3RP-417

Summary GW Reporting

DATE: 03.31.11

March 31, 2011

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Mr. Jim Griswold Senior Hydrologist Environmental Bureau ENMRD/Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re:

Summary Groundwater Monitoring Report

Enterprise Field Services, LLC

CPS-1989 Cathodic Protection Well

OCD Case# 3RP-417

San Juan County, New Mexico

Dear Mr. Griswold:

Enterprise Field Services, LLC (Enterprise) has enclosed one copy of the above-referenced *Summary Groundwater Monitoring Report*, dated March 2011. This report documents the groundwater investigation conducted at the former location of the Enterprise cathodic protection station CPS-1989. A low pH artesian groundwater discharge was observed from the cathodic protection well at this location during March 2008, and the well was ultimately removed from service during November 2009.

On November 24, 2009, the New Mexico Oil Conservation Division (OCD) requested that Enterprise Field Services, LLC (Enterprise) submit a work plan for investigation of groundwater conditions at the former cathodic well location. A proposed work plan was submitted to the OCD on December 11, 2009, and was approved by the OCD in correspondence dated December 21, 2009. Monitor wells were installed in the three permeable zones identified at the site following OCD approval, and a final monitor well installation report was submitted to the OCD in correspondence dated July 1, 2010. Groundwater monitoring results do not indicate the presence of low pH groundwater conditions at these monitoring locations. Enterprise believes the low pH condition was present immediately adjacent to the well bore of the former cathodic protection well.

We respectfully request that the OCD grant final closure of this project, subject to the proper plugging and abandonment of the monitor wells at the site. Please do not hesitate to contact me at (713) 381-2286, or drsmith@eprod.com, if you have any questions regarding this report.

Sincerely,

David R. Smith, P.G.

Sr. Environmental Scientist

Rodney M. Sartor, REM Remediation Manager

Mr. Jim Griswold March 31, 2011 Page 2

cc:

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ENTERPRISE FIELD SERVICES CPS 1989 GROUNDWATER MONITORING WELLS

SUMMARY GROUNDWATER MONITORING REPORT MARCH – DECEMBER 2010

SAN JUAN COUNTY, NEW MEXICO NMOCD CASE #3RP-417

MARCH, 2011





Souder, Miller & Associates • P.O. 248 • Farmington, NM 87499 (505) 325-5667 • fax (505) 327-1496

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ENTERPRISE FIELD SERVICES CPS 1989 GROUNDWATER MONITORING WELLS

SUMMARY GROUNDWATER MONITORING REPORT MARCH – DECEMBER 2010

SAN JUAN COUNTY, NEW MEXICO NMOCD CASE #3RP-417

OCTOBER, 2010

1.0 EXECUTIVE SUMMARY

On behalf of Enterprise Field Services, LLC (Enterprise), Souder, Miller and Associates (SMA) has completed monthly, weekly, and quarterly groundwater sampling events on the three monitoring wells associated with the plugged and abandoned cathodic protection well CPS 1989: MW-1, MW-2, and MW-3. These wells are located in the NE ¼ NE ¼ Sec. 13, T28N, R10W, N.M.P.M., San Juan County, New Mexico. Monitoring occurred over a eleven month period from February, 2010 through December, 2010.

The purposes of this report are to summarize all groundwater monitoring data collected between February and December, 2010; interpret the data with respect to applicable groundwater quality standards and with the specific goal of determining if low pH groundwater observed in CPS 1989 has migrated beyond CPS 1989, and; make recommendations for additional work at the site.

SMA has made the following conclusions based on the results of the monitoring events at the CPS 1989 well site:

- 1. The pH values in all monitoring wells meet New Mexico Water Quality Control Commission (NMWQCC) Standards for domestic water supplies.
- 2. Site specific and regional hydrogeologic observations indicate that elevated sulfate and Total Dissolved Solids (TDS) concentrations in groundwater are naturally occurring.
- 3. The low pH condition initially found in the CPS 1989 Cathodic Well is not present in MW-1, MW-2, or MW-3.

SMA recommends the following future work for the site:

1. Properly plug and abandon monitoring wells MW-1, MW-2, and MW-3 to eliminate conduits to groundwater.

2.0 INTRODUCTION AND PURPOSE

On behalf of Enterprise, SMA has completed weekly, monthly, and quarterly groundwater sampling events on the three monitoring wells MW-1, MW-2 and MW-3 associated with the plugged and abandoned cathodic protection well CPS 1989. These wells are located in the NE ¼ NE ¼ Sec. 13, T28N, R10W, N.M.P.M., San Juan County, New Mexico. Figures 1 and 2 are Vicinity and Site Maps, respectively.

The purposes of this report are to summarize all groundwater monitoring data collected between February and December, 2010; interpret the data with respect to applicable groundwater quality standards with the specific goal of determining if low pH groundwater observed in the CPS 1989 well has migrated beyond the immediate proximity of CPS 1989, and; make recommendations for additional work at the site.

3.0 SCOPE OF WORK

SMA performed the work in accordance with the work plan dated December 11, 2009, approved by the New Mexico Oil Conservation Division of the New Mexico Energy, Mineral, and Natural Resources Department (NMOCD) on December 21, 2009. Three groundwater monitoring wells were drilled. MW-3 was sampled once in February 2010. Subsequently, monthly sampling was initiated in March 2010 for a period of three months. The frequency of sampling then changed to quarterly. Water samples were collected monthly in March, April and May. The first quarterly samples were collected in August. A second quarterly monitoring event was competed in November. Monthly and quarterly groundwater samples were analyzed for the following parameters:

- 1. Chloride and sulfate by EPA Method 300.0
- 2. Akalinity, carbonate, bicarbonate, hydroxide by SM2320B
- 3. Specific conductance by EPA Method 120.1
- 4. pH by SM4500-H+B
- 5. Specific gravity by SM 2710F
- 6. Total dissolved solids by SM2540C Mod

Results from the monthly monitoring events indicated that well MW-1 had an elevated, alkaline pH. The operating hypothesis for the elevated pH was that MW-1 was not fully developed and the alkaline drilling mud was not fully removed from the well bore. To ascertain if the elevated pH values in MW-1 were consistently high or were varying with time, Enterprise stipulated a six week period of weekly sampling for MW-1. Weekly sampling of MW-1 commenced on August 10th and continued through September 15th. Samples from the weekly monitoring events of MW-1 were analyzed for sulfates by EPA Method 300.0 and pH by SM4500-H+B.



4.0 GEOLOGY AND HYDROGEOLOGY

The project setting is located in the western portion of the San Juan Basin southeast of Bloomfield, New Mexico in Unit A Section 13-Township 28 North-Range 10 West San Juan County, New Mexico.

The well site is located on the east bank of an alluvial arroyo in Munoz Canyon. The site is located on, and the wells are drilled into, the slightly easterly dipping Nacimiento Formation. The Nacimiento Formation is of upper Paleocene age and is composed of brown and grey sandstones with some greenish and grey shales.

5.0 APPROACH

5.1 Monthly and Quarterly Monitoring Events

SMA's technical approach for the monthly and quarterly monitoring events was to generally follow SMA's Standard Operating Procedure and United States Environmental Protection Agency (EPA) SW 486 for a defensible and repeatable sample collection methodology. SMA subcontracted HydroGeologic Services, Inc. (HGS), a well service company from Albuquerque, New Mexico, to provide well purging services. HGS is familiar with, and adheres to, environmental sampling procedures. The selected analytical laboratory, Hall Environmental Analysis Laboratory (HEAL) used EPA analytical procedures or equivalent methods. The three monitoring wells are each completed in different aquifer zones. MW-1 is screened from 105 to 135 feet below ground surface (bgs), MW-2 is screened from 227 to 267 feet bgs, and MW-3 is screened from 405 to 455 feet bgs. The purging and sampling protocols varied somewhat due to the different completion depths.

The well purging and sampling protocol consisted of:

1. HGS performed the purging work under SMA's guidance. HGS used three dedicated, decontaminated submersible electric pumps and dedicated PVC drop pipe for the purging work. The purging goal was a minimum of three well bore volumes from each monitoring well, or purging until the well pumped dry. When recharge rates were sufficient, the wells were purged until the field parameters of temperature, pH, and conductivity stabilized. Stabilization of field parameters was defined as at least three measurements within 5% over a 10 minute pumping period. The purged water was temporarily stored in a receiving tank for disposal. Completion of this standard well purging protocol gives reasonable certainty that samples are collected from formation water, not stagnant water in the well bore.



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- 2. Purge water was pumped into a temporary tank located on-site. After purging and sampling activities were completed, produced water was hauled off site for disposal at a permitted facility.
- 3. Groundwater samples were collected with a new, single use (disposable) bailer from MW-1. Samples from MW-2 and MW-3 were collected directly from the HGS pump system following purging. Splits of the collected samples were field checked for pH, temperature and conductivity and results were documented. Laboratory supplied clean glassware was used for sample collection. Sample bottles were labeled, preserved, and packed in ice for shipping under chain of custody procedures. The samples were shipped to HEAL for analysis.

5.2 Weekly Monitoring Events of MW-1

At the request of Enterprise, the sampling protocol for the six weekly monitoring events completed on MW-1 was less rigorous. The purging and sampling protocol for these events follows:

- 1. The monthly monitoring events established that MW-1 does not recover adequately to achieve the goal of purging three well bore volumes. The approach for MW-1, therefore, was to lower the water level to the pump level and then collect the sample for laboratory analysis after the well recharged.
- 2. A two inch diameter, submersible electric pump with high density polyethylene tubing was used by SMA field personnel. Prior to each event, the submersible pump and tubing was decontaminated with alconox detergent and triple rinsed. Pump tubing was exchanged after three weeks. The relatively small pump was adequate to purge MW-1 dry, assuring that formation water was sampled, not stagnant water in the well bore.
- Purge water was stored in a temporary tank located on-site. After purging and sampling activities were completed, produced water was hauled off site for disposal at a permitted facility.
- 4. Groundwater samples were collected directly from the pump tubing during the weekly events. Laboratory supplied clean glassware was used for sample collection. Sample bottles were labeled, preserved, and packed in ice for shipping under chain of custody procedures. The samples were shipped to HEAL for analysis.

6.0 GROUNDWATER MONITORING EVENTS

This section details the well purging and sampling work. Appendix A provides field notes for the work. Appendix B provides the purge water disposal records.



6.1 Monthly Groundwater Monitoring Events

6.1.1 First Monthly Monitoring Event

The first monthly monitoring event was conducted on March 24th and 25th, 2010.

MW-1: The total depth of MW-1 is 149 feet bgs. Static fluid level was measured as 51.11 feet. The calculated purging volume to achieve three well bore volumes was 155 gallons. The well was pumped from a depth of 123 feet bgs. MW-1 was pumped down and 45 gallons purged. The pump was shut down to allow the well to recharge. After 22 minutes, the pump was started again and only 5.5 additional gallons were removed before the water level dropped to pump depth. The well was shut in overnight and sampled the next morning with a new, single use bailer. The fluid level at that time was 110 feet bgs. The sample was submitted to HEAL for analysis.

MW-2: The total depth of MW-2 is 275 feet bgs. The initial static fluid level could not be measured as the well is under pressure due to the flowing artesian aquifer. The calculated purging volume to achieve three well bore volumes was 538 gallons given that the casing is full of water. Purging began with the pump set at 218 feet bgs. The well was pumped at 6 gallons/minute (gpm) for 124 gallons. The rate was reduced to 3 gpm for another 217 gallons, at which point the well pumped dry. MW-2 was pumped periodically over night for a total of 869 gallons purged. While purging, the effluent water was monitored for pH, temperature and conductivity. The parameters remained relatively stable; average pH was 7.0, average conductivity 11.5 and average temperature 17.0° C. The well was sampled and a duplicate sample was also collected at 1130 gallons total. The samples were submitted to HEAL for analysis.

