A DIST. 3

Pressured annulus up to 340 psi. for 30 mins. Test passed failed
OIL CONS. DIV.

REMARKS:
Perfs 4350-4460 RCVD OCT 31 '11
DKS. 4282

By [Signature]
(Operator Representative)
KEY-CONSULT
(Position)

Witness [Signature]
(NMOCD)

Revised 02-11-02

A

SJ MEASUREMENT LLC

STANDARDS FACILITY

SJ MEASUREMENT LLC

CERTIFICATION OF PHYSICAL MEASURING INSTRUMENTS
0.005% I.V. MASTER ACCURACY LEVEL GUARANTEED

DATE : 10-28-11 CUSTOMER : SJ MEASUREMENT RENTAL
 TYPE : BARTON 242E DISTRICT : SAN JUAN BASIN
 PRESSURE RANGE: 0-1000 PSIG TEMP. RANGE NA
 SERIAL NUMBER: 43400 P.O. NO. :
 TEST REF TEMP. 20 DEG. C RECAL DATE : 4-28-12

PRESSURE STANDARDS REFERENCED TO N.I.S.T. (PC-20) (WS-16)
 N.I.S.T. MASS REPORT REF. NO.(106354 106354A 106354B)
 PRESSURE REFERENCED @ 980.665 cm/sec. Gravity
 TEMPERATURE REFERENCED TO NIST NO. 227121

| PRESSURE APPLIED | STATIC READING | JOFFRA READING | TEMPERATURE READING | DIST. 3 |
|------------------|----------------|----------------|---------------------|-----------------|
| 100.0 | 100.0 | 15.0 | NA | OIL CONS. DIV. |
| 200.0 | 200.0 | 30.0 | NA | |
| 300.0 | 300.0 | 45.0 | NA | |
| 400.00 | 400.00 | 60.0 | NA | RCVD OCT 31 '11 |
| 500.00 | 500.00 | 75.0 | NA | |
| 600.00 | 600.00 | 90.0 | NA | |
| 700.00 | 700.00 | 105.00 | NA | |
| 800.00 | 800.00 | 120.00 | NA | |
| 900.00 | 900.00 | 135.00 | NA | |
| 1000.00 | 1000.00 | 150.00 | NA | |

ATTESTED BY :

TECHNICIAN

SJ MEASUREMENT LLC

STANDARDS FACILITY

SAN JUAN MEASUREMENT

CERTIFICATION OF PHYSICAL MEASURING INSTRUMENTS
 0.005% I.V. MASTER ACCURACY LEVEL GUARANTEED

DATE : 10-31-11 CUSTOMER : WEATHERFORD WELLHEAD
 TYPE : WIKA DISTRICT : SAN JUAN BASIN
 PRESSURE RANGE : 0-100 PSIG PURCHASE # :
 SERIAL NUMBER: # WFG100 ACTUAL ACCURACY: (0.095%FS) or (0.40%IV)
 TEST REF TEMP. : 20 DEG. C RECAL DATE : 1-30-12

PRESSURE STANDARDS REFERENCED TO N.I.S.T. (PC-67, WS-13 and WS-105.)
 Ruska transfer standards are maintained according to calibration
 procedure CS-125 requirements of ANSI/NCSL Z540-1-1994, ISO 9001
 and MIL-STD-45662A

DIST. 3

OIL CONS. DIV.

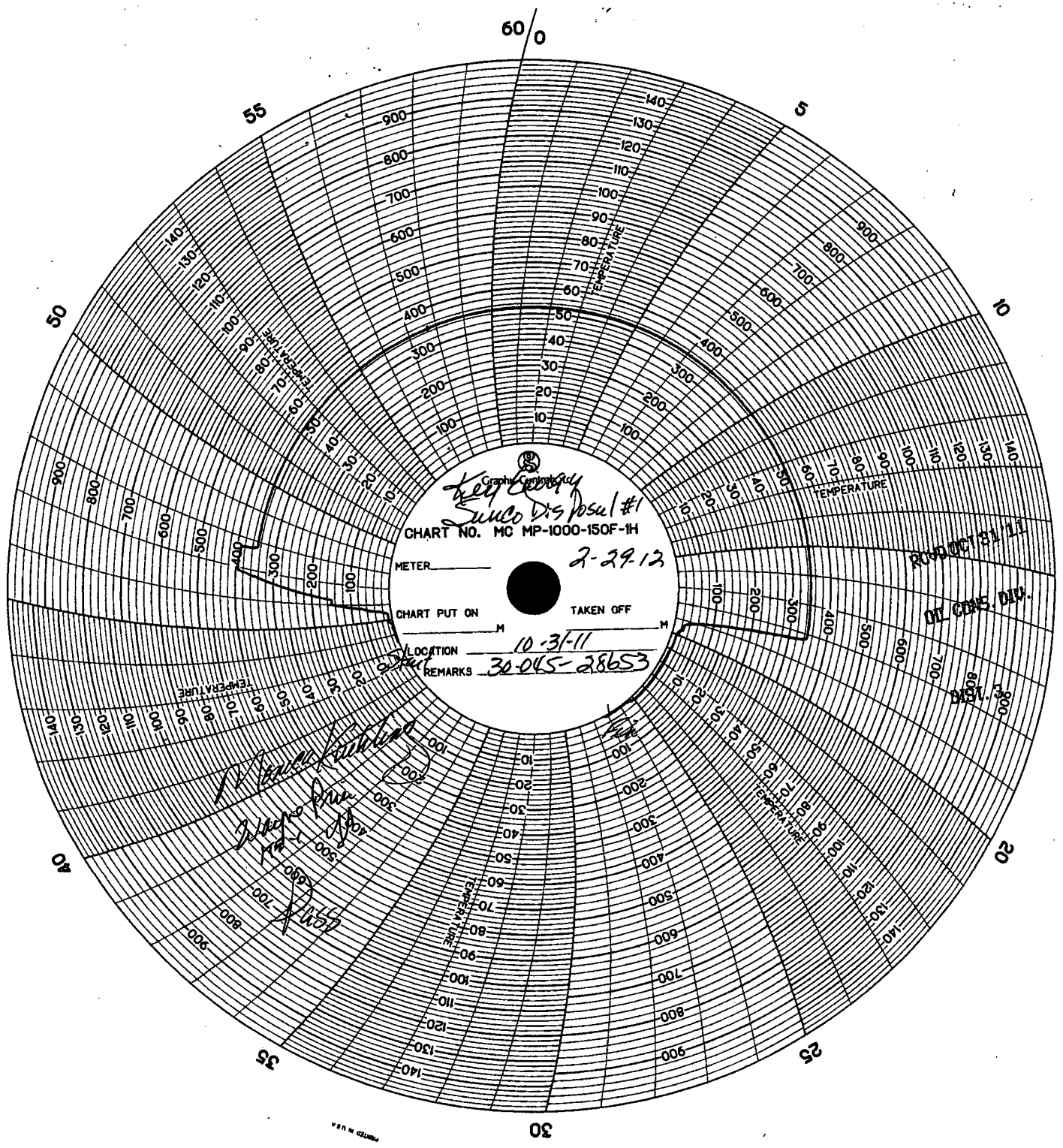
| INDICATED P.S.I. | MODULE P.S.I. | GAUGE READING | PRESSURE CORRECTION | RCVD OCT 31 '11 PERCENT ERROR |
|---------------------|------------------|------------------|------------------------|-------------------------------------|
| 10.00000 | 10.00050 | 10.00 | 0.00050 | -0.00500% |
| 20.00000 | 20.00100 | 20.00 | 0.00100 | -0.00500% |
| 30.00000 | 30.00150 | 29.90 | 0.10150 | -0.33832% |
| 40.00000 | 40.00200 | 39.50 | 0.50200 | -1.25494% |
| 50.00000 | 50.00230 | 48.75 | 1.25230 | -2.50448% |
| 60.00000 | 60.00270 | 58.50 | 1.50270 | -2.50439% |
| 70.00000 | 70.00320 | 68.00 | 2.00320 | -2.86158% |
| 80.00000 | 80.00360 | 78.50 | 1.50360 | -1.87942% |
| 90.00000 | 90.00410 | 89.50 | 0.50410 | -0.56009% |
| 100.00000 | 100.00460 | 99.50 | 0.50460 | -0.50458% |

PRECISION ERROR : +/- 0.0015%
 REPEATABILITY : +/- 0.0035%
 BIAS ERROR : +/- 0.3950%
 ACTUAL ACCURACY : +/- 0.4000%

ATTESTED BY :

[Signature]
 Lab Tech 16 Jan





60
0

55

50

5

10

Keep Copy
Sulco Disposal #1
CHART NO. MC MP-1000-150F-1H

METER 2-29-12

CHART PUT ON _____ M TAKEN OFF _____ M

LOCATION _____
REMARKS 30-045-28653

DI CONE. DIA.

W. K. ...
...

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MADE IN U.S.A.