MW-3: The total depth of MW-3 is 495 feet bgs. The initial static fluid level could not be measured as the well is under pressure due to the flowing artesian aquifer. The calculated purging volume to achieve three well bore volumes was 970 gallons given that the casing is full of water. The purging began with the submersible pump set at 405 feet bgs. The well was pumped initially at 5.3 gpm and increased to 16.8 gpm. While purging, the water was monitored for pH, temperature and conductivity. The parameters remained relatively stable throughout: average pH was 7.3, average conductivity 10.3 and average temperature 17.0° C. A total of 1021 gallons were pumped. The sample was collected directly from the HGS pumping system. The sample was submitted to HEAL for analysis.

6.1.2 Second Monthly Monitoring Event

The second monthly monitoring event was conducted on April 21st and 22nd, 2010.

MW-1: Static fluid level was measured at 44.33 feet bgs. The calculated purging volume to achieve three well bore volumes was 168 gallons. The well was pumped



from a depth of 120 feet bgs, removing 49 gallons of water, lowering the water level to pump depth. The pump was shut down overnight to allow the well to recharge. The well was shut in and sampled the next morning using a new, single use bailer. The water level at the time of sampling was measured at 107.58 feet bgs. Although three well bore volumes of water were not purged, the water level had been lowered to the pump level, causing formation water to enter and thus, assuring that formation water was sampled. The sample was submitted to HEAL for analysis.

MW-2: The initial static fluid level could not be measured as the well is under pressure due to the flowing artesian aquifer. The calculated purging volume to achieve three well bore volumes was 538 gallons given that the casing is full of water. Purging began with the pump at 200 feet bgs. The well was pumped periodically for three hours with a total purge volume of 223 gallons. While purging, the water was monitored for pH, temperature and conductivity. The parameters remained relatively stable; average pH was 6.92, average conductivity 10.67 and average temperature 16.5° C. Although three well bore volumes of water were not purged, the stable field parameters indicate that adequate purging was completed. The sample was submitted to HEAL for analysis.

MW-3: Water was under pressure at 32 psi at the surface of the well. The initial static fluid level could not be measured as the well is under pressure due to the flowing artesian aquifer. The calculated purging volume to achieve three well bore volumes was 980 gallons given that the casing is full of water. The purging began with the pump set at 405 feet bgs. The well was pumped for 2.5 hours. A total of 1008 gallons were pumped. While purging, the water was monitored for pH, temperature and conductivity. The parameters remained stable throughout the purging: average pH was 7.9, average conductivity 9.8 and average temperature 19.0° C. The well was sampled and a duplicate sample was also collected. The samples were submitted to HEAL for analysis.

6.1.3 Third Monthly Monitoring Event

The third monthly monitoring event was conducted on May 27th and 28th, 2010.

MW-1: Static fluid level was measured as 81.67 feet bgs. The calculated purging volume to achieve three well bore volumes was 133 gallons. The well was pumped from a depth of 143 feet bgs, removing 49 gallons of purge water. The pump was shut down to allow the well to recharge overnight. The next morning, the pump was restarted and only purged an additional 5.0 gallons for a total purge volume of 54 gallons. The well was shut in overnight and sampled the next morning using a new, single use bailer. The fluid level at that time was at 127 feet bgs. Although three well bore volumes of water were not purged, the water level had been lowered to the pump level, causing formation water to enter, and thus assuring that formation water was sampled. During purging, the parameters remained stable; average pH was 9.49, average conductivity 8.98, and average temperature 19.4° C. The sample was submitted to HEAL for analysis.



MW-2: Water pressure was 19 psi at the well head. The initial static fluid level thus could not be measured. The calculated purging volume to achieve three well bore volumes was 538 gallons given that the casing is full of water. Purging began with the pump set at 265 feet bgs. The well was pumped at 3 gpm for 156 gallons. Then, an additional 83 gallons were pumped, at which point the well pumped dry. While purging, the water was monitored for pH, temperature and conductivity. The parameters remained relatively stable; average pH was 6.86, average conductivity 10.5 and average temperature 19.1° C. Although three well bore volumes of water were not purged, the stable field parameters indicate that adequate purging was completed. The well was sampled and a duplicate sample was also collected. The samples were submitted to HEAL for analysis.

MW-3: Water pressure was 37 psi at the well head. The initial static fluid level thus could not be measured. The calculated purging volume to achieve three well bore volumes was 980 gallons given that the casing is full of water. The purging began with the pump at 406 feet bgs. The well pumping rate averaged 6 gpm. A total of 916 gallons were pumped. While purging, the water was monitored for pH, temperature and conductivity. The parameters remained relatively stable throughout the purging; average pH was 7.56, average conductivity 9.86 and average temperature 20.8° C. The sample was submitted to HEAL for analysis.

6.2 Weekly Groundwater Monitoring Events for MW-1

As noted, monthly monitoring events indicated that MW-1 had a high, alkaline pH. A weekly sampling schedule was established to determine if increased development through pumping would result in a lowered, more neutral pH. This weekly sampling schedule commenced on August 10, 2010.

6.2.1 First Weekly Event

On August 10th, the initial water level depth was 18.95 feet bgs. The well was purged to a level of 142.50 feet in just over one hour. The well was allowed to recharge for about 40 minutes, with the water level recovering to 137.9 feet bgs. The well was shut in and allowed to recharge overnight. On August 11th the water level was 129.10 feet. The groundwater sample for laboratory analysis was collected at this time. The field pH measurement was 9.14.

6.2.2 Second Weekly Event

On August 17th, the initial water depth was 107.30 feet bgs. The well was purged to a depth of 138.90 feet in just over one hour. The well was allowed to recharge and pumped down to 141.30 feet. The field pH measurement was 8.08.



On August 18th, the water level was 133.81 feet. The well was purged to 141.4 feet. The groundwater sample for laboratory analysis was collected at this time. The field pH measurement was 8.47.

6.2.3 Third Weekly Event

On August 25th, the initial water depth was 110.58 feet bgs. The well was purged to a depth of 135.0 feet and allowed to recover to 139.30 feet. The groundwater sample for laboratory analysis was collected at this time. Field pH measurements ranged from 7.54 to 7.91 with an average of 7.7.

6.2.4 Fourth Weekly Event

On August 31th, the initial water depth was 117.20 feet bgs. The well was purged to a depth of 140.0 feet. The groundwater sample for laboratory analysis was collected at this time. Field pH ranged from 7.90 to 8.36 with an average pH of 8.2.

6.2.5 Fifth Weekly Event

On September 9th, the initial water depth was 109.82 feet bgs. The well was purged to a depth of 123.9 feet. The groundwater sample for laboratory analysis was collected at this time. Field pH ranged from 7.97 to 8.36 with an average of 8.14.

6.2.6 Sixth Weekly Event

On September 15th, the initial water depth was 104.90 feet bgs. The well was purged to a depth of 130.0 feet. Field pH ranged from 7.94 to 8.23 with an average of 8.14. The groundwater sample for laboratory analysis was collected at this time.

6.3 Quarterly Groundwater Monitoring Event

6.3.1 First Quarterly Monitoring Event

The first quarterly sampling event was completed on August 30 and 31. Field notes in the form of Well Purge Records for each well are attached in the Appendix A.

MW-1: Static fluid level was measured at 117.20 feet. bgs. The calculated purging volume to achieve three well bore volumes was 63 gallons. The well was pumped on August 31 from a depth of 140 ft. bgs. MW-1 was pumped down below the screened interval after removal of 29 gallons. Although three well bore volumes of water were not purged, the well had been pumped to below pump level, assuring that formation water was sampled. The pump was shut down and the well was allowed to recharge for 7.5 hours. In late afternoon the water level was measured at 135 feet. bgs. The sample was collected at 1650 hours, and submitted to HEAL for analysis.



MW-2: Water pressure was 19 psi at the well head. The initial static fluid level thus could not be measured. The calculated purging volume to achieve three well bore volumes was 538 gallons given that the casing is full of water. The pumping began with the pump set at 260 ft. bgs. The well was pumped for three hours at a rate of 4.6 gpm. The total volume purged was 453 gallons, less than the three well bore volumes. However, field parameters were stable with an average pH of 6.7, average conductivity of 11.17 and average temperature of 18.5° C. The well was sampled, and the sample was submitted to HEAL of analysis. A duplicate sample was also collected and submitted as a blind duplicate.

MW-3: Water pressure was 38 psi at the well head. The initial static fluid level thus could not be measured. The calculated purging volume to achieve three well bore volumes was 980 gallons given that the casing is full of water. Pumping began with the pump set at 405 ft bgs. The well was pumped for 4 hours and 50 minutes with a total purge volume of 1778 gallons. While purging, the water was monitored for pH, temperature and conductivity. The parameters remained relatively stable with an average pH of 7.5, average conductivity of 10.29 and average temperature of 19.3° C. The sample was collected, submitted to HEAL for analysis.

6.3.2 Second Quarterly Monitoring Event

This section details the well purging and sampling work conducted on November 30 and December 1, 2010. Field notes for the work are located in Appendix A. Appendix B provides the purge water disposal records.

MW-1: The total depth of MW-1 is 149 feet bgs. The static fluid level was measured as 21.29 feet bgs. The calculated volume to achieve purging of three well bore volumes was 233 gallons. The well was pumped from a depth of 140 feet bgs. Past sampling history shows that the recharge rate of this well is extremely slow. The well was pumped for 20 minutes at 3.85 gpm, purging 77 gallons. The well was pumped to below pump level assuring that formation water was sampled. The sample was collected directly from the HGS pumping system and submitted to HEAL for analysis.

MW-2: The total depth of MW-2 is 275 feet bgs. The initial static fluid level could not be measured as the well is under pressure due to the flowing artesian aquifer. The calculated purging volume to achieve three well bore volumes was 538 gallons with the casing full of water. Purging began with the pump set at 265 feet bgs and the well was pumped at 7.7 gpm for 180 gallons. The rate was reduced to an average of 5.6 gpm for another 300 gallons, pumping the well dry. The well was allowed to recharge overnight, pumping periodically to prevent an overflow. A total of 643 gallons were purged. The purged effluent water was monitored for pH, temperature and conductivity. The parameters remained relatively stable with an average pH of 7.08, average conductivity



of 11.39 and average temperature of 15.7° C. The sample was collected directly from the HGS pumping system and submitted to HEAL for analysis.

MW-3: The total depth of MW-3 is 495 feet bgs. The initial static fluid level could not be measured as this well is also under artesian pressure. The calculated purging volume to achieve three well bore volumes was 980 gallons with the casing full of water. Purging began with the submersible pump set at 405 feet bgs. The well was pumped initially at 8.2 gpm and thereafter at an average of 6.7 gpm. The purged water was monitored for pH, temperature and conductivity.

The parameters remained relatively stable throughout the purging event with an average pH of 8.0, average conductivity of 10.32 and an average temperature of 16.9° C. The well was sampled after 1,005 gallons were purged. A duplicate sample was collected at 1,105 total gallons purged. The samples were collected directly from the HGS pumping system and submitted to HEAL for analysis.

7.0 GROUNDWATER FIELD AND LABORATORY ANALYTICAL RESULTS

Field and laboratory analytical results are summarized in Table 1. Laboratory analytical reports are provided in Appendix C.

8.0 DISCUSSION

MW-1: The analytical results in Table 1 show that pH exceeds the New Mexico Water Quality Control Commission (NMWQCC) standard for domestic water supplies of 6 to 9 pH units from March until August 11, 2010. Samples collected after August 11 consistently meet the standard. Figure 3 is a graph of pH values in MW-1 covering the weekly, monthly, and quarterly events. The linear trend of data illustrates a steady decline in pH from the high value of 10.66 in March to the most recent value of 7.1 in December. As pH is a logarithmic scale, the pH in MW-1 has dropped approximately 3 orders of magnitude over this 6 month period.

Sulfate and total dissolved solids (TDS) concentrations in MW-1 consistently exceed the NMWQCC standards of 600 milligrams/liter (mg/L) and 1000 mg/L, respectively. In the New Mexico Bureau of Mining and Mineral Resources (NMBMMR) *Hydrologic Report 6, 1983,* a study of the San Juan River showed elevated sulfate levels ranging from 860 mg/l approximately 3.5 miles from the CPS 1989 well site to a high of 6,700 mg/L, 12 miles downstream from the CPS 1989 site (See Appendix D). A review of the groundwater quality data collected from the Nacimiento Formation in NMBMMR *Hydrologic Report 6* states specific conductance in the Nacimiento Formation along the San Juan River commonly exceeds 4,000 umhos. John D. Hem, *USGS Water Supply Paper 2254*, 1985, reports a close relationship between conductance and TDS. For example a conductance value of 4000 umhos equates to TDS of 2500 mg/L. This



indicates that groundwater from the Nacimiento Formation, where MW-1 is completed, commonly exhibits high TDS values.

The drainage of Munoz Canyon contains fine grained siltstone often approaching badlands in some areas. The siltstone is the source of the fine sediments moving down Munoz Wash. Such sediments may be the source for elevated sulfates in shallow groundwater and surface water in the badland areas of the Western United States (Hem, 1985). Precipitation tends to leach sulfates from the badlands-derived sediments into the surface and subsurface flow. As these flows near the San Juan River, they impact aquifers such as those encountered in the CPS 1989 monitoring wells, contributing to the elevated sulfate readings.

Chloride concentrations in MW-1 exceeded the NMWQCC standard of 250 mg/L in March and April, 2010. The chloride concentrations have dropped in each of the three monitoring events it has been analyzed. The most recent chloride concentration in December, 2010 is below the NMWQCC standard.

MW-2: The analytical results in Table 1 show that pH consistently meets the New Mexico Water Quality Control Commission (NMWQCC) standard for domestic water supplies of 6 to 9 pH units for the monitoring period from March to December, 2010. Figure 4 is a graph of pH values in MW-2 and MW-3 which illustrates the stable, neutral values ranging from 7.12 to 7.75.

Sulfate and total dissolved solids (TDS) concentrations in MW-2 consistently exceed the NMWQCC standards of 600 mg/L and 1000 mg/L, respectively. As noted in the discussion for MW-1, the elevated sulfate and TDS concentrations are likely characteristic of natural waters in the area.

Iron concentrations in MW-2 consistently exceed the NMWQCC standard of 1 mg/L. This result is apparently unique to the aquifer zone intersected by the screened interval of MW-2 as MW-1 and MW-3 have below standard concentrations of iron. Further, the casing material of all monitoring wells is PVC, so there is no source of iron introduced by the wells themselves. However the iron concentrations during the December, 2010 sampling event were below laboratory detection limits.

MW-3: The analytical results in Table 1 show that pH consistently meets the NMWQCC standard for domestic water supplies of 6 to 9 pH units for the monitoring period from March to August, 2010. Figure 4 is a graph of pH values in MW-2 and MW-3 which illustrates the stable, neutral values ranging from 7.26 to 7.83.

Sulfate and TDS concentrations in MW-3 consistently exceed the NMWQCC standards of 600 mg/L and 1000 mg/L, respectively. As noted in the discussion for MW-1, the sulfate and TDS concentrations are likely characteristic of natural waters in the area.



The sulfate and TDS concentrations from all three monitoring wells are within the same order of magnitude despite the fact that the three wells are completed in different aquifer zones, from near surface to approximately 500 feet bgs. This further indicates that natural waters in the region have similarly high sulfate and TDS concentrations and that the elevated concentrations observed here are naturally occurring.

9.0 REFERENCES

NMBMMR Hydrologic Report 6, 1983, Hydrogeology and Water Resources of San Juan Basin, New Mexico.

Hem, J.D., 1985, USGS Water Supply Paper 2254; page 67, pages 116-117.

10.0 CONCLUSIONS

SMA has made the following conclusions based on the results of the monitoring events at the CPS 1989 well site:

- 1. The pH values in all monitoring wells meet the NMWQCC Standards for domestic water supplies.
- 2. Site specific and regional hydrogeologic observations indicate that elevated sulfate and TDS concentrations in groundwater are naturally occurring.
- 3. The low pH condition initially found in the CPS 1989 Cathodic Well is not present in MW-1, MW-2, or MW-3.

11.0 RECOMMENDATIONS

SMA recommends future work for the site, in substantial accordance with the following New Mexico Administrative Code provisions:

19.15.25.8 NMAC	WELLS TO BE PROPERLY ABANDONED
19.15.25.9 NMAC	NOTICE OF PLUGGING
19.15.25.10 NMAC	PLUGGING
19.15.25.11 NMAC	REPORTS FOR PLUGGING AND ABANDONMENT

As MW-1, MW-2, and MW-3 are not water production wells with associated water rights, the State Engineer is peripherally involved, i.e. notification. Primary lead regulatory jurisdiction is with the NMOCD. Therefore, the following activities are recommended to properly plug and abandon the monitoring wells associated with the former CPS-1989 Cathodic Well.

1. Notification of Enterprise Planner for preparation of a job plan as well as other Enterprise internal notification; notification of Enterprise Sr. Land Representative;



- 2. Notification of both NMOCD Field Office and Santa Fe as well as the Office of the State Engineer and the BLM Farmington Field Office by filing a Form C-103;
- 3. Set up traffic control and mob crew in to remove wellhead(s);
- 4. Using a small pumping rig from HGS or Envirodrill with a long tremie pipe, place a bentonite-rich cement or grout in the monitoring wells under pressure, starting from the bottom up:
- 5. When a level approximately 6 feet bgs is reached, cut off the well casing and backfill and bucket compact the excavation;
- 6. Perform the same operation for each monitoring well;
- 7. Re-contour the surface and reseed if required by the surface owner
- 8. Notify NMOCD, BLM, and the State Engineer's Office of completion of the Plugging and Abandonment operations by filing a Form C-105 with the NMOCD and a letter of notification to the State Engineer and the BLM.

Prepared By:

Dave Diss

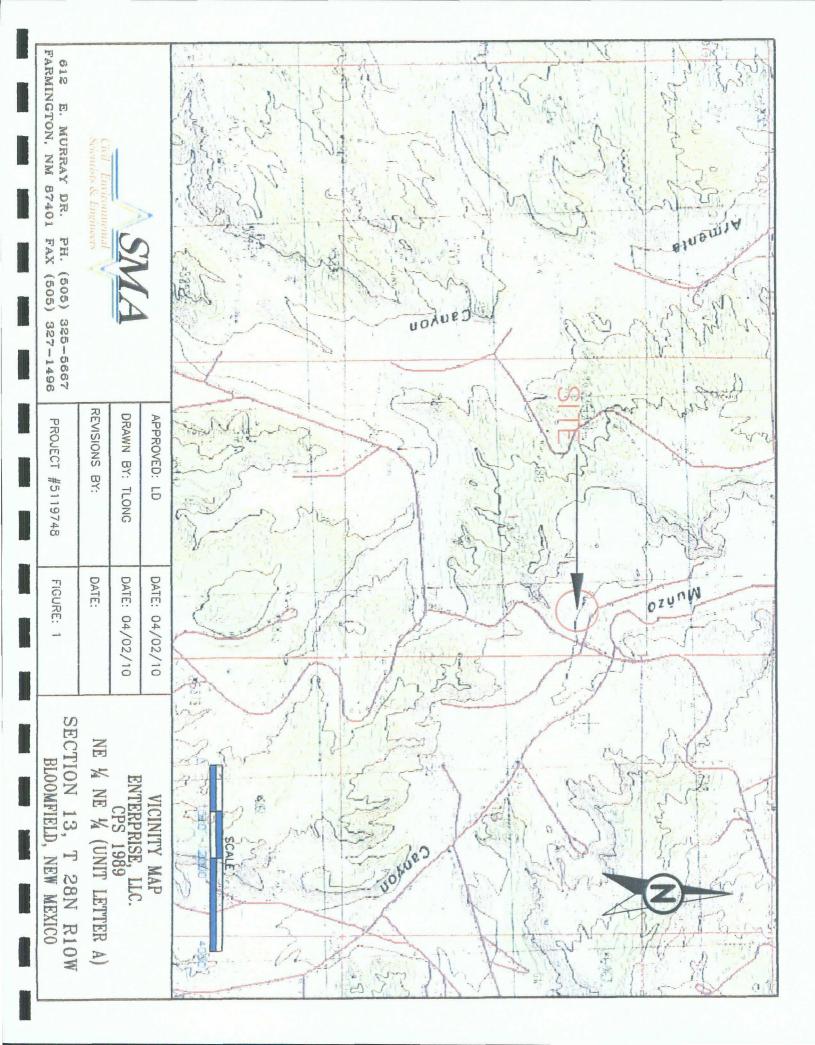
Project Scientist

Reviewed By:

Reid S. Allan, P.G. Principal Scientist

__^<u>SMA</u>

FIGURES



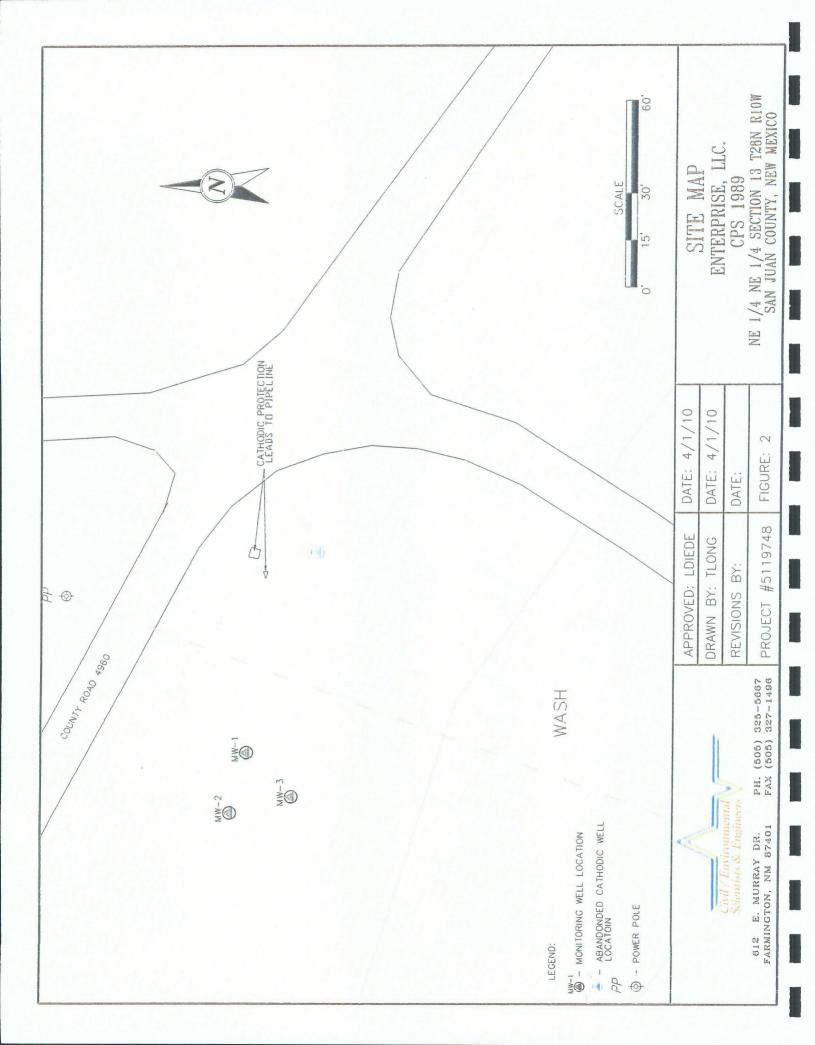


Figure-3 Plot of MW-1 pH vs. Time

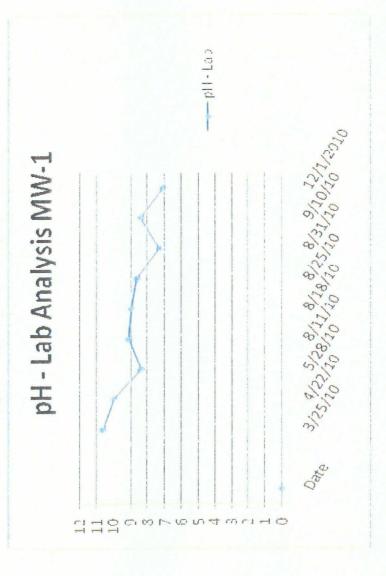
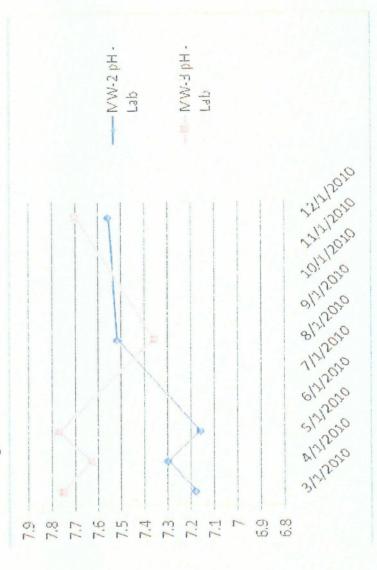


Figure-4 Plot of MW-2 and MW-3 pH vs. Time



TABLE

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Groundwater Analytical Results Enterprise CPS-1989 Monitoring Well Data San Juan County, New Mexico MW-3 Table 1

Total Depth (ft) 495

TOC Elevation (ft) = 5682.13

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表

Section 2

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		Comments						***************************************						Received 6/11/10					
muiboé	 	mg/L	9/4	Ì	4636	e/a	ng P	2600	2400	2400	E/C	2/3	2700	2800	2900	n/a	2320		+
muissedo	,	mg/L			6	8/4	2/8	49	6	6	8/2	2	8.5	13	2	B/E	8.95	T	T
muisəngsN		mg/L		l	170	6,5	e/2	=	15	15	1/9	8/2	46	39	39	B/2	14.3	Ī	
muioleS		mg/L			361	6/2	n/a	350	350	360	e/c	n/a	360	310	310	e/u	356		
ບ໙		mg/L	٠		٥	e/u	a/a	0.43	0.42	0.43	e/u	n/a	0.18	25	27	e/u	0.45		
Wetals			L	L	L	L	L		L	L		L		L		L	L	L	
de.J - Hq		pH units	6.5-8.5		7.3	n/a	n/a	7.75	7.63	7.83	7.63	n/a	n/a	7.77	7.26	7.36	7.70		
blei∃ - Hq		pH units			n/a	7.4,7.2,7.3	7.6,7.5	n/a	7.9,7.8	7.7.7.9	e/u	7.83	e/u	n/a	r/3	n/a	7.8,8.1,8.0		
Hardness CaCO3		mg/l			1602	e/u	e/u	930	940	970	n/a	e/u	e/u	n/a	n/a	n/a	949		
Specific Gravity					۲.	n/a	e/u	1.0	1.0	1.0	e/u	e/u	1.0	1.0	1.0	e/u	1.0		
ebilo8 bavloasiO latoT		mg/l			16270	e/u	n/a	9410	9020	0906	9020	9060	9460	9410	9330	e/u	10500		
Specific Conductance	nmhos	æ			n/a	n/a	n/a	16000	12000	12000	12000	12000	16000	17000	17000	e/u	8100		
Parameters	L		Ц	L		Ц								Ц				Ш	L
elsnothsoiß	_	mg/L			232	e/u	n/a	720	58	59	n/a	n/a	61	710	720	n/a	63		
Hydroxide		ug,			240	n/a	۾ م	밁	Q	S	n/a	n/a	2	Ş	일	n/a	Q		
ejsnochsO		mg/L			240	u/a	e/c	Ð	Ω N	Q	n/a	n/a	ΩN	Q N	2	n/a	Q		
Alkalnity CaCO3		mg/L			n/a	a/a	Ş	720	28	59	ي/a	۳ <u>/</u>	9	710	720	n/a	63		
Alkalinity		_				_	_	_	_	_		_		Ц					
əjejing	L.—-		0.0035		5 \$ \$	n/a	₂	88	7200	9600	7200	999	200	9800	919	n/a	9200		
Chloride		mg/L	250		22	E/u	E S	=	2	~	e/u	e/u	2	5	6	g Z	22		
anoinA		_	_[_	1	1	_	\perp	1	_	┙	_]	\perp					
	4	Date	MCL		2/23/2010	3/24/2010	3/24/2010	3/25/2010	4/21/2010	4/21/2010	4/22/2010	4/22/2010	5/27/2010	5/28/2010	5/28/20108	8/31/2010	11/30/10		

Note: Bold indicates result exceeds standard n/a = not analyzed n/e = not established

Groundwater Analytical Results
Enterprise CPS-1989 Monitoring Well Data
San Juan County, New Mexico
MW-2 Table 1

Total Depth (ft) 275

TOC Elevation (ft) = 5682.13

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	Commonie	Silvania								Received 6/11/10				
muiboé	E		2800	2800	2600	6/0	2600	2/2	2800	2900	n/a	2150		
muisssto	1 -	9/0	61	19	7.9	2/3	F	200	13	23	ر 1/8	53		
muisəngsN			45	45	4	n/a	44	2/2	39	89	e/u	7.07		
Calcium	E		320	320	350	e/u	320	6/2	3.10	310	م/a	63.7		L
uoı	È	2	8	g	0.43	n/a	8	e/u	25	27	⊵/u	ş		L
Metals	 	15	L	L	L	┞	-	┝	L	L	L	_	-	H
ds.J - Hq	oH units	6.5-8.5	7.18	7.18	7.75	n/a	7.3	n/a	7.16	7.28	7.52	7.12		
blei7 - Hq	pH units	6.5-8.5	7.1 & 6.81	n/a	e/u	7.6,7.2,7.8	7.05	6.8,6.9,6.9	e/u	n/a	n/a	6.9,7.0,7.1		
Hardness CaCO3	-		1000	1000	930	n/a	066	n/a	320	e/u	e/u	812		
Specific Gravity		Ī	0.	0.	0	n/a	1.0	a/a	9	٦.0	n/a	1.0		
sbilo& bevlossiQ ls9oT	ľøm		9410	9410	8820	n/a	9740	n/a	g 5	9330	n/a	10100		
Specific Conductance	umhos/ cm		9300	9300	8500	n/a	13000	n/a	17000	17000	n/a	8800		
Parameters	اے	L				_								L
Bicarbonate	L mg/L	_	088	088	28	n/a	1 780	n/a	710	720	n/a	099		
Нудгохіде	- mg/l	_	QN	QN		e/u	ON	e/u	QN —	QN	n/a	Q		
Carbonate	- mg/L		QN	QN	S	n/a	QN	n/a	Н	Q	n/a	S		_
Alkalinity CaCO3	mg/L		880	880	58	n/a	780	n/a	710	720	n/a	99	Ц	
Alkalinity		H	H					Н	\vdash	4	4		4	_
Sulfate	mg/L	250	7000	7000	9	n/a	7300	n/a	0099	6100	2 ,	69		
Chloride	mg/L	250	22	22	12	e/u	19	n/a	19	19	n/a	-		
enoinA		Ц				4	_	4			4	1	4	Ц
	Date	MCL	3/24/2010	3/25/2010	3/25/2010 D	4/21/2010	4/22/2010	5/27/2010	5/28/2010	5/28/2010 D	8/31/2010	12/1/2010		

Note: Bold indicates result exceeds standard n/a = not analyzed n/e = not established D = Duplicate

Groundwater Analytical Results
Enterprise CPS-1989 Monitoring Well
San Juan County, New Mexico
NW-1

TOC Elevation (ft) 5682.14

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Well Depth (ft) 150

														_	_	_
		Comments		Insufficient purging to test	Possible drilling mud influence		Possible drilling mud influence		Received 6/11/10							
wnipog	1	mg/L	n/e	e/c	1_	n/a	-		2400	8/0	5/3	n/a	5/2	n/a	2150	Γ
muissato		mg/L	n/e	ت/ <u>ح</u>	380	8/c	170	n/a	66	n/a	e/u	n/a	e/u	z/a	53	
mulsəngsiv	1	mg/L	n/e	ē,	1.5	e/u	1.2	e/c	2.5	n/a	n/a	n/a	e/u	e/u	7.07	
Calcium		mg/L	9/2	م/a	130	e/u	87	e/2	6	6/2	e/u	6/2	e/c	e/u	63.7	
ron	1	mg/L		n/a	0.23	e/u	0.04	e/u	6.0	n/a	n/a	n/a	e/u	n/a	QN	
Netals	Γ		Г		Γ	П				Γ	Γ	Г				Γ
ds.J - Ho	표	units	6.5-8.5	n/a	10.66	n/a	10.02		8.44	9.14	8.99	8.7	7.33	8.47	7.1	
bleid - Ho	Ha	units			L	9.66		9.42	9.56	m/a	n/a	n/a	n/a	n/a	e/u	
Hardness CaCO3	[mg/l		n/a	320	n/a	220	n/a		e/u	n/a	n/a	n/a	n/a	188	
Specific Gravity				n/a	1.0	n/a	1.0	e/u	1.0	n/a	n/a	n/a	e/u	n/a	1.0	
Total Dissolved Solids		mg/l		e/u	7860	e/u	7670	e/u	7490	e/u	e/u	e/u	e/u	n/a	7450	
Specific Conductance	(soyun	æ		e/u	8600	n/a	11000	n/a	14000	n/a	n/a	n/a	n/a	n/a	8800	
Parameters																
Bicarbonate		mg/L		n/a	ND	n/a	QN	n/a	69	n/a	n/a	n/a	n/a	n/a	670	
Hydroxide		μ J		e/u	31	n/a	Q	n/a	Q	n/a	n/a	n/a	n/a	n/a	n/a	
StenocheD		mg/L		n/a	73	n/a	75	n/a	2.1	n/a	n/a	n/a	n/a	n/a	ت/a	
Alkalinity CaCO3		mg/L		n/a	1 6	n/a	82	g/a	7	n/a	n/a	n/a	n/a	n/a	670	
Alkalinity	<u> </u>	┙														
Sulfate		_	250	n/a	4200	n/a	4700	n/a	5200	n/a	n/a	n/a	n/a	n/a	5100	
Shloride		m P	250	n/a	- 6 6	2	550	<u>1/3</u>	22	Z B	g/a	۳/a	n/a	e/u	120	
anoinA								J					J		J	_
	í	Date	MCL	3/24/2010	3/25/2010	4/21/2010	4/22/2010	5/27/2010	5/28/2010	8/11/2010	8/18/2010	8/25/2010	8/31/2010	9/10/2010	12/1/2010	