Appendix K
2011 Supporting
Documentation for the
AOR

Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

2011 JP
NO CHANGE
FROM 2010

13 Records Found

Displaying Screen 1 of 1

- | API Number | ULSTR | Footages |
|---|--------------|---------------------|
| <input type="radio"/> 3004508704 | J -2-29N-12W | 1650 FSL & 1650 FEL |
| Well Name & Number: MCGRATH B No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508713 | J -2-29N-12W | 1808 FSL & 1920 FEL |
| Well Name & Number: MCGRATH SRC No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508714 | L -2-29N-12W | 1810 FSL & .900 FWL |
| Well Name & Number: CORNELL SRC No. 007 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508797 | G -2-29N-12W | 1650 FNL & 1650 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508839 | D -2-29N-12W | 990 FNL & 990 FWL |
| Well Name & Number: YOUNG No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508844 | C -2-29N-12W | 990 FNL & 1650 FWL |
| Well Name & Number: KATTLER No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004527635 | M -2-29N-12W | 1095 FSL & 1310 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 500 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004528653 | E -2-29N-12W | 1595 FNL & 1005 FWL |
| Well Name & Number: SUNCO DISPOSAL No. 001 | | |
| Operator: KEY ENERGY SERVICES, LLC | | |
| <input type="radio"/> 3004530486 | J -2-29N-12W | 1705 FSL & 1450 FEL |
| Well Name & Number: MCGRATH SRC No. 001R | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004531580 | N -2-29N-12W | 840 FSL & 1550 FWL |
| Well Name & Number: CORNELL COM No. 500 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004532241 | G -2-29N-12W | 1520 FNL & 1900 FEL |
| Well Name & Number: BECK No. 001R | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004533573 | P -2-29N-12W | 760 FSL & 1135 FEL |
| Well Name & Number: CORNELL COM No. 500S | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004533811 | D -2-29N-12W | 1000 FNL & 955 FWL |

Well Name & Number: BECK No. 001S

Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP

13 Records Found

Displaying Screen 1 of 1

Continue

Go Back

Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

16 Records Found

Displaying Screen 1 of 1

2011 *JP*

*NO CHANGE
FROM 2010*

- | API Number | ULSTR | Footages |
|---|--------------|---------------------|
| <input type="radio"/> 3004508641 | O -1-29N-12W | 790 FSL & 1850 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 003 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508656 | M -1-29N-12W | 950 FSL & 800 FWL |
| Well Name & Number: CORNELL No. 002 | | |
| Operator: ENERGEN RESOURCES CORPORATION | | |
| <input type="radio"/> 3004508661 | O -1-29N-12W | 1190 FSL & 1650 FEL |
| Well Name & Number: DUDLEY CORNELL A No. 001 | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004508782 | G -1-29N-12W | 1850 FNL & 1850 FEL |
| Well Name & Number: CORNELL No. 005 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508783 | F -1-29N-12W | 1850 FNL & 1850 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508793 | E -1-29N-12W | 1650 FNL & 990 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508851 | D -1-29N-12W | 790 FNL & 790 FWL |
| Well Name & Number: ALLEN A No. 001 | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004524129 | G -1-29N-12W | 1750 FNL & 1750 FEL |
| Well Name & Number: DUDLEY CORNELL A No. 001E | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004524130 | K -1-29N-12W | 1735 FSL & 1840 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 1E | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004526214 | L -1-29N-12W | 1450 FSL & 790 FWL |
| Well Name & Number: ALLEN A No. 001E | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004529167 | G -1-29N-12W | 1650 FNL & 1607 FEL |
| Well Name & Number: HIKE No. 001 | | |
| Operator: CHAPARRAL ENERGY LLC | | |
| <input type="radio"/> 3004529538 | A -1-29N-12W | 970 FNL & 990 FEL |
| Well Name & Number: CORNELL No. 005R | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004529539 | I -1-29N-12W | 1450 FSL & 1190 FEL |

Well Name & Number: CORNELL No. 003R
Operator: THOMPSON ENGR & PROD CORP

3004531612 O -1-29N-12W 760 FSL & 1750 FEL

Well Name & Number: CORNELL No. 002S
Operator: ENERGEN RESOURCES CORPORATION

3004532346 M -1-29N-12W 885 FSL & 660 FWL

Well Name & Number: CORNELL No. 002R
Operator: ENERGEN RESOURCES CORPORATION

3004534348 B -1-29N-12W 720 FNL & 2045 FEL

Well Name & Number: ALLEN COM No. 100
Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP

16 Records Found

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Well File Search - Select API Number to View

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9 Records Found

Displaying Screen 1 of 1

2011 PD

NO CHANGE
FROM 2010

- | API Number | ULSTR | Footages |
|---|--------------|---------------------|
| <input type="radio"/> 3004508709 | J -3-29N-12W | 1650 FSL & 1650 FEL |
| Well Name & Number: MCGRATH No. 003 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508711 | K -3-29N-12W | 1650 FSL & 1650 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508712 | I -3-29N-12W | 1720 FSL & 990 FEL |
| Well Name & Number: MCGRATH A No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508801 | E -3-29N-12W | 1650 FNL & 990 FWL |
| Well Name & Number: WALKER No. 001 | | |
| Operator: CONOCOPHILLIPS COMPANY | | |
| <input type="radio"/> 3004508823 | G -3-29N-12W | 1320 FNL & 1320 FEL |
| Well Name & Number: WALKER SRC No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004530244 | L -3-29N-12W | 1675 FSL & 1165 FWL |
| Well Name & Number: WALKER No. 100 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004532931 | F -3-29N-12W | 1630 FNL & 1510 FWL |
| Well Name & Number: WALKER No. 100S | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004533580 | B -3-29N-12W | 165 FNL & 1505 FEL |
| Well Name & Number: MCGRATH No. 003S | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004560274 | D -3-29N-12W | 990 FNL & 990 FWL |
| Well Name & Number: WALKER No. 002 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |

9 Records Found

Displaying Screen 1 of 1

Continue

Go Back

Well File Search - Select API Number to View

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9 Records Found

Displaying Screen 1 of 1

- | API Number | ULSTR | Footages |
|---|---------------|---------------------|
| <input type="radio"/> 3004508517 | J -10-29N-12W | 1790 FSL & 1760 FEL |
| Well Name & Number: BECK A No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508523 | J -10-29N-12W | 1980 FSL & 1980 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508601 | D -10-29N-12W | 1180 FNL & 790 FWL |
| Well Name & Number: CORNELL A No. 001 | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004508605 | C -10-29N-12W | 1190 FNL & 1840 FWL |
| Well Name & Number: CORNELL No. 007 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004523758 | A -10-29N-12W | 870 FNL & 790 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 002 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004523889 | B -10-29N-12W | 870 FNL & 1760 FEL |
| Well Name & Number: BECK A No. 001E | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004524132 | N -10-29N-12W | 910 FSL & 1760 FWL |
| Well Name & Number: CORNELL A No. 001E | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004530381 | B -10-29N-12W | 875 FNL & 1675 FEL |
| Well Name & Number: CORNELL No. 100 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004534452 | N -10-29N-12W | 1165 FSL & 1510 FWL |
| Well Name & Number: BECK 29 12 10 No. 108 | | |
| Operator: SYNERGY OPERATING LLC | | |

9 Records Found

Displaying Screen 1 of 1

[Continue](#)

[Go Back](#)

2011 *AS*

No CHANGE
FROM 2010

Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

14 Records Found

Displaying Screen 1 of 1

2011 PD
No CHANGE
From 2010

- | API Number | ULSTR | Footages |
|---|---------------|---------------------|
| <input type="radio"/> 3004508475 | P -11-29N-12W | 1090 FSL & 990 FEL |
| Well Name & Number: CARROLL CORNELL No. 012 | | |
| Operator: PRODUCING ROYALTIES INC | | |
| <input type="radio"/> 3004508515 | L -11-29N-12W | 1620 FSL & 300 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508558 | G -11-29N-12W | 1980 FNL & 1980 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508615 | C -11-29N-12W | 790 FNL & 1850 FWL |
| Well Name & Number: CORNELL No. 006 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004513092 | D -11-29N-12W | 990 FNL & 990 FWL |
| Well Name & Number: CORNELL C No. 001 | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004513218 | A -11-29N-12W | 990 FNL & 990 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 010 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004520067 | O -11-29N-12W | 1120 FSL & 1690 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004522118 | A -11-29N-12W | 1120 FNL & 860 FEL |
| Well Name & Number: PAYNE No. 001 | | |
| Operator: PRODUCING ROYALTIES INC | | |
| <input type="radio"/> 3004524133 | M -11-29N-12W | 860 FSL & 1120 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 1E | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004524447 | H -11-29N-12W | 1750 FNL & 1045 FEL |
| Well Name & Number: FEDERAL PRI No. 001E | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004529945 | H -11-29N-12W | 1790 FNL & 790 FEL |
| Well Name & Number: PAYNE No. 001R | | |
| Operator: MCELVAIN ENERGY, INC | | |
| <input type="radio"/> 3004531503 | O -11-29N-12W | 790 FSL & 1850 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004531581 | D -11-29N-12W | 1200 FNL & 660 FWL |