Note: Bold indicates result exceeds standard n/a = not analyzed n/e = not established

Groundwater Analytical Results Enterprise CPS-1989 Monitoring Well San Juan County, New Mexico DUPLICATE Table 1

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Well Depth (ft) N/A

TOC Elevation (ft) N/A

elqms& AQ\QQ bnil8	Comments						
muibos	12	je je	2900	2400	2320	2320	T
muissato	mg/L	n/e	80	66	8.89	8.89	
muisəngsM	mg/L	n/e	47	2.5	14.3	14.3	
muioleC	اليا	ŧ	330	2	355	355	
non	mg/L	2	35	0.1	0.45	8.89	
Netals				l			
dsJ - Hq	pH units	6.5-8.5	10.65	8.44	7.56	7.56	
bleid - Hq				n/a	n/a	7.8,8,8	
Hardness CaCO3	l/gm		1000	n/a	n/a	946	
Specific Gravity			0.	0.1	n/a	1.0	
Total Dissolved Solids	l/gm		7860	7490	e/c	9050	
Specific Conductance	mp/soquin		9600	14000	e/u	930	
Parameters				Г	Γ.		
Bicarbonate	mg/L		870	69	n/a	370	
Hydroxide	=		Q	Q	e/u	QN	
Carbonate	mg/L		2	2.1	n/a	QN	
Alkalinity CaCO3	mg/L	L	870	7.1	e/u	370	
Alkalinity		Щ	L		Ш	Ш	L
Sulfate	mg/L	250	0099	5200	n/a	7000	
Chloride	mg/L	250	21	220	n/a	12	
anoinA							
	Date	MCL	3/25/2010	5/28/2010	8/31/2010	11/30/2010	

Note: Bold indicates result exceeds standard n/a = not analyzed n/e = not established

APPENDIX A
FIELD NOTES

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w	ELL PURGE RECORD
JOB NAME: CPS 1989	DATE: 3-24-10 TIME:
	Sampled @ 0915 3/25/10
JOB #:	SMA Representative: Thoma
MONITORING WELL: SAMPLING METHOD: USEPA SW84 FIELD CONDITIONS: Coo	
DECONTAMINATION METHOD: WASH, TRIPLE DI WATER RINSE	SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX 1
Total Depth of well: 130 Depth to water before purging	feet 51, // feet

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Height of Water Column in Feet	Diameter			Minimum Purge Volumes	Volume to Purge in Gallons
0.00	2-inch	4-inch	SIC.	3	
78.89	0.163	0.653	0 1.3		154.5

			PEGIFICAL Professional Arthur				
	A 1 A						
-	IVA						
	Wa	al R	rged Dr	And	01	Not	
	· K	eceve	CEOOLS		Cont		
			4. A To				
-		J	me loss,	_	· ·	4	
		0014 C	inpling.	wiged	Prior		
		ب	, , , , , , , , , , , , , , , , , , ,		:	,	
			·				

WI	ELL PURGE RECORD
JOB NAME: CB 1989	DATE: 3/24/10 TIME:
	Sampled e 1045 on 3/25/10
JOB #:	SM Representative: T. Long
MONITORING WELL: SAMPLING METHOD: USEPA SW846 FIELD CONDITIONS: Clow / We	
DECONTAMINATION METHOD: WASH, TRIPLE DI WATER RINSE	SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX
Total Depth of well: 275 Depth to water before purging 5	feet 20 psi on pressure quage

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Height of Water Column in Feet		PVC neter	1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons
000	2-inch	4-inch	179 -	3	
413	0.163	0.653	119,5		

		ACTURATE SPIRESU		e eplengeveys				E MAESUS E
Start	51540	1 200 gal	7.14	11.90	17.0			
		300 gal	6.31	11.57	17.0			
		2870901	7.15	11.06	17.4			
j.	Managharita	300	ing a second of the second of	raine and the state of the stat			Latent Hinkel	
1								COLOR CONTROL DE
End	511	10 (tota	liver w	esternation)				
		Pura	e 24	' water	Columa	(15	6 gallons) '
		, ,						
	To	Hal 991	lons pu	rge 2	369 99	10n 4.	8 well 1	olumes
		<i>,</i>	•	(

WELL PURGE RECORD								
JOB NAME: CP 1989	DATE:	3-25-10	TIME: 1705					
	_							
JOB #:	SMA_F	Representative: L	· Oiede / 7. Long					
MONITORING WELL: 3 SAMPLING METHOD: USEPA SWITTED CONDITIONS: Clow								
DECONTAMINATION METHOD: WASH, TRIPLE DI WATER RINSE	SINGLE	USE BAILER, FIELD E	EQUIPMENT: ALCANOX 1					
Total Depth of well: 500 Depth to water before purgin	feet g Sufferet	ieet 35 ps. on	prossure quasa:					

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Height of Water Column in Feet	Well PVC Diameter		1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
	2-inch	4-inch	326.5	3	C-7.0	
500	0.163	0.653	206.3		915,5	

N. II.	ras in invier Edecement Edece						
	Pur	p Se-	e 405'				
Start	6031	e	6.3 gal/n	in c	1:53		
		ာတု	value	1 .	1/00		
		The state of the s	7	6.79			6 (200) 1 (4) 0 (200) 2 (4)
				1	ga//min		
	60610	7.36	10.10	30,4	<u> </u>		
	60700	7.23	10.54.	18.0			
	60780	728	10.43	17.6			
	61120	7.57	10.27	16.9			
	61232	7.54	10.32	16.8			
			Total =	1021 90	llons Pu	rged	

· p					
	•	W	VELL PURGE RECO	ORD	
JOB NAME:	P5 198	7	DATE: 5-2	1-10	TIME:
JOB#:			多州点 Represer	ntative: 5) (
SAMPL	ORING WELLING METHO	DD: USEPA SW8	46		
		ON METHOD: WATER RINSE	SINGLE USE B	AILER, FIELD EQUIP	MENT: ALCANOX
	Depth of v	vell: 与/) before purging	feet 181.67 feet	Pump (2143
Height of Water	Column	Well PVC	1 Volume in	Minimum Purge	Volume to Purge in

1

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Height of Water Column in Feet	Well PVC Diameter	Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
1000	2-inch 4-inch	1 \ / / /	3		
(P8-23 T	0/163 0.653	44.6		and the second s	

i in il	PAYOLUME PUBSED		reformenteller			a full enginery	COMMENTS
1125	meters	ها ه	389A		2. Signatura (1.		
1138	Stop o	work	-W-0 48	2		inanama (. 7 	2 m. 1 m.
	' '	meter	e 6343	7			
14 64	1.11.12	19,42	000	VO 11			
100	1 24DG	(/ T&L	0470	17.7		 	
L1/2	10,101	<u> </u>			<u></u>	1	
0837	WL:127	Samo	Ja				
0848	18431	9,56	9.06	194		· · · · · · · · · · · · · · · · · · ·	
7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	WL 132			- · · · · · · · · · · · · · · · · · · ·			3) * 3 5.5 20 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
			20 cm 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2				
						4 , 5 , 4 4 4	

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WELL PURGE RECORD								
JOB NAME: \$25 989	DATE: 50	7-10	TIME:					
JOB#:	SNA Represen	tative: SLC						
MONITORING WELL: OSEPA SW846 FIELD CONDITIONS: OSEPA SW846								
DECONTAMINATION METHOD:WASH, TRIPLE DI WATER RINSE	MACH TODE DI WATER DINICE							
Total Depth of well: 275 Depth to water before purgin	feet g feet	psi x	Pumpa 265 1981					
Height of Water Column in Feet Well PVC Diameter 2-inch 4-inch 0.163 0.653	1	Minimum Purge Volumes 3	Volume to Purge in Gallons					
O.163 0.653		Policopydae Piel	REJOURA PORMINESTES					
1315 Meter 0 14223	2 5 213		W. e punp,					
1517 1437 687 10.5			pump has					
meter move book who get flower		pump has been	off since last					
108 14463 689 10.2	9 19.1		pump off ofter grade					

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0830 14705 Dup

WELL PURGE RECORD									
JOB NAME: CPS 1989					5-2	7-10		TIME:	
JOB#:			3 2 2 2	5/k/#	Represen	tative: SL	f		
 	MONITORING SAMPLING N FIELD COND	IETHOD: Ū	3 ISEPA SW84	l 6			_		3 - 1
,	DECONTAMI WASH, TRIPI			SING	LE USE BA	ILER, FIELD I	EQUIP	MENT: A	LCANOX
	Total Depti Depth to w	h of well: ^l ater befo	195 re purging	<u>feet</u>	feet	pump pressure	Q4	Do'	
Height	of Water Colu		/ell PVC	1 Volume in Gallons		Minimum Purge Volumes		Volume to Purge in Gallons	
	195	2-inc 0.163	h 4-inch	3	23	3	,	1	
. UlouE	TYTY FUNCED		rsiregelisie Regnadulesi		0.101111			REHDDIVY	COMMENTS:
1053 1140	meter	0 117 186	022						
W45	173aL	7.81	9.76		19.8				
1319	117655 117881	7,45 WL 28	9,96		216				
400	118117	7.42	9.86		au.				West to Ale
1510	118911	Sam			<i>b</i> 11			· · · · · · · · · · · · · · · · · · ·	Sounde bottles
		incu c	P. Phone	asos	semble	-	+	A	1

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SUBJECT	PROJECT	PAGE	
CLIENT	DATE 5.27.1/1	BY	···
·	CHECKED	6Y	
Dêro Arrive on Sile		·	
MW1-81'8" = 81.67	meter star 1 vol =	4 0 62390 6284 102435	
my 375	meter start 1vol =	e 4,222 14,402 14,582 14,762	
mw3 TD 495 start - 117.02 Ivolume: 117.02 3 - 1176	3.56	14,762	
5/28			
muz water to top or	casing, turn pump	on 20810.	
0850- Call Robert to pick 140 bbl Fank, w'a ful	up took.		
-Call Key 7 ~ 70 bbls			t
	· · · · · · · · · · · · · · · · · · ·		•

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Ang 10, 2010 -Staupe Chiveluck Dave Diss 0955 1895 B Initial	124 pump sak = 377 H2	Majort 11, 2016 Optile Diss & Tom Long-	Sample.	- Semple Collected 11:00 an	1) day

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WELL PURGE RECORD							
JOB NAME: CPS - 1989	DATE: 8/3///0	TIME: 8257					
JOB#: 5/19748 FITE PASE	ቜ ≯ ር≱ Representative:	DAUG DISS					

MONITORING WELL: MW-/
SAMPLING METHOD: USEPA SW846

150-

FIELD CONDITIONS: HOTE DVY

DECONTAMINATION METHOD: SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

Total Depth of well: 150 feet Depth to water before purging 117, 2 feet

0.163

0.653

Height of Water Column in Feet

Well PVC 1 Volume in Minimum Purge Volume to Purge in Gallons

Volumes Gallons

2-inch 4-inch 3

98.0

UBAL A	(SVOJEDIME) BEDDAS EDDA	0.510.55					croyavasatis et
8:57	IniTial	8.26	9.94	18.90			
9:05		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	10.23	16.5°c			
9:20	21gal	7,90	9.57	19.5€			Puned Dry
	- Wel	1 Rec	horging from	~ 09:2	CANTO	16:50	_
16:50		8.36	9.47	21.8			
14:50	- C	Oleca	ed Sompe	le -			
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		MW-2
w	ELL PURGE RECORD	
JOB NAME: CPS- 1989	DATE: 8/3///0	TIME: 0 8 ', 50
JOB #: 5/19748 EnTerprise	Sχά Representative:	DAUE DISS
MONITORING WELL: MJ-2 SAMPLING METHOD: USEPA SW84 FIELD CONDITIONS: 140T 0		Aunf at 260
DECONTAMINATION METHOD: WASH, TRIPLE DI WATER RINSE	SINGLE USE BAILER, FI	ELD EQUIPMENT: ALCANOX
Total Depth of well: 275	feet 12 4	. + will head

Height of Water Columning in Feet		Well PVC Diameter	1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
Indeter		2-inch 4-inch		3		
m ~8'50	275	0.163 0.653	179.5		538.7	

Tvi. Frof notes & 4,737	UIVE	yetim Pupcer		Projects delegate	erryk (1898) Starte		ecolegidoja Yez	ODVINE DI
16 134	9:25	161 gal	6.65	11.23 115	18.0c			
14,910	9:41	173501				P	infof all	Of Rochaging
	10:50			Started Pemp	book u	1.	/	Punpor-
1	11:10	239 gal	6.69	11.22 ms	17.8°C			
14,990		253gal						Pump off
15,070	12:45	3/4	6.79	11.28	18.5			
			6.76	11.22	18.6			
15,120	15:05		6.86	10.82	20.2			
	16:20		6,92	11.25	18.2		t c	
15,190	16:20	San	Pla	Collected	A244 H			the same to the same of the sa
			Augu	surage	14 verage	<u> </u>		
Aos -	->		4.7	11.17	18.5			
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	MW-3
W	ELL PURGE RECORD
JOB NAME: CP5- 1889	DATE: 8 / 31 //0 TIME: 07: 50
JOB#: 5119748 Enterprise	SAGA Representative: DAUR DISS
MONITORING WELL: MUNICIPAL SW84 FIELD CONDITIONS:	46 Pupp Sait at
DECONTAMINATION METHOD: WASH, TRIPLE DI WATER RINSE	SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX
Total Depth of well: 495 Depth to water before purging	feet O feet 38 psi at well hard

Height of Water Column in Feet	Well PVC Diameter		1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
1.00	2-inch	4-inch	-	3	0.40	
495	0.163	0.653	323		767	

0750145	TIME:			diversitation heavilla complexita	STRIVER AND ST		a (Ulagi)(D))(Va)	COMMITTEE
meter 0,050	07:50	Inital	***					
6.	00.5	NO	7.59	10.73 ms	18.6℃			6.09Pm 3.79Pm
	09:50	720	7:41	9,37 ms	19.58			5.79Pm
	10:50	1,060	7.49	10.46 ms	19.1			
	11:50	1,390	7.56	10.48ms	19.3	1 To 1 To 1		:
"	12:50	1,721	7.60	10.42	198			}
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8/31/10 0857 Tologon		08.05	12 / 12 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	0820 14 - 7.30		16:30 10:50 12.1	16:50 PH = 8.36	Man le lalle
15,076 333 gellons	22 ms Carlo-Sug		383 34 long	7.22 /20 /5 /20	70 tales-	25 453 Jollon	m ph-	Some as M10-2
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MW-1 **WELL PURGE RECORD** CPS- 1989 JOB NAME: CPS - 1989 DATE: 11/30 000 /2/1/10 TIME: 08:28 JOB#: 5/19748 EnterPrise 5/14 Representative: DAVE

MONITORING WELL: MW-/ SAMPLING METHOD: USEPA SW846 FIELD CONDITIONS: Cheer Culd

DECONTAMINATION METHOD: SINGLE USE BAÍLER, FIELD EQUIPMENT: ALCANOX

WASH, TRIPLE DI WATER RINSE

Total Depth of well: / 5 っ feet Depth to water before purging 2/3 2 feet

Height of Water Column in Feet	Well PV0 Diameter	1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
	2-inch 4-i	h	3		
119	0.163 0.6	77		よ33	

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2507	0935	5034		9.7 n	Call	estel	- 10	1420 f	or
			Be-	Charge					
			···						
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	7700							
WELL PURGE RECORD								
JOB NAME: CPS- 1989	DATE: 11/3000 12/1/10 TIME: 0920							
	Setten Penf							
JOB#: 5/1748 Enterprise	SMA Representative: DAVE DISS							

MONITORING WELL: MW-2 SAMPLING METHOD: USEPA SW846

FIELD CONDITIONS:___

SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX **DECONTAMINATION METHOD:**

WASH, TRIPLE DI WATER RINSE

Total Depth of well: 275 feet

feet -1/8 ps; at well head Depth to water before purging

Height of Water Column in Feet	Well PVC Diameter		1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
	2-inch	4-inch		3	_	
265	0.163	0.653	173		5/9	

restation.	w.J.							
alow								
90 105	50		6.90	11.59 ms	16.40			7.79fm
70 112	23	180gal	7.04	11.62 ms	15.60			5.5 9A
123	ر 3	180801	7.02	11.54 ms	14.82	· · · · · · · · · · · · · · · · · · ·		Q
20 12:	50	270	7.04	11.07 ms	14.0°C			6.25 9
140	06	<i>3</i> 0 0	7.05	11.35 ms	16.018			
新 14	20	360						4.39Pm
58 16	45	345	7.09	11.63 ms	15.100	,		
01 16.	52	411	7.04	11.34 ms	15.36			6.68Pm
75 171	09	480	7.04	11.34 ms	16.20	Not.	erwysh of	20 for Sa
		12/	1/10)			V	
3308	3/0	643	7.50	11.05 MS	16.18			
		-						

11100-2 PROJECT CIRES Singl PAGE / Of SUBJECT CP5-1989 DATE 1/30/10 BY DAS DLIENT ENTERPRISE mal - 2 Need to Purse 539 gal. pump set at 265 feat psi at well head 18 Frost Time 10: 50 Am Cond. 11,59 ms Temp: 15,400 End pumping 11: 23Am

70 talog = 92870

PH = 7.04 = 150 Sal. Purged in 33 mi = 5.5 5 pm. 3707 Panpag 12:30 pm = 92870 = 180 ge 0 PH = 77.02 Cond = 11 SU ms 700 - 14.80C Time = 12-38 704 cond 11.07 ms Toing= 16.000 Totalist = 92920 = 230 gal End penpay 12 50 pm Totalize = 92960 = 270 gal pangled 3 Tort pender 14:00 70 tolyer = 92990 = 300 Sel Time = 1406 pt 7.05 Cond : 11.35 Temp= 16.01°C End Jungung 1420 70 talyer = 93055. = 360 gal 570.7 TIME 1645 TOYAL 22 = 930 55 PH = 7.09 Cond = 11.63 Tump= 15,10c Time = 16.52 Totalize 931019 = 411 seller 1011 7.04 Cond = 11.34 Temps 15.3 °C 704al gr = 93170 = 480 End lately 4793175 Cond = 11.34 Tient = 16,200 50 ple Collecter 08 35 hrs

PROJECTICO TELLY Scryll S PAGE / ST SUBJECT CPS 1989 DATE 11/30/14/12/1/10 10/02 CHENT Ente Prise End Tane 11:23 Am 92870 572 + Tame 12:30 pm 92:570 = 90 gal/20 1min = 45,9 pm 8 And Time 12:50 pm 92:940 570 7 Jul 1406 92960 - 30 801

WELL PURGE RECORD

JOB NAME: CPS-1989

DATE: 11/30/10

TIME: 10:50

Setting Pump

JOB#: 51/9748 Enterprise Still Representative: DANE DISS

MONITORING WELL: MW-3
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: Clear - Cold & Windy

DECONTAMINATION METHOD: SINGLE USE BAILER, FIELD EQUIPMENT: ALCANOX WASH, TRIPLE DI WATER RINSE

Total Depth of well: 495 feet Pump Set at 405
Depth to water before purging O feet +38 Psi at Well head

Height of Water Column in Feet	Well PVC Diameter		1 Volume in Gallons	Minimum Purge Volumes	Volume to Purge in Gallons	
	2-inch	4-inch	_	3	793	
405	0.163	0.653	264		173	

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	Totaling		EVOLUME EURSER					
	17995			7.76	9.72 ms	16.38		8.20gpm
*	28250	12:52	260	8.07		16.9%		 7.2 gpm
	28440	1322	450	8.11	10.62 ms	17.4%		 6.8 gpm
Ţ	285%		600	8.01	10.40 ms	17.3°c		6.39pm
	28881	1428	8 20	8.02	10.44 MS	71.1°C		 6.19Pm
<i>6</i>	2895	1453	960	8.06	10.34 MS	16.80		 5,6 gpm
	2904		100 5	coll	est Souple	<u>. </u>		
50	29/00	1505	1,105	Daf	lute Son	26 Co	Ebolal	
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BUBJECT CPS - 1989	PROJECT GYRLY SMY	PAGE CT
CLIENT EnterPrise	DATE ///30 // O	BY 10. De-20
MW-3	CHECKED	BY
purp Set at 405 feet Introp Total er 27990 800	Need to Pursa ivell havel ,	25/- 38
Start Time 12:16 PH = 7.74 cond = 9. Time = 12:52 Titalizer 28 250 = 260 gal Flow Roll PH = 8.07 conde 10:5		
Time = 13.22 Totalise - 28440 = 450 gol Flo pt = 8.11 Cond = 10.		
70 taliger = 13:52 To taliger = 28 590 = 600 gallons. Fl PH = 8:01 Cond = 10. Time = 1428 To taly = 288810 = 820 gal		17.3%
ρμ= 8.02 Grd = 10.	mai = 7 279pm	
Time 1455 1501 eslect 5	5e. plu	

APPENDIX B PURGE WATER DISPOSAL RECORD



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Key Energy Services Inc.
Disposat/ Water
Remit to: PO BOX 201858 DALLAS, TX 75320-1658

WT NUMBER

D215027.