Well Name & Number: CORNELL No. 101

Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP

3004532667

I -11-29N-12W

1675 FSL & 1035 FEL

Well Name & Number: PRI No. 003

Operator: MCELVAIN ENERGY, INC

14 Records Found

Displaying Screen 1 of 1

Continue

Go Back

Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

20 Records Found

Displaying Screen 1 of 1

2011 JD
NO CHANGES
FROM 2010

- | API Number | ULSTR | Footages |
|---|---------------|---------------------|
| <input type="radio"/> 3004508435 | N -12-29N-12W | 660 FSL & 1980 FWL |
| Well Name & Number: CORNELL SRC No. 003 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508444 | M -12-29N-12W | 790 FSL & 900 FWL |
| Well Name & Number: CORNELL E No. 001 | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004508476 | O -12-29N-12W | 1136 FSL & 1625 FEL |
| Well Name & Number: CORNELL D No. 001 | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004508488 | I -12-29N-12W | 1320 FSL & 1320 FEL |
| Well Name & Number: CARROLL CORNELL No. 006 | | |
| Operator: MCELVAIN ENERGY, INC | | |
| <input type="radio"/> 3004508513 | L -12-29N-12W | 1650 FSL & 330 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 009 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508528 | K -12-29N-12W | 2200 FSL & 1980 FWL |
| Well Name & Number: CORNELL SRC No. 004 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508541 | H -12-29N-12W | 1650 FNL & 990 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 008 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508598 | A -12-29N-12W | 990 FNL & 990 FEL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508612 | D -12-29N-12W | 660 FNL & 660 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 002 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004522119 | F -12-29N-12W | 1790 FNL & 1680 FWL |
| Well Name & Number: PAYNE No. 002 | | |
| Operator: MCELVAIN ENERGY, INC | | |
| <input type="radio"/> 3004522962 | E -12-29N-12W | 1800 FNL & 800 FWL |
| Well Name & Number: PAYNE No. 002J | | |
| Operator: MCELVAIN ENERGY, INC | | |
| <input type="radio"/> 3004524086 | A -12-29N-12W | 830 FNL & 790 FEL |
| Well Name & Number: CORNELL D No. 001E | | |
| Operator: BP AMERICA PRODUCTION COMPANY | | |
| <input type="radio"/> 3004524134 | F -12-29N-12W | 1750 FNL & 1770 FWL |

Well Name & Number: PRE-ONGARD WELL No. 1E

Operator: PRE-ONGARD WELL OPERATOR

3004524283 F -12-29N-12W 1750 FNL & 1770 FWL

Well Name & Number: CORNELL E No. 001E

Operator: BP AMERICA PRODUCTION COMPANY

3004530447 H -12-29N-12W 1640 FNL & 1030 FEL

Well Name & Number: CORNELL No. 001R

Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP

3004532665 E -12-29N-12W 795 FNL & 2430 FWL

Well Name & Number: PRI No. 001

Operator: MCELVAIN ENERGY, INC

3004532666 M -12-29N-12W 765 FSL & 1105 FWL

Well Name & Number: PRI No. 002

Operator: MCELVAIN ENERGY, INC

3004533013 J -12-29N-12W 1460 FSL & 1730 FEL

Well Name & Number: PRI No. 002S

Operator: MCELVAIN ENERGY, INC

3004533015 A -12-29N-12W 720 FNL & 1235 FEL

Well Name & Number: PRI No. 001S

Operator: MCELVAIN ENERGY, INC

3004534836 O -12-29N-12W 845 FSL & 1310 FEL

Well Name & Number: CARROLL CORNELL No. 006R

Operator: MCELVAIN ENERGY, INC

20 Records Found

Displaying Screen 1 of 1

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Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

10 Records Found

Displaying Screen 1 of 1

- | API Number | ULSTR | Footages |
|---|---------------|---------------------|
| <input type="radio"/> 3004508939 | L -34-30N-12W | 1890 FSL & 800 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004508945 | P -34-30N-12W | 870 FSL & 1190 FEL |
| Well Name & Number: MCGRATH C No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508950 | P -34-30N-12W | 990 FSL & 330 FEL |
| Well Name & Number: HUDSON No. 002 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004508955 | N -34-30N-12W | 990 FSL & 2310 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 002 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004509052 | F -34-30N-12W | 1250 FNL & 2310 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 001 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004509071 | D -34-30N-12W | 790 FNL & 1015 FWL |
| Well Name & Number: DUFF GAS COM No. 001 | | |
| Operator: XTO ENERGY, INC | | |
| <input type="radio"/> 3004525923 | B -34-30N-12W | 800 FNL & 1730 FEL |
| Well Name & Number: MCGRATH No. 004 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004526141 | G -34-30N-12W | 1770 FNL & 1480 FEL |
| Well Name & Number: DUFF GAS COM No. 001E | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004531756 | D -34-30N-12W | 750 FNL & 995 FWL |
| Well Name & Number: JULANDER No. 100 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004533411 | M -34-30N-12W | 810 FSL & 730 FWL |
| Well Name & Number: JULANDER No. 100S | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |

10 Records Found

Displaying Screen 1 of 1

[Continue](#)

[Go Back](#)

2011 *AD*
NO CHANGE FROM 2010

Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

5 Records Found

Displaying Screen 1 of 1

- | API Number | ULSTR | Footages |
|---|---------------|---------------------|
| <input type="radio"/> 3004508946 | P -35-30N-12W | 990 FSL & 990 FEL |
| Well Name & Number: CARNAHAN COM No. 001 | | |
| Operator: HOLCOMB OIL & GAS INC | | |
| <input type="radio"/> 3004511770 | E -35-30N-12W | 1750 FNL & 990 FWL |
| Well Name & Number: HUDSON J No. 003 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004520140 | L -35-30N-12W | 1600 FSL & 1150 FWL |
| Well Name & Number: PRE-ONGARD WELL No. 004 | | |
| Operator: PRE-ONGARD WELL OPERATOR | | |
| <input type="radio"/> 3004525844 | P -35-30N-12W | 1090 FSL & 1070 FEL |
| Well Name & Number: CARNAHAN COM No. 002 | | |
| Operator: MERRION OIL & GAS CORP | | |
| <input type="radio"/> 3004531355 | A -35-30N-12W | 1275 FNL & 1205 FEL |
| Well Name & Number: CARNAHAN COM No. 001Y | | |
| Operator: HOLCOMB OIL & GAS INC | | |

2011 J
No CHANGE
FROM 2010

5 Records Found

Displaying Screen 1 of 1

[Continue](#)

[Go Back](#)

Well File Search - Select API Number to View

Please select the API Number you wish to view from the list below by clicking the radio button next to the API Number. Then click the "Continue" button to see the thumbnails for the API you selected. The search results are broken out by groups of 25 on each page. Switching pages can be done by clicking the "Next 25" or "Previous 25" links.

6 Records Found

Displaying Screen 1 of 1

2011 yd

No CHANGE

From 2010

- | API Number | ULSTR | Footages |
|---|---------------|---------------------|
| <input type="radio"/> 3004508986 | I -36-30N-12W | 1650 FSL & 1100 FEL |
| Well Name & Number: STATE COM AH No. 030 | | |
| Operator: CONOCOPHILLIPS COMPANY | | |
| <input type="radio"/> 3004512188 | E -36-30N-12W | 1850 FNL & 790 FWL |
| Well Name & Number: NEW MEXICO COM N No. 001 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input type="radio"/> 3004524037 | N -36-30N-12W | 1000 FSL & 1640 FWL |
| Well Name & Number: STATE COM AH No. 030E | | |
| Operator: CONOCOPHILLIPS COMPANY | | |
| <input type="radio"/> 3004528177 | M -36-30N-12W | 1140 FSL & 1220 FWL |
| Well Name & Number: FC STATE COM No. 024 | | |
| Operator: CONOCOPHILLIPS COMPANY | | |
| <input type="radio"/> 3004531074 | A -36-30N-12W | 665 FNL & 665 FEL |
| Well Name & Number: NEW MEXICO COM N No. 100 | | |
| Operator: BURLINGTON RESOURCES OIL & GAS COMPANY LP | | |
| <input checked="" type="radio"/> 3004535163 | I -36-30N-12W | 1643 FSL & 985 FEL |
| Well Name & Number: FC STATE COM No. 024S | | |
| Operator: CONOCOPHILLIPS COMPANY | | |

6 Records Found

Displaying Screen 1 of 1

[Continue](#)

[Go Back](#)

2011 YEAR UP-DATE
 NO. CHANGES
 DEC 25, 2011

2010 YEAR
 SEAR REVIEW
 3-5-11

| 0 | 300 | 460 | 970 | 1380 | 1650 | 1980 | 2310 | 2690 | 2910 | 1780 | 1650 | 1320 | 990 | 660 | 330 | 0 |
|---|-----|--------|--------|------|------|--------|------|------|------|------|------|------|-----|-----|-----|----|
| D | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
| E | H | G | F | E | D | C | B | A | I | H | G | F | E | D | C | B |
| L | I | SEC 34 | SEC 35 | L | K | SEC 35 | J | I | I | J | K | L | M | N | O | P |
| M | P | 45 | 45 | M | N | N | O | P | P | 46 | 46 | 46 | 46 | 46 | 46 | 46 |
| P | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P |
| F | H | G | F | E | D | C | B | A | I | H | G | F | E | D | C | B |
| L | I | SEC 3 | SEC 2 | L | K | SEC 2 | J | I | I | J | K | L | M | N | O | P |
| M | P | O | N | M | L | K | J | I | I | J | K | L | M | N | O | P |
| D | A | SEC 10 | SEC 11 | D | C | SEC 11 | A | A | A | A | A | A | A | A | A | A |

1 MILE AOR

SFC 36

2009 UIC-5 AOR Annual Review - Section Plot Plan
 Key Energy Services
 Date: June 2010
 DEC 2011

Notes:
 Weeds are ID in sections by using the last 2 digits of the well's AP#.
 Example: The Burlington-McGrath B#1 30-045-00704 listed on the 2009 UIC-5 AOR Review-Well Status L1 be found in Sec 2 U1 J marked 04.

2011 UIC-5 AOR Review--Well Status List

| API # | Well Name | UL | SEC | Ts | Rg | Footage | Within 1 mile | Well Status | Injection/Prod | Casing Program Checked | Cased/Cemented across Injection Zone | Corrective Action Required |
|--------------|----------------------------------|----|-----|-----|-----|---------------------|---------------|-----------------|----------------|------------------------|--------------------------------------|----------------------------|
| 30-045-28653 | Keo-Sunco #1 | E | 2 | 29n | 12w | 1595 FNL & 1005 FWL | NA | active | 4380'-4480' | na | na | na |
| 1 | Burlington-McGrath B #1 | J | 2 | 29n | 12w | 1650 FSL & 1650 FEL | yes | active | TD 2137 | yes | na | none |
| 2 | Burlington-McGrath SRC #1 | J | 2 | 29n | 12w | 1808 FSL & 1920 FEL | yes | active | TD 2015 | yes | na | none |
| 3 | Burlington-Cornell SRC #7 | L | 2 | 29n | 12w | 1810 FSL & 900 FNL | yes | active | TD 2100 | yes | na | none |
| 4 | pre-ongard | g | 2 | 29n | 12w | 1650 FNL & 1650 FEL | yes | P&A | TD 2125 | yes | na | none |
| 5 | Burlington-Young #1 | d | 2 | 29n | 12w | 990 FNL & 990 FWL | yes | active | TD 1500 | yes | na | none |
| 6 | Burlington-Kardler #1 | c | 2 | 29n | 12w | 990 FNL & 1650 FWL | yes | active | TD 2045 | yes | na | none |
| 7 | pre-ongard | m | 2 | 29n | 12w | 1095 FSL & 1310 FWL | yes | unknown | TD 1879 | no | na | none |
| 8 | Burlington-McGrath SRC #1R | J | 2 | 29n | 12w | 1705 FSL & 1450 FEL | yes | active | TD 2218 | yes | na | none |
| 9 | Burlington-Cornell #500 | n | 2 | 29n | 12w | 840 FSL & 1550 FWL | yes | active | TD 2136 | yes | na | none |
| 10 | Burlington-Beck #1R | g | 2 | 29n | 12w | 1520 FNL & 1900 FEL | yes | active | TD 2225 | yes | na | none |
| 11 | Burlington-Cornell #500S | p | 2 | 29n | 12w | 760 FSL & 1135 FEL | yes | active | TD 2162 | yes | na | none |
| 12 | Burlington-Beck #1S | d | 2 | 29n | 12w | 1000 FNL & 955 FWL | yes | active | TD 2148 | yes | na | none |
| 13 | Energen-Cornell #2 | m | 1 | 29n | 12w | 950 FSL & 800 FWL | no | na | na | na | na | none |
| 14 | pre-ongard | e | 1 | 29n | 12w | 1650 FNL & 990 FWL | yes | P&A | TD 2186 | yes | na | none |
| 15 | BP -Allen A #1 | d | 1 | 29n | 12w | 790 FNL & 790 FWL | yes | active | TD 6786 | yes | na | none |
| 16 | BP -Allen A #1E | L | 1 | 29n | 12w | 1450 FSL & 790 FWL | no | na | na | na | na | na |
| 17 | Energen-Cornell #2R | m | 1 | 29n | 12w | 885 FSL & 660 FWL | no | na | na | na | na | na |
| 18 | Burlington-McGrath #3 | j | 3 | 29n | 12w | 1650 FSL & 1650 FEL | yes | active | TD 2011 | yes | na | none |
| 19 | pre-ongard | k | 3 | 29n | 12w | 1650 FSL & 1650 FWL | yes | P&A | TD 2100 | yes | na | none |
| 20 | Burlington-McGrath A#1 | i | 3 | 29n | 12w | 1720 FSL & 990 FEL | yes | active | TD 6710 | yes | na | none |
| 21 | Conoco-Phillip #1S Walker | e | 3 | 29n | 12w | 1650 FNL & 990 FWL | no | na | na | na | na | na |
| 22 | Burlington-Walker SCR #1 | g | 3 | 29n | 12w | 1320 FNL & 1320 FEL | yes | active | TD 2058 | yes | na | none |
| 23 | Burlington-Walker #1 | L | 3 | 29n | 12w | 1675 FSL & 1165 FWL | yes | active | TD 1940 | yes | na | none |
| 24 | Burlington-Walker #100S | f | 3 | 29n | 12w | 1630 FNL & 1510 FWL | no | na | na | na | na | na |
| 25 | Burlington-McGrath #3s | b | 3 | 29n | 12w | 165 FNL & 1505 FEL | yes | active | TD 2066 | yes | na | none |
| 26 | Burlington-Walker #2 | d | 3 | 29n | 12w | 990 FNL & 990 FWL | no | na | na | na | na | na |
| 27 | pre-ongard well #2 | a | 10 | 29n | 12w | 870 FNL & 790 FEL | yes | active | TD 1848 | yes | na | none |
| 28 | Burlington-Beck A#1E | b | 10 | 29n | 12w | 870 FNL & 1760 FEL | no | na | na | na | na | na |
| 29 | Burlington-Cornell #100 | b | 10 | 29n | 12w | 875 FNL & 1675 FEL | no | na | na | na | na | na |
| 30 | Burlington-Cornell #6 | c | 11 | 29n | 12w | 790 FNL & 1850 FWL | yes | yes | TD 2020 | yes | yes | none |
| 31 | BP -Cornell C #1 | d | 11 | 29n | 12w | 990 FNL & 990 FWL | yes | active | TD 6640 | yes | na | none |
| 32 | pre-ongard #10 | a | 11 | 29n | 12w | 990 FNL & 990 FEL | no | na | na | na | na | na |
| 33 | Producing Royalties Inc-Phyne #1 | a | 11 | 29n | 12w | 1120 FNL & 860 FEL | no | na | na | na | na | na |
| 34 | Burlington-Cornell #101 | d | 11 | 29n | 12w | 1200 FNL & 660 FWL | yes | active | TD 2000 | yes | na | none |
| 35 | Burlington-McGrath C#1 | p | 34 | 30n | 12w | 870 FSL & 1190 FEL | yes | active | TD 6605 | yes | yes | none |
| 36 | Burlington-Hudson #2 | p | 34 | 30n | 12w | 990 FSL & 330 FEL | yes | active | TD 1961 | yes | na | none |
| 37 | pre-ongard #2 | n | 34 | 30n | 12w | 990 FSL & 2310 FWL | yes | P&A | TD 2000 | yes | na | none |
| 38 | Burlington-Durr Gas com #1E | g | 34 | 30n | 12w | 1770 FNL & 1480 FEL | no | na | na | na | na | na |
| 39 | Holcomb O&G-Carnahan | p | 35 | 30n | 12w | 990 FSL & 990 FEL | yes | P&A | TD 6800 | yes | yes | none |
| 40 | Burlington-Hudson J #3 | i | 35 | 30n | 12w | 1750 FNL & 990 FWL | yes | active-recomp | TD 6750 | yes | yes | none |
| 41 | pre-ongard #4 | l | 35 | 30n | 12w | 1600 FSL & 1150 FWL | yes | P&A | TD 2121 | yes | na | none |
| 42 | Mention O&G-Carnahan com #2 | p | 35 | 30n | 12w | 1090 FSL & 1070 FEL | yes | active-gas well | TD 6777 | yes | yes | none |
| 43 | Conoco-Phillip FC ST com #24 | m | 36 | 30n | 12w | 1140 FSL & 1220 FWL | no | na | na | na | na | na |

Notes:
P&A Plugged and Abandoned

Appendix L
2011 Permit Training
Documentation

From: wayne price <wayneprice77@earthlink.net>

Subject: **C-117 and C-104**

Date: February 26, 2011 12:21:16 PM MST

To: Neil Allen <nallen@keyenergy.com>, Ron CLOW <rclow@keyenergy.com>, Dan Gibson <dgibson@keyenergy.com>, Imolleur@keyenergy.com

Cc: Brandon.Powell@state.nm.us, Perrin Perrin <charlie.perrin@state.nm.us>, daniel.sanchez@state.nm.us, Glenn.VonGonten@state.nm.us

▶ 3 Attachments, 3.4 MB



Attention: Key Employees

Any future oil shipments off-site must be pre-approved by the OCD-Aztec office on a C-117 form. Please post this notice in the Key field office. Start a file to log all off site shipments of any Oil, waste, etc. Always call OCD before you ship anything off-site.

Please find attached a filled out C-117 and C-104 that must be delivered to the OCD first thing Monday Morning. The C-117 must also have Safety-Kleen signature. They open at 7am so please be there to have them sign and then deliver to OCD.

Attached is the following: C-117 and C-104 filled out, and a copy of the Safety-Kleen run ticket (Manifest).



[C104 Key Fa...pdf \(83.3 KB\)](#) [Key C117A.pdf \(109 KB\)](#) [Safety Kleen...t.pdf \(3.2 MB\)](#)

From: wayne price <wayneprice77@earthlink.net>
Subject: **Set-up training folder**
Date: March 3, 2011 4:20:47 PM MST
To: Neil Allen <nallen@keyenergy.com>
Cc: Dan Gibson <dgibson@keyenergy.com>
▶ 1 Attachment, 37.8 KB



Put this attachment in the folder. Over the past year we have touched on all of these topics but you and Steve should read it, sign and put in folder. If you have any questions, let me know.



[2010-2011pdf \(37.8 KB\)](#)

From: wayne price <wayneprice77@earthlink.net>
Subject: Fwd: Set-up training folder
Date: March 8, 2011 9:51:14 AM MST
To: Neil Allen <nallen@keyenergy.com>



▶ 1 Attachment, 38.3 KB

Hi Neil, I added the C-115's to the list. Discard the older version. Put in your training file.

Begin forwarded message:

From: wayne price <wayneprice77@earthlink.net>
Date: March 3, 2011 4:20:47 PM MST
To: Neil Allen <nallen@keyenergy.com>
Cc: Dan Gibson <dgibson@keyenergy.com>
Subject: Set-up training folder

Put this attachment in the folder. Over the past year we have touched on all of these topics but you and Steve should read it, sign and put in folder. If you have any questions, let me know.



[2010-2011pdf \(38.3 KB\)](#)

To: Key Energy UIC-5/NM1-9 Site Training File

From: Wayne Price-Price LLC.

Subject: 2010-2011 Training Documentation:

Reference: 2010-2011 Compliance Plan:

Price LLC has been contracted by Key Energy to provide on-the-job-training to the site employees and to have a compliance plan in place to ensure that the permit conditions of the site are being met.

In order to make sure the UIC-5 permit conditions are complied with, the following on the job training has been conducted during the course of the year.

The Key Energy UIC-5 permit conditions are attached for reference. Each on-site employee shall take time to read the conditions and ask questions to make sure they understand the permit terms and conditions.

The following has been discussed:

- This permit expires June 1, 2012. A permit renewal application should be submitted no later than February 01, 2012.
- All of the general permit conditions with emphasis on the following:
 - All waste disposed of off-site should receive OCD approval.
 - Only non-hazardous waste may be received at the site.
 - Non-exempt waste must use the C-138 process.
 - 712 waste i.e. waste going to NMED landfills must generally be pre-approved.
 - Waste can only be stored for 180 days on-site.
 - Drums must be maintained properly on secondary containment.
 - If an area is experiencing contamination, then some type of containment must be put in place.
 - All above-ground tanks must have berms and secondary containment. Currently the temporary unloading tanks do not have a liner so any leaks, spills, etc must be picked up immediately.
 - All Tanks shall be labeled.
 - The evaporation ponds are out of service and should not be used. Any fluids that collect in them shall be removed.
 - All underground lines have to be tested.
 - Housekeeping and a daily inspection log shall be kept.
 - All spills greater than 5 bbl's must be reported to OCD.
 - Do not exceed 2400 psi injection pressure.
 - If you work on the well call OCD first and fill out C-103.
 - Check the Hi-pressure cut off at least monthly.
 - The Well must have a MIT & Fall-Test once a year.
 - If the well has a major problem, notify OCD.
 - Maintain both well annulus and tubing pressure charts, gauges, flow meters, etc and routine maintenance.

- Collect Injection water samples every 3 months.
- Record hourly-daily-monthly flow readings and pressures.
- Provide charts, flow and pressure records at the end of the year for the annual report.
- Empty all sumps ASA-Practical. If not call OCD for variance.
- Any waste from tanks must be stored properly before disposal.
- Maintain training records.
- Report monthly disposal on C-115's (sending to Eunice office)

Special Note: If unsure about waste status exempt or non-exempt call Price LLC or Corporate office.

Until further notice do not put any waste in the landfarms. Landfarm samples are required quarterly. Since the landfarm is currently being closed out, these test may vary.

During the course of the year, training was conducted on proper methods for sampling using Chain of Custody and EPA protocols.

Rule of Thumb: If waste is getting on the ground, then corrective actions should be taken immediately.

Emphasis is always on working safe and never take an unnecessary risk.

From: wayne price <wayneprice77@earthlink.net>

Subject: **Re: On-Site Training Farmington Facility**

Date: November 2, 2011 5:30:24 PM MDT

To: Steve Wilson <swilson03@keyenergy.com>, wayne price <wayneprice77@earthlink.net>

Cc: Dan Gibson <dgibson@keyenergy.com>, Imolleur@keyenergy.com, Sam Blevins <sblevins@keyenergy.com>, daniel.sanchez@state.nm.us, Glenn.VonGonten@state.nm.us, carlj.chavez@state.nm.us, brad.a.jones@state.nm.us, Jami Bailey <jbailey@slo.state.nm.us>, Perrin Perrin <charlie.perrin@state.nm.us>, Kuehling <monica.kuehling@state.nm.us>, Brandon.Powell@state.nm.us



added the following:

All valve operations, settings shall logged in the on-site maintenance book.

Steve: Please make a note of all valve settings on the well head and log into your daily maintenance log. Please start now and let us know the state of each valve on the Tree, including all secondary valves, i.e. needle valves.

On Nov 2, 2011, at 4:11 PM, wayne price wrote:

The following are topics of training held at the site on November 1, 2011.

Waste Issues:

1. All non-exempt loads must be accompanied by the C-138 process.
2. There shall be no off-site disposal of waste, including rainwater, unless approved by Dan Gibson, Wayne Price, Sam Blevins or unless under emergency conditions,
3. When waste is shipped off-site the OCD should be notified.

Safety Issues:

1. H2S monitors should be used.
2. Extreme caution should be used when filling the gasoline driven pond pump.
 - a. Don't fill the pump when hot.
 - b. Do not spill gasoline in this area, make sure you have an absorbent pig between the pump and pond.

Permit Issues:

1. No new material is allowed in the landfarm
2. Continue plowing the landfarm.
3. Remove rainwater from the ponds, treatment devices, and sumps. If for some reason this can not be done in a timely manner, notify the OCD District office for extended time.
4. The left wing casing valve on the Injection well tree shall be kept open so the gage and recorder will read any casing pressure.
5. The Casing gauge and recorder should read approximately the same, if not then make arrangements to have re-calibrated.
6. If the casing gauge reads more than 300 psig, call the District office for permission to bleed off.
7. The main pond leak detection device shall have the cap on at all times. The rope, hose, the pump shall be cleaned so as not to contaminate the well. Use only soap and water and rinse off with DI water from the store.
8. In the unloading area for trucks, make sure all hoses are disconnected into a spill contaminate bucket.
9. Remove all junk, weeds, buckets, etc around the yard, and dispose of properly.
10. Continue all readings from the pump house as been conducted ion the past.

Site Inspection:

1. Continue the daily site inspections that have been in place.

Odors: Notify OCD at once.

Appendix M
2011
Related Correspondence

From: "VonGonten, Glenn, EMNRD" <Glenn.VonGonten@state.nm.us>
Subject: **RE: Sunco Facility, Farmington, NM**
Date: December 20, 2011 5:00:30 PM MST
To: "Gibson, Dan" <dgibson@keyenergy.com>, "Sanchez, Daniel J., EMNRD" <daniel.sanchez@state.nm.us>, "Gerholt, Gabrielle, EMNRD" <Gabrielle.Gerholt@state.nm.us>, "Jones, Brad A., EMNRD" <brad.a.jones@state.nm.us>
Cc: wayne price <wayneprice77@earthink.net>, "Molleur, Loren" <lmolleur@keyenergy.com>

Dan,

OCD's comments are in blue.

Glenn

From: Gibson, Dan [mailto:dgibson@keyenergy.com]
Sent: Monday, December 12, 2011 4:12 PM
To: VonGonten, Glenn, EMNRD
Cc: wayne price; Molleur, Loren
Subject: Sunco Facility, Farmington, NM

Glenn - Based on our call last week, below is a list of action items that are required to transfer the existing injection and discharge permits from Key to the new operator. If my understanding is incorrect, please advise me as soon as possible so we can complete these activities.

- 1) Key (current operator) and Aqua Moss, LLC (new owner) will submit a letter to OCD formally notifying OCD of the sale of the facility. The letter will state that Aqua Moss, LLC will operated the facility in compliance with the current discharge permit for the facility.
- 2) If Aqua Moss, LLC does not have an OGRID number, they will contact Dorothy Phillips at OCD to begin this process
- 3) Bonding must be in place and approved by OCD prior to the transfer of the permits. The current bond amounts are \$95,000 for the UIC well and \$176,200 for the Commercial Surface Waste Management Facility.

The new operator must use the Surface Waste Management Facility bond language specified on the form.

- 4) A Change of Operator Form (Form C-145) must be prepared and signed by both Key and Aqua Moss, LLC.
- 5) A Transfer of Permit form must be submitted for the Surface Waste Management Facility.

The new operator must provide the information required by 19.15.36.12E NMAC.

As discussed on the conference call Key will also perform the following activities:

- 1) Key will prepare the 2011 annual report for the facility since the transfer will not be complete prior to December 31.
- 2) Key will inform Aqua Moss, LLC that the current discharge permit expires in June 2012 and the permit application is due to OCD 120 days before the permit expires.
- 3) If Aqua Moss, LLC intends to haul water, they need an approved Form C-133 prior to transporting fluids.
- 4) Key will inform Aqua Moss, LLC that the landfarm cells were permitted for disposal of wastes associated with the surface waste facility. Since this operation has been shut down, the landfarm cells should not be used unless approved by OCD. Furthermore, the lined pit cannot be utilized unless it is repaired and OCD is notified in advance.

The outstanding issue we need to resolve is the recent closure plan Key submitted for the landfarm. Key submitted a closure request for the landfarm, however, the new owner may wish to utilize these assets. Key would like to allow the new owner to discuss the landfarm with OCD to plan future activities. If the landfarm closure is postponed, I believe Key is required to perform the 4th quarter UIC and landfarm sampling events. Would it be possible to waive these events?

Key's permit requires Key to provide OCD with notice of closure and to submit a closure plan for approval for its landfarm permitted as NM1-9. The document dated November 30, 2011, is not a closure plan, but a report that includes data from work that Key conducted "at risk." OCD will neither review nor approve the report as a work plan. Key must submit the required notice and a closure plan in accordance with its permit. OCD will review the closure plan and either approve, approve with conditions, or disapprove the work plan. Please note that in accordance with the closure requirements of Key's 711 Permit (Closure section 2.f), key must close its landfarm to the "... requirements in effect at the time of closure...." That means that Key must close its landfarm to the Part 36 closure standards for landfarms (see 19.15.36.18 NMAC).

If the new owner wishes to operate the landfarm, then OCD will certainly meet with them to discuss that possibility.

If closure or property transfer is postponed, OCD will consider Key's request to "waive" sampling on the best information that we have at that time.

Note: Forms can be located on the OCD website: <http://www.emnrd.state.nm.us/ocd/Forms.htm>

Thanks.

Daniel K. Gibson, P.G. | Key Energy Services, Inc. | Corporate Environmental Director

6 Desta Drive, Suite 4300, Midland, TX 79705 | o: 432.571.7536 | c: 432.638-6134 | e: dgibson@keyenergy.com

From: "Gibson, Dan" <dgibson@keyenergy.com>
Subject: **Sunco Facility, Farmington, NM**
Date: December 12, 2011 4:12:19 PM MST
To: Glenn VonGorten <Glenn.VonGorten@state.nm.us>
Cc: wayne price <wayneprice77@earthlink.net>, "Molleur, Loren" <lmolleur@keyenergy.com>

Glenn - Based on our call last week, below is a list of action items that are required to transfer the existing injection and discharge permits from Key to the new operator. If my understanding is incorrect, please advise me as soon as possible so we can complete these activities.

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- 2) If Aqua Moss, LLC does not have an OGRID number, they will contact Dorothy Phillips at OCD to begin this process
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- 4) A Change of Operator Form (Form C-145) must be prepared and signed by both Key and Aqua Moss, LLC.
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As discussed on the conference call Key will also perform the following activities:

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- 2) Key will inform Aqua Moss, LLC that the current discharge permit expires in June 2012 and the permit application is due to OCD 120 days before the permit expires.
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The outstanding issue we need to resolve is the recent closure plan Key submitted for the landfarm. Key submitted a closure request for the landfarm, however, the new owner may wish to utilize these assets. Key would like to allow the new owner to discuss the landfarm with OCD to plan future activities. If the landfarm closure is postponed, I believe Key is required to perform the 4th quarter UIC and landfarm sampling events. Would it be possible to waive these events?

Note: Forms can be located on the OCD website: <http://www.emnrd.state.nm.us/ocd/Forms.htm>

Thanks.

Daniel K. Gibson, P.G. | Key Energy Services, Inc. | Corporate Environmental Director
6 Desta Drive, Suite 4300, Midland, TX 79705 | o: 432.571.7536 | c: 432.638-6134 | e: dgibson@keyenergy.com



New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary - Designee

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division



December 6, 2011

Mr. Dan Gibson
Key Energy Services, LLC
6 Desta Drive, Suite 4400
Midland, Texas 79705

Re: Letter of Violation Class I (Non-Hazardous) Injection Well Discharge Permit
SUNCO Disposal Well #1 UIC-CLI-005 (I-005) Oil Field Waste Disposal Well, San Juan
County, New Mexico (SUNCO Disposal Well #1 API# 30-045-28653)

Dear Mr. Gibson:

The OCD appreciates Key's prompt response to the letter of violation issued on October 20, 2011. The required MIT of the SUNCO Disposal Well #1 was completed on October 31, 2011 and was witnessed by Monica Kueling, of the OCD's Aztec District office. The violation has been resolved by conducting and passing the MIT and Key is now in good standing with the OCD. If you have any questions regarding this letter, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel Sanchez", is written over a large, stylized flourish.

Daniel Sanchez
UIC Director
(505)476-3493





From: wayne price <wayneprice77@earthlink.net>
Subject: **Key Energy 2nd response to LOV**
Date: November 28, 2011 12:02:34 PM MST
To: John Bemis <John.Bemis@state.nm.us>, Jami Bailey <jbailey@slo.state.nm.us>
Cc: daniel.sanchez@state.nm.us, EMNRD Gerholt Gabrielle <Gabrielle.Gerholt@state.nm.us>, Glenn.VonGortten@state.nm.us, Gary Larson <glarson@hinklelawfirm.com>, Dan Gibson <dgibson@keyenergy.com>, lmolleur@keyenergy.com
▶ 1 Attachment, 5.4 MB

Dear Secretary Bemis and Director Bailey:

Please find attached another response letter concerning a recent violation letter sent to Key Energy. We respectfully request you review the letter to determine if OCD may rescind the LOV for the reasons stated in the letter. What appears to be most disturbing to Key Energy, is how fast the violation was posted on OCD's web site, under "Notice of Violation" and the fact we were blind sided by this action. A simple phone call or E-mail would have taken care of this situation.

While the agency's staff will tell you an "LOV" doesn't carry the weight of an "NOV", then why was it filed under "NOV". The general public, especially the people of Carlsbad, do not differentiate between violations. In our opinion, this LOV must be rescinded as it will most certainly damage our ability to receive a new brine well permit. This not only hurts Key Energy, but will be devastating to the industry, the state, and the folks of Carlsbad.

Key Energy has done everything in its power to be a good corporate citizen, communicate issues and concerns, expedite any wishes of the OCD, meet with EMNRD/OCD, and even arranged for Key's CEO and the Governor of New Mexico to meet at the site for a working path forward. Key Energy does not expect any favors from the state, other than to promote good jobs, provide a good tax base, and follow the rules in a manner that will be protective of the environment.

Sincerely,



[LOV Respon....pdf \(5.4 MB\)](#)



Key Energy Services
6 Desta Drive
Suite 4300
Midland, Texas 79705

Telephone: 432.620.0300
Facsimile: 432.571.7173
www.keyenergy.com

November 15, 2011

Mr. John Bemis-EMNRD Cabinet Secretary
Energy Minerals and Natural Resource Department

Ms. Jami Bailey-OCD Director
New Mexico Oil Conservation Division

Wendell Chino Building
1220 S. Saint Francis Drive
Santa Fe, NM 87505

Reference: Key Energy Services LLC
Sunco Disposal Well, Farmington, NM
Permit UIC-5 Injection Well.

Subject: **Letter of Violation**

Dear Secretary Bemis and Director Bailey:

Key Energy Services LLC (Key) would like to bring to your attention a recent misunderstanding between Key Energy Services, LLC (Key) and the Oil Conservation Division (OCD). On October 20, 2011 Key received a Letter of Violation (LOV) from the OCD. The letter appeared to have been written by Mr. Carl Chavez and was signed by Mr. Daniel Sanchez-UIC Director.

As both of you are aware, certain concessions and understandings with EMNRD/OCD and Key's upper management have been on-going for almost a year now. Due to one of the worst recessions in this country's history, Key has struggled to maintain a profit at the Farmington facility and even temporarily shut down operations for a while.

Key's management and consultant worked with both of you and were able to reopen the facility, albeit not to full capacity. New Mexico's Governor Susana Martinez and Key's CEO, Mr. Dick Alario, took time to meet at the facility after it was started back up. Apparently, their intent was to partner with each other in order to save jobs and tax revenues for the state and keep the only Class I disposal facility open so industry will have a viable and safe place to dispose of special oilfield waste. This was all on the pretext that certain permit concessions could be agreed too that would still allow for protection for the environment.

Key's consultant, Mr. Wayne Price, has had informal telephone conversations and written communication with both of you (i.e, Secretary Bemis & Director Bailey), in which the general opinion appeared to be that some of the very expensive annual testing could be waived on an annual basis, but would be required every five years.

On June 14, 2011 Key Energy received an email from Carl Chavez of OCD informing operators with Class I wells that the combined annual MIT/Fall-Off Test were to be completed by 09/30/2011. Mr. Price immediately responded to Mr. VonGonten, Acting Environmental Bureau Chief, and requested a waiver that was previously discussed with Mr. VonGonten, Director Bailey and Secretary Bemis, albeit on different occasions.

According to Mr. Price, conversations with Mr. VonGonten, indicated that EMNRD's legal department had investigated this issue and informed OCD that WQCC regulations do not specifically mention the combined MIT/Fall-Off test being an annual requirement. Also, discussed were issues of WQCC delegated authority and other concessions such as analytical testing requirements, delay of pond closures, etc.

On July 11, 2011 in a telephone conversation, OCD's Brad Jones informed Mr. Price that Key was in violation for not submitting a closure plan for one of the on-site ponds. This started another round of similar discussions as displayed in this correspondence. Key responded on July 14, 2011, and OCD responded on July 20, 2011.

On July 20, 2011, Wayne Price and Gary Larson (Attorney) met with Mr. Daniel Sanchez UIC Director and OCD's attorney Gabrielle Gerholt. According to Mr. Price and Mr. Larson, they specifically ask if OCD was going to issue any type of violation concerning the Farmington facility. Mr. Sanchez made a comment to the fact "why do you think we would do that", leaving the impression that Key was in good standing.

There was a brief discussion concerning Key's concern about violations and the impact it could have on Key's business in New Mexico and Key would appreciate a heads-up on any issue that OCD or staff may have concerning Key. There was also a discussion about the EPA being upset about the test being waived. There was an added discussion whether Key should contact the USEPA concerning this matter, and Mr. Sanchez advised Key not to do so, as the state has primacy over UIC wells.

These facts have recently caused confusion for both Key and the Oil Conservation District (OCD). OCD issued a Letter of Violation (LOV) to Key on October 20, 2011 for failing to conduct an annual MIT before September 30, 2011. Key responded to the LOV on October 26, 2011 and completed the MIT on October the 31, 2011. As pointed out in Key's October 26 response, Key was under the distinct impression that the combined annual MIT/Fall-Off test was to be required every five years.

Key re-addressed OCD concerns in a letter dated October 28, 2011, officially requesting a delay of closure activities at the Farmington site.

Key feels that OCD's staff must have, or should have known, about these upper management decisions, otherwise there would have been no distinction between the combined MIT/Fall-Off Test usually conducted together in the LOV. If Key would have been notified of the waiver for just part of the test, then Key would have certainly ran the MIT test in a timely manner.

John Bemis
Jami Bailey
November 15, 2011
Page 3

For reasons previously stated, Key Energy feels the violation letter may have simply been prompted by a miscommunication between the parties, and Key certainly had no willful intent on violating any OCD/WQCC rule or regulation, nor does Key feel they have done so.

Key is requesting that the LOV be rescinded and removed from OCD's Web site, which ironically, was filed in a very timely fashion under "Notice of Violations". This violation will certainly cause irreparable damage to Key being able to permit future operations in southern New Mexico.

As a direct result of these issues, Key hereby requests that minor modifications be made to the existing UIC Class I injection well permit to ensure that all parties involved, especially staff members, can remain on the same page and have a full understanding of any agreements and conditions.

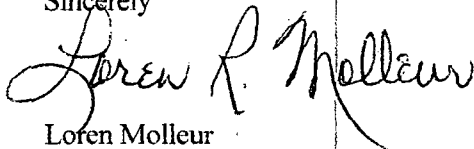
Several piecemeal modifications have already been made to the permit over time, but presently are not included in any formal permit document. It is obvious that certain negotiations may have not been officially communicated by all parties involved, including Key, and made part of any official record. It is this driving mechanism and the recent violation that has caused Key to request an expeditious modification of the permit so there is a clear and mutual understanding of any concessions, agreements and conditions.

Attached hereto, is a list of each permit condition and recommended changes Key would like to see made, i.e., either temporary or permanent in nature, for your technical staff to review and consider.

Key Energy would like to take this opportunity to thank you and your staff concerning this very important matter. Key felt it was imperative to respond directly to both of you in order that OCD's upper management and staff members remain on the same page.

In this particular case, Key Energy would like to make a special request, in that, if any violation letter is sent out, that it would be under the Secretary or Director's signature. Also, we feel a simple phone call or e-mail would be appropriate to give us a heads up on any perceived concerns or issues, so Key has the opportunity to correct the problem before we are blind-sided with an unexpected violation.

Sincerely



Loren Molleur
Senior VP Fluids Management Services

John Bemis
Jami Bailey
November 15, 2011
Page 4

cc: Mr. Daniel Sanchez- UIC Director
Glenn Von Gonten – OCD Acting Environmental Bureau Chief
Daniel Gibson – Environmental Director
Wayne Price-Price LLC –Consultant

Attachment

Attachment to November 14, 2011 Letter

Mr. John Bemis-EMNRD Cabinet Secretary
Energy Minerals and Natural Resource Department

Ms. Jami Bailey-OCD Director
New Mexico Oil Conservation Division

Please find below a list of each permit condition and recommended changes Key would like to see made, i.e., either temporary or permanent in nature.

Items: 2, 3, 4, 5, 6A, 6B, 7, 10, 11C, 11D, 12A, 12B, 13, 14, 16, 17, 22A, 22E.1, 22E2, 22F, 23, and 24.
Recommended Action: None at this time.

Item 1. Payment of Discharge Plan Fees:

Recommended Action: Key Energy records reflect that all permits fees are paid in full. Please correct the last sentence

“Key Energy Services, LLC still owns the required \$4500.00 permit fee for the Class I Well” to show that all fees have been paid.

Item 8. Process, Maintenance and Yard Areas:

Recommended Action: add the following: Sporadic small unintentional “deminimis” drips that can, or are routinely picked up, raked out, bladed, or graded will not require secondary containment, if the operator can demonstrate to the agency that such contaminants are not a substantial threat to fresh water, public health or the environment.

Item 9. Above Ground Tanks:

Recommended Action: Key Energy would like a temporary site-specific waiver from having to install impermeable liners before discharge permit renewal of June 01, 2012. Key is requesting the permit be modified to allow this requirement be implemented no later than June 01, 2014. Key will maintain the necessary berms and any fluid or solid contaminants reaching the ground surface will be immediately addressed and reported pursuant to Item 15, Spill Reporting.

Item 11A and 11B. Below-Grade Tanks/Sumps and Pits/Ponds.

Recommended Action: Key Energy would like a temporary site-specific waiver from having to retrofit existing below grade tanks/sumps without secondary containment and leak detection before discharge permit renewal of June 01, 2012. Key is requesting the permit be modified to allow this requirement be implemented no later than June 01, 2014.

Item 15. Spill Reporting:

Recommended Action: Key Energy recommends that the reporting and corrective actions part of this requirement adhere to either the WQCC requirements or the OCD requirements, but not both as that can place the operator between two regulations.

Item 18. Unauthorized Discharges:

Recommended Action: OCD should reword this item since currently the way it reads, does not take into consideration unintentional accidental releases corrected under item 15. Any release would become a violation of the permit.

Item 19. Vadose Zone and Water Pollution:

Recommended Action: OCD should change the last sentence, "Failure to perform any required investigation, remediation, abatement and submit subsequent reports may be a violation of the permit. This change allows more flexibility with both the agency and the operator.

Item 20A. Additional Site Specific Conditions:

Recommended Action: Key Energy would like to see this requirement removed because it places an impossible burden on the operator. There is no way for Key to be knowledgeable of any and all complaints, leaks, spills, well problems, etc.

Item 20B. The operator shall complete the following "Required Corrective Actions" on the following two wellsetc.

Recommended Action: This section has been removed by the agency and should be reflected in an up-dated permit.

Item 21. Class I Injection Well(s) Construction Conditions:

Recommended Action: This section is not applicable to this permit and should be removed. This well was permitted originally under the Class II conditions by OCD rules and regulations and was approved by OCD for the conversion to a Class I Well under the WQCC regulations. The conditions listed are for a Class I well under new construction not an existing well.

Item 22B. Class I Injection Well(s) Identification, Operation, Monitoring, Bonding and Reporting.

Recommended Action: Key Energy would like OCD to normalize the definition of "remedial work" to fall in line with the District's guidance. The part of the requirement that reads "or any other work" should be removed.

Item 22C. Injection Formation, Interval & Waste:

Recommended Action: This section has been modified by the agency and should be reflected in an up-dated permit.

Item 22D. Well Injection Pressure Limits:

Recommended Action: This section has been modified by the agency and should be reflected in an up-dated permit. The injection pressure was increased to 2,400 psig on January 17, 2008.

Item 22E. Mechanical Integrity Testing (MIT)

Recommended Action: First paragraph, change the MIT and bradenhead testing requirements from annually to every 5 years. Second paragraph, change the Fall-Off testing requirements from annually to every 5 years.

Specifically provide a date for the next MIT/Fall-off test to be in the last year of the next permitting series, or every five years. The permit should read the next test(s) shall be in the year 2016.

In the third paragraph, the word "annually" should be replaced with every five years. Also, the language defining when a MIT has to be run because of unexpected issues shall not include the Fall-Test, unless the agency feels it is warranted and provides the owner/operator adequate notice and technical reasons why the test must be ran.

Item 22G. Injection Record Volumes and Pressures.

Recommended Action: In the first paragraph, this section has been modified by the agency and should be reflected in an up-dated permit. The modification allows the quarterly reports to be submitted once a year in the annual report.

Key agrees with this change, but would like to modify the language in the second sentence to reflect the actual WQCC language as defined in Reporting 20.6.2.5208.A.(2).b. The language should read, "The monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure will be recorded monthly and reported in the annual report."

The current language does not make sense since it implies annular pressures of waste. There is no annular injection of waste in this well.

In the second paragraph, Key Energy would like a temporary site-specific waiver from having to implement the specified annular monitoring system before the discharge permit renewal of June 01, 2012. Key is requesting a permit modification to allow a plan to be submitted to OCD by June 01, 2014, for consideration of an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

22H and I. Analysis of Injected Waste:

Recommended Action: Key Energy has made a number of requests of OCD in the past year to reduce the amount of chemical samples with no success to date. However, Glenn vonGonton has investigated this issue and has informally shared the conclusion that the current permit conditions may be exceeding the intent of the WQCC regulations.

Key Energy would like to formalize these findings and propose that the following chemical constituents replace the existing permit conditions:

Remove all of item 22I.a., 22I.c., 22I.d.

Add Total Suspended Solids, and Oil and Grease using EPA approved methods.

Key Energy's current practice is to screen all non-exempt waste and use a form C-138 process to assure no hazardous waste is accepted at the facility. This requirement negates any reason to run RCRA waste characteristics. Since the majority of the waste is exempt anyway, any resultant normal process mixture would also retain the exemption.

Item 22J. Area of Review:

Recommended Action: Key recommends that in the last sentence read as follows: Documentation of new wells shall be added to the existing AOR information and reported in the annual report.

Item 22K. Bonding or Financial Assurance:

Recommended Action: Key energy is requesting that a more reasonable well bond be applied. We are requesting a reduction of the bond to be reduced down to \$50,000.

Item 22L. Annual Report:

Recommended Action: Request that the annual report be due on March 31 of each year. Also, break out the items in 22L.7 and make them separate items.

Item 25. Closure:

Recommended Action: Key Energy recommends the language of this condition read as follows: The owner/operator shall notify the OCD and submit a closure plan when total operations have been discontinued for more than one year. The OCD may grant extensions of the closure plan for good cause shown by the operator.



Key Energy Services
6 Desta Drive
Suite 4400
Midland, Texas 79705

Telephone: 432.620.0300
Facsimile: 432.571.7173
www.keyenergy.com

October 26, 2011

Mr. Daniel Sanchez
UIC Director
State of New Mexico
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

VIA EMAIL AND US MAIL

Subject: **LETTER OF VIOLATION Class 1 (Non Hazardous) Injection Well Discharge Permit SUNCO Disposal Well #1 UIC-CLI-005 (I-005) Oil Field Waste Disposal Well, San Juan County, New Mexico [Sunco Disposal Well #1 API # 30-045-28653]**

Dear Mr. Sanchez:

Key has received the subject Letter of Violation. I have discussed this letter with both Director Bailey and with Mr. Carl Chavez. As noted in these discussions, Key was unclear regarding the required testing for the Sunco well. Regardless, after reviewing the discharge permit for this facility, Key does not believe a violation has occurred and requests this Letter of Violation be rescinded.

As you are aware from previous discussions, the annual testing for this well under current economic conditions made this facility economically unfeasible to continue operating. The discharge permit currently requires both an annual Fall-Off Test (FOT) and Mechanical Integrity Test (MIT). Key has asked for regulatory relief regarding the annual testing and this is currently under review by the Oil Conservation Division (OCD). It was Key's understanding the annual testing for 2011 would not be required. Key believed this included both the FOT and the MIT. Based on my discussion with Director Bailey and Mr. Chavez, OCD suspended only the FOT for 2011. I have discussed Key's misunderstanding with Mr. Loren Molleur and Key will schedule the MIT as soon as possible. Key will inform both the OCD district office and Mr. Chavez when this test is scheduled.

In spite of Key's misunderstanding, Key does not believe a violation of the permit has occurred. In reviewing the permit, there is a requirement for annual testing, but the permit does not include a date by which the testing must be performed. The only date specified in the permit is that the annual report must be submitted to OCD by January 31 of the following year. No violation of the permit regarding the testing has occurred.

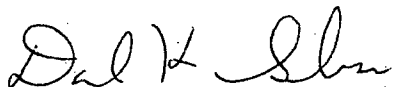
This Letter of Violation currently resides on the OCD website for the facility under "Notices of Violation". Key believes this letter will have serious detrimental effects on plans to expand operations in southern New Mexico. Cancellation of these projects will affect exploration and production

Mr. Daniel Sanchez
UIC Director
October 26, 2011
Page 2

activities and will have a negative effect on the local economy. Key will conduct the required MIT test as soon as possible and will provide the required notifications. Key respectfully requests the Letter of Violation be rescinded.

Please contact me if you have any questions or would like to discuss this further. I can be contacted by phone at 432-571-7536.

Sincerely,



Daniel K. Gibson, P.G.
Corporate Environmental Director

cc:

Mr. Glenn VonGonten
State of New Mexico
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

Mr. Wayne Price
Price LLC
312 Encantado Ridge CT NE
Rio Rancho, New Mexico 87124

Mr. Loren Molleur
Vice President Fluid Management Services

Danielle Kruger
Associate Counsel

New Mexico Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

John H. Bemis
Cabinet Secretary-Designate

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey
Division Director
Oil Conservation Division



OCTOBER 20, 2011

Mr. Dan Gibson
Key Energy Services, L.L.C.
6 Desta Drive, Suite 4400
Midland, Texas 79705

Via U.S. Certified Mail No.: 7001 1940 0004 7923 1206

**Re: LETTER OF VIOLATION Class I (Non-Hazardous) Injection Well Discharge Permit
SUNCO Disposal Well #1 UIC-CLI-005 (I-005) Oil Field Waste Disposal Well, San Juan
County, New Mexico [SUNCO Disposal Well #1 API# 30-045-28653]**

Dear Mr. Gibson:

The New Mexico Oil Conservation Division (OCD) is writing to inform the Key Energy Services L.L.C (Key) that it is in violation of the Underground Injection Control (UIC) Program Annual Mechanical Integrity Test (MIT) requirement for its injection well.

Key failed to conduct the annual MIT before September 30, 2011, the end of the Federal Environmental Protection Agency (EPA) Fiscal Year 2011 (Oct. 1, 2010 – Sept. 30, 2011). The OCD had sent out an e-mail reminder to operators on June 14, 2011.

The MIT requires advanced notification to the OCD in order to witness the MIT; the original MIT pressure chart with signatures and test information that reflects a "pass/fail" on the chart; and a copy of the calibration sheet (minimum every 6 months) from the used chart recorder that is scanned into the OCD's well file as confirmation that the MIT requirement has been met.

Please contact Mr. Carl Chavez of my staff at (505) 476-3490 or Carl.Chavez@state.nm.us to schedule an MIT for your injection wells to be completed before December 31, 2011. Failure to meet this date may result in escalated enforcement actions. Thank you in advance for your cooperation in this matter

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel Sanchez".

Daniel Sanchez
UIC Director

DS/ejc

Oil Conservation Division * 1220 South St. Francis Drive

* Santa Fe, New Mexico 87505

* Phone: (505) 476-3440 * Fax (505) 476-3462 * <http://www.emnrd.state.nm.us>