				•	WT	Date 03-25	AT IF S		
☐ Br	ine Water Sale	1	Fresh Wa	ater Sale	P Dis	•	الم		
Water	Facility/ Disp	osal Name	tey	Disposal	, Disp	osal Asset#_5/2	0001		
Count	y/ Parish	5,	J.	_State_NM	RRC#	<u> </u>			
Ŧ	mer Name Souden	Mill.		Lease (origin o	f Disposal Fluid)	Neaprise			
<u> </u>	ing Company		Pace	3/3	Delivery Ti	cket #			
Load	Fruck (Asset #)	BBLS	Time	Driver N	lame (Print)	Signat	ure .		
1	1844	40	9:15 PM	Hubert	Yazze	Delit	47.a		
2			□AM □PM						
3		•	□AM □PM						
4			□AM □PM						
5			□AM □PM				78.11		
Additio	onal load descr	iption Lo	Aen Died	e Co. P.	Par				
Bla	☐ H2SPPM								
Fr	ean Produced ac Flowback W ashpit Fluid (No alled Workover her Washe W	later (Regula o Mud or Sol	r Frac Job) lds)	Workover Brine or Dirty Saltwater Reserve Pit Fluid (No Mud or Solids) Frac Flowback Water (fiber Frac Job) Tank Bottoms/ Oil Based Mud					
				BBLS (Qty)	Price per BBI.	Extended Amount	1		
•	. ,		٠	40	,85	34,00			

40	,85	34,00
	·	
	-	·
Sub	otal	3400
Sales	Tax	
Total		

DWT-010





Key Energy Services Inc.
Disposel/ Water
Remit to: PO BOX 201858 DALLAS, TX 75320-1858

D215286 WT NUMBER

WT Date 4/22/10 S M T W 62F S

☐ Brine Water Sale ☐ Fresh Water Sale ☑ Disposal							_
Water	Facility/ Dis	posal Name	K	ey	Disp	oosal Asset # 512	200
Count	y/ Parish	SAW.	Tuan	State Nim	RRC#	oosal Asset # <u>512</u>	
Custo	mer Name	- 1	OECAD DEDE	Lease (origin o	f Disposal Fluid)	571974	
Trucking Company Pace Delivery Ticket # 32275						>5	
Load	Truck (Asset #)	BBLS	Time .	Driver N	lame (Print)	Signat	ure
1	1301	50 H2:25	12:25 EPM	VAZ)	Durgit	50814
2			□АМ □РМ	VIEGIL			
3			□AM □PM				
4			□AM □PM	•		`- j	
5		·	□AM □PM				
Additio	onal load desc	cription					
Bla	CK	PM _ightMed _	∠LNo H2S Solid Con Heavy	tent%		ste Oilbbls n Exempt	
		l Field Saltwal	-	Workove	r Brine or Dirty S	Saltwater	
Fra	c Flowback	Water (Requia	r Frac Job)	Reserve	Pit Fluid (No Mu	d or Solids)	
Ge Ol	lled Workove her <i>Flow G</i>	or Frac Fluid	ids) i ste water	Tank Bot	toms/ Oll Based	Mud	
					Price per BBL		1
				50	,85	#42 50	
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							1
		*					
	•			Sub T	otal	4 42 35	7
				Sales	Ţax	***************************************	
				Total	!-	•	





Key Energy Services Inc.
Disposal/ Water
Remit to: PO BOX 201858 DALLAS, TX 75320-1858

WT NUMBER D254565

WT Date 5/28/10

Farmington, NM Fluid Services

□Вг	☐ Brine Water Sale ☐ Fresh Water Sale ☐ Disposal						
Water	Facility/ Dis	posal Name		K	Disp	osal Asset # 5720	CEO/
County	// Parish	SA	U Jugan	State <u>vM</u>	RRC#		
Custo	mer Name	······································		Lease (origin o	·		
SK	rudee	Miller		C1	5 1989	•	
Trucķi	ng Company	_ Por	beets Tex	cking	Delivery Ti	cket# <u>/975</u>	2
Load	Truck (Asset #)	BBLS	Time	Driver N	lame (Print)	Signatu	гө
1	91	80	12:40 JAM	Pobler	CONTECEAS	1/1/1/1	
2	· · · · · · · · · · · · · · · · · · ·		□AM □PM		l		
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	nal load desc	ription		<u></u>			
	naj kaŭ desc	31puon					
Bla	ck	PM .ight Med _		ntent%		ate Oilbbls Exempt	
		l Field Saitwa Water (Regula		Reserve	r Brine or Dirty S Pit Fluid (No Mui	d or Solids)	
☐ Wa	Ishpit Fluid (N	No Mudor So Fror Frac Fluid Back L	lids) d		wback Water (fibe toms/ Oil Based		
	ier <u>j-corti</u>	DIREK L		BDI C (Ota)	Price per BBL	Extended Amount	
				BBLS (Qty)	185	£68 =	
				80	183	600	
				Sub 1	l Total	868 00	
	1	440 1 E 9	N() \()	Sales	Тах		
	111	AUG 16 7	AIM	Total			
							DWT-010

SASIN DISPOSAL DE PRODUCED WATER AND DRILLING MUD "SPECIALIZING IN DISPOSAL OF PRODUCED WATER AND DRILLING MUD P.O. BOX 100 · AZTEC, NEW MEXICO 87410 · PHONE (505) 832-8936	9-1-10	GENERATOR: SAUDES MITTLES	HAULING CO. HIGH + ECH
	DATE 2	GENERATOR;	HAULING CO.

NO. 502932 NMOCD PERMIT: NM -001-0005 Oil Field Waste Document, Form C138 INVOICE:

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INVOICE: OS699

BILL TO: SAL LET MITTER
DRIVER: MINUL | HINUMARA

CODES

WASTE DESCRIPTION: IX Exempt Oilfield Waste

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STATE: INM DO

ORDERED BY: JOM LOUS

TREATMENT/DISPOSAL METHODS: XI EVAPORATION XI INJECTION XI TREATING PLANT

TOTAL 18 SEPTIME STEUM COST AM PM VOLUME 20 LOCATION(S) TRUCK Š. O က 4 D

Medical Representitive or authorized agent for the above generator and hauler hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination that the above described waste is RCRA Exempt, OlL field wastes generated from oil and gas exploration and production operations and not mixed with non-exempt waste, per OCD's mixing policy.

TOTAL

Approved

☐ Denied ATTEN

ATTENDANT SIGNATURE:

san juan reproduction 160-6

DEL TKTE. DOS 752 BILL 10: SOU DEL MILLER BILL 10: SOU DEL MILL 10: SOU DEL MILLER BILL 10: SOU DEL MILL BILL 10: SOU DEL MILLER BILL 10: SOU DEL MILLER BILL 10: SOU	<u>19.</u>
AULING CO.	<u>19.</u>
ASTE DESCRIPTION: MEXEMPLO DISS ASTE DESCRIPTION: MEXEMPLO DIFFIELD Waste CODES: ASTE DESCRIPTION: MEXEMPLO DIFFIELD Waste CI Produced Water Libralling/Compilation Fluids CI Produced Water CI Produced Water Libralling/Compilation Fluids CI Produced Water Libralling/Compilation Fluids CI Produced Water Libralling/Compilation Fluids CI Produced Water CI Produced Water	 Pit
ASTE DESCRIPTION: MEXEMPLO DISS ASTE DESCRIPTION: MEXEMPLO DIFFIELD Waste CODES: ASTE DESCRIPTION: MEXEMPLO DIFFIELD Waste CI Produced Water Libralling/Compilation Fluids CI Produced Water CI Produced Water Libralling/Compilation Fluids CI Produced Water Libralling/Compilation Fluids CI Produced Water Libralling/Compilation Fluids CI Produced Water CI Produced Water	
NO. TRUCK LOCATION(6) VOLUME AM PM COST TOTAL TIME 1 36 CPS M84 ENTERPRIX 65 1 55 25 25 1 55 1 55 1 55 1 55 1 55	
ATE: 13 MA (1 CO 1) AZ 11 UT TREATMENT/DISPOSAL METHODS: NO EVAPORATION NUTRICATION OF TREATING PLAN NO. TRUCK LOCATION(6) VOLUME AM PM COST TOTAL TIME 1 AG CPS 189 ENTERPRIX 65 1 55 25 25 1 55 1 55 1 55 1 55 1 55	
1 26 CPS MET ENTURINE 65 / 759 55 200 1	
7136	
7/36	4:4]
3	
4	
5	
	\dashv
TOTAL	

___^*<u>SMA</u>*

APPENDIX C LABORATORY ANALYTICAL REPORTS

1		
		15-2 20-3 20-3
•		
		2



612 E Murray Dr.

Farmington, NM

505-325-5667

API Water Analysis Report

Customer/Well Information

Company: Well Name: Enterprise Field Services, LLC

CPS-1989 MW-3

Legal Desc.

Sec.13 ,T28N, R10W

State:

San Juan, NM

Formation: Depth:

San Jose

405-455

Date:

2/23/2010

Prepared for: Submitted by:

David Smith Loren Diede

Prepared by:

Shelly Doescher

Water Type: Sample ID #: Produced Ent-022310-01

Background Information

Reason for Testing:

Completion type:

Monitor well development screen = 405-455

Well History:

Sample after air lifting 40 bbl

Comments:

SO4 dilution = 100 x

Sample Characteristics

Sample Temp: :Hq

55 (°F) 7.30

Color:

Clear

Specific Gravity:

1.020

Odor: **Turbidity:** none

S.G. (Corrected):

1.019 @ 60 °F

Filter Resiual:

Extremely light None

Resistivity (Meas.):

1.30 Ω-m

Sample Composition

CATIONS

	mg/i	men	ppm
Sodium (calc.)	4636	202.5	4545
Calcium	361	18.0	354
Magnesium	170	14.0	167
Barium	0	0.0	0
Potassium	6	0.2	. 6
Iron	0	0.0	0

ANIONS

Chloride	220	6.2	216
Sulfate	10404	216.6	10200
Bicarbonate	232	3.8	63
Carbonate	240	8.0	235
Hydroxide	0	0.0	0

SUMMARY

Total Dissolved Solids(calc.)	16270	15951
Total Hardness as CaCO3	1602	1570

Scaling Tendencies

CaCO3 Factor

83656.62

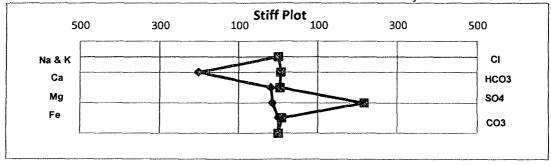
Calcium Carbonate Scale Probability --> REMOTE

CaSO4 Factor

3754804

Calcium Sulfate Scale Probability -----> REMOTE

Barium Scale Probability -----> POSSIBLE





COVER LETTER

Tuesday, April 06, 2010

Loren Diede Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS 1989

Dear Loren Diede:

Order No.: 1003638

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 3/26/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682

ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 06-Apr-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1003638

1003030

Project: Lab ID: CPS 1989

1003638-01

Client Sample ID: MW-1

Collection Date: 3/25/2010 9:15:00 AM

Date Received: 3/26/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MMS
Chloride	1000	50		mg/L	100	4/2/2010 7:50:02 PM
Sulfate	4200	50		mg/L	100	4/2/2010 7:50:02 PM
EPA 6010B: HARDNESS						Analyst: SNV
Hardness (As CaCO3)	320	1.0		mg/L	1	3/31/2010
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: SNV
Calcium	130	5.0		mg/L	5	3/31/2010 1:06:42 PM
Iron	0.23	0.020		mg/L	1	3/31/2010 11:16:24 AM
Magnesium	1.5	1.0		mg/L	1	3/31/2010 11:16:24 AM
Potassium	360	5.0		mg/L	5	3/31/2010 1:06:42 PM
Sodium	2400	50		mg/L	50	3/31/2010 1:10:41 PM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	100	20		mg/L CaCO3	1	3/26/2010 5:33:00 PM
Carbonate	73	2.0		mg/L CaCO3	1	3/26/2010 5:33:00 PM
Bicarbonate	ND	20		mg/L CaCO3	1	3/26/2010 5:33:00 PM
Hydroxide	31	2.0		mg/L CaCO3	1	3/26/2010 5:33:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: NSB
Specific Conductance	8600	0.010		µmhos/cm	1	3/26/2010 5:33:00 PM
SM4500-H+B: PH						Analyst: NSB
pH	10.66	0.1		pH units	1	3/26/2010 5:33:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	3/29/2010 10:27:00 AM
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	7860	100		mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Page 1 of 4

Date: 06-Apr-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1003638

Client Sample ID: MW-2

Collection Date: 3/25/2010 10:45:00 AM

Project:

CPS 1989

Date Received: 3/26/2010

Lab ID:

1003638-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MMS
Chloride	22	10		mg/L	20	4/1/2010 3:43:23 AM
Sulfate	7000	100		mg/L	200	4/2/2010 8:24:51 PM
EPA 6010B: HARDNESS						Analyst: SNV
Hardness (As CaCO3)	1000	1.0		mg/L	1	3/31/2010
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: SNV
Calcium	320	5.0		mg/L	5	3/31/2010 1:26:24 PM
Iron	. 34	1.0		mg/L	50	3/31/2010 1:30:15 PM
Magnesium	45	1.0		mg/L	1	3/31/2010 11:20:15 AM
Potassium	19	1.0		mg/L	1	3/31/2010 11:20:15 AM
Sodium	2800	50		mg/L	50	3/31/2010 1:30:15 PM
SM 2320B: ALKALINITY	•					Analyst: NSB
Alkalinity, Total (As CaCO3)	880	20		mg/L CaCO3	1	3/26/2010 5:49:00 PM
Carbonate	: ND	2.0		mg/L CaCO3	1	3/26/2010 5:49:00 PM
Bicarbonate	880	20		mg/L CaCO3	1	3/26/2010 5:49:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	· 1	3/26/2010 5:49:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: NSB
Specific Conductance	9300	0.010		µmhos/cm	1	3/26/2010 5:49:00 PM
SM4500-H+B: PH						Analyst: NSB
рН	7.18	0.1		pH units	1	3/26/2010 5:49:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	3/29/2010 10:27:00 AM
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	9810	100		mg/L	1	4/2/2010 1:39:00 PM

	Qua	lif	ers
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- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Page 2 of 4

Date: 06-Apr-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1003638

Project:

CPS 1989

Lab ID:

1003638-03

Client Sample ID: MW-4

nent Sample 1D. 11111-4

Collection Date: 3/25/2010 11:30:00 AM

Date Received: 3/26/2010

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					Analyst: MMS
Chloride	21	10	mg/L	20	4/1/2010 4:18:13 AM
Sulfate	6600	100	mg/L	200	4/2/2010 8:42:15 PM
EPA 6010B: HARDNESS					Analyst: SNV
Hardness (As CaCO3)	1000	1.0	mg/L	1	3/31/2010
EPA METHOD 6010B: DISSOLVED MI	ETALS				Analyst: SNV
Calcium	330	5.0	mg/L	5	3/31/2010 1:33:29 PM
Iron	35	1.0	mg/L	50	3/31/2010 1:37:19 PM
Magnesium	47	1.0	mg/L	1	3/31/2010 11:24:04 AM
Potassium	18	1.0	mg/L	1	3/31/2010 11:24:04 AM
Sodium	2900	50	mg/L	50	3/31/2010 1:37:19 PM
SM 2320B: ALKALINITY					Analyst: NSB
Alkalinity, Total (As CaCO3)	870	20	mg/L CaCO3	1	3/26/2010 6:28:00 PM
Carbonate	ND	2.0	mg/L CaCO3	1	3/26/2010 6:28:00 PM
Bicarbonate	870	20	mg/L CaCO3	1	3/26/2010 6:28:00 PM
Hydroxide	ND	2.0	mg/L CaCO3	1	3/26/2010 6:28:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE	Ē				Analyst: NSB
Specific Conductance	9300	0.010	µmhos/cm	1	3/26/2010 6:28:00 PM
SM4500-H+B: PH					Analyst: NSB
pH	7.34	0.1	pH units	1	3/26/2010 6:28:00 PM
SPECIFIC GRAVITY BY SM 2710F					Analyst: TAF
Specific Gravity	1.0	0		1	3/29/2010 10:27:00 AM
SM2540C MOD: TOTAL DISSOLVED S	SOLIDS				Analyst: KS
Total Dissolved Solids	9910	100	mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Page 3 of 4

Date: 06-Apr-10

CLIENT: Lab Order: Souder, Miller and Associates

1003638

CPS 1989

Project: Lab ID:

1003638-04

Client Sample ID: MW-3

Collection Date: 3/25/2010 5:05:00 PM

Date Received: 3/26/2010

Matrix: AQUEOUS

		-	-		Date Analyzed
PA METHOD 300.0: ANIONS					Analyst: MMS
Chloride	12	0.50	mg/L	1	4/1/2010 4:35:37 AM
Sulfate	6600	100	mg/L	200	4/2/2010 8:59:40 PM
PA 6010B: HARDNESS					Analyst: SNV
Hardness (As CaCO3)	930	1.0	mg/L	1 .	3/31/2010
PA METHOD 6010B: DISSOLVED ME	TALS				Analyst: SNV
Calcium	350	5.0	mg/L	5	3/31/2010 1:41:17 PM
Iron	0.43	0.020	mg/L	1	3/31/2010 11:29:55 AM
Magnesium	14	1.0	mg/L	1	3/31/2010 11;29:55 AM
Potassium	7.9	1.0	mg/L	1	3/31/2010 11:29:55 AM
Sodium	2600	50	mg/L	50	3/31/2010 1:45:16 PM
M 2320B: ALKALINITY					Analyst: NSB
Alkalinity, Total (As CaCO3)	58	20	mg/L CaCO3	1	3/26/2010 7:05:00 PM
Carbonate	ND	2.0	mg/L CaCO3	1	3/26/2010 7:05:00 PM
Bicarbonate	58	20	mg/L CaCO3	1	3/26/2010 7:05:00 PM
Hydroxide	ND	2.0	mg/L CaCO3	1	3/26/2010 7:05:00 PM
PA 120.1: SPECIFIC CONDUCTANCE	.				Analyst: NSB
Specific Conductance	8500	0.010	µmhos/cm	1	3/26/2010 7:05:00 PM
M4500-H+B: PH					Analyst: NSB
Н	7.75	0.1	pH units	1	3/26/2010 7:05:00 PM
PECIFIC GRAVITY BY SM 2710F					Analyst: TAF
Specific Gravity	1.0	0		1	3/29/2010 10:27:00 AM
M2540C MOD: TOTAL DISSOLVED S	OLIDS				Analyst: KS
Total Dissolved Solids	8820	100	mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits

Page 4 of 4

Date: 06-Apr-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1003638

Analyte	Result	Units	PQL	SPK V	a SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0:	Anions		<u> </u>								· · · · · · · · · · · · · · · · · · ·
Sample ID: MB		MBLK				Batch ID:	R38021	Analysi	s Date:	3/31/2010	3:49:33 Pi
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R38064	Analysi	s Date:	4/2/2010 1	1:42:32 AN
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		LCS				Batch ID:	R38021	Analysi	s Date:	3/31/2010	4:06:58 Pi
Chloride	4.661	mg/L	0.50	5	0	93.2	90	110			
Sulfate	9.617	mg/L	0.50	10	0	96.2	90	110			
Sample ID: LCS		LCS				Batch ID:	R38064	Analysi	s Date:	4/2/2010 1	1:59:57 AI
Chloride	4.925	mg/L	0.50	5	0	98.5	90	110			
Sulfate	10.10	mg/L	0.50	10		101	90	110			
Method: SM 2320B: Alkalinit	·		e agranda q , gape egge em med								
Sample ID: MB	у	MBLK				Batch ID:	R37953	Analysi	s Date:	3/26/2010	4:39:00 PN
Alkalinity, Total (As CaCO3)	ND	mg/L Ca	20					-			
Carbonate	ND	mg/L Ca	2.0								
Bicarbonate	ND	mg/L Ca	20								
Sample ID: 80PPM LCS		LCS				Batch ID:	R37953	Analysi	s Date:	3/26/2010	4:45:00 PN
Alkalinity, Total (As CaCO3)	79.49	mg/L Ca	20	80	0	99.4	92.5	110			
Method: EPA Method 6010B	Dissolved Me	itals									
Sample ID: MB	Diogonica inc	MBLK				Batch ID:	R38000	Analysi	s Date:	3/31/2010 1	1:07:49 AN
Calcium	ND	mg/L	1.0					Ţ.			
ron	ND	mg/L	0.020								
Magnesium	ND	mg/L	1.0								
Potassium	ND	mg/L	1.0								
Sample ID: MB		MBLK				Batch ID:	R38000	Analysis	s Date:	3/31/2010 12	2:58:00 PN
Sodium	ND	mg/L	1.0								
Sample ID: LCS		LCS				Batch ID:	R38000	Analysis	s Date:	3/31/2010 1	1:10:40 AN
- Calcium	50.72	mg/L	1.0	50.5	0	100	80	120			
ron	0.5350	mg/L	0.020	0.5	0	107	80	120			
Magnesium	51.30	mg/L	1.0	50.5	۵	102	80	120			
otassium	54.51	mg/L	1.0	55	0	99.1	80	120			
Sample ID: LCS		LCS				Batch ID:	R38000	Analysis	s Date:	3/31/2010	1:00:49 PI
Sodium	51.79	mg/L	1.0		0.3355	102	80	120			

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E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Page 1

Date: 06-Apr-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1003638

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec L	owLimit Hig	ghLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0:	Anions	-				-					
Sample ID: MB		MBI.K				Batch ID:	R38021	Analysis	Date:	3/31/2010	3:49:33 PN
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R38064	Analysis	Date:	4/2/2010 1	1:42:32 AN
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/l_	0.50								
Sample ID: LCS		LCS				Batch ID:	R38021	Analysis	Date:	3/31/2010	1:06:58 PN
Chloride	4.661	mg/L	0.50	. 5	0	93.2	90	110			
Sulfate	9.617	mg/L	0.50	10	0	96.2	90	110			
Sample ID: LCS		LCS				Batch ID:	R38064	Analysis	Date:	4/2/2010 11	1:59:57 AN
Chloride	4.925	mg/L	0.50	5	0	98.5	90	110			
Sulfate	10.10	mg/L	0.50	10	٥	101	90	110			
Method: SM 2320E: Alkalinit	v										
Sample ID: MB	•	MBLK				Batch ID:	R37953	Analysis	Date:	3/26/2010	1:39:00 PM
Alkalinity, Total (As CaCO3)	ND	mg/L Ca	20								
Carbonate	ND	mg/L Ca	2.0								
Bicarbonate	ND	mg/L Ca	20								
Sample ID: 80PPM LCS		LCS				Batch ID:	R37953	Analysis	Date:	3/26/2010	1:45:00 PM
Alkalinity, Total (As CaCO3)	79.49	mg/L Ca	20	80	0	99.4	92.5	110			
Method: EPA Method 6010B:	· Dissolved Me	otale									
Sample ID: MB	. Digaoirea me	MBLK				Batch ID:	R38000	Analysis	Date:	3/31/2010 11	1:07:49 AN
Calcium	ND	mg/L	1.0								
ron	ND	mg/L	0.020								
Magnesium	ND	mg/L	1.0								
Potassium	ND	mg/L	1.0								
Sample ID: MB		MBLK				Batch ID:	R38000	Analysis	Date:	3/31/2010 12	2:58:00 PN
•	ND	mg/L	1.0								
Sodium	NU					Batch ID:	R38000	Analysis	Date:	3/31/2010 11	110:40 AM
	ND	LCS				Date: 10.	1100000				
Sodium Sample ID: LCS Calcium	50.72	LCS	1.0	50.5	0	100	80	120	Julo.		
		LCS mg/L	1.0 0.020	50.5 0.5	0			•	0 410.		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Sample ID: LCS Calcium ron	50.72	LCS				100	80	120			
Sample ID: LCS Calcium	50.72 0.5350	LCS mg/L mg/L mg/L	0.020	0.5	0	100 107	80 80	120 120			
Sample ID: LCS Calcium ron Magnesium	50.72 0.5350 51.30	LCS mg/L mg/L	0.020 1.0	0.5 50.5	0	100 107 102	80 80 80	120 120 120		3/31/2010 ⁻	

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One	1	í	f	í.	•	**

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Page 1

Date: 06-Apr-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1003638

								1009090
Analyte	Result Units PQL SPK Va SPK ref					owLimit Hig	ghLimit %RPD	RPDLimit Qual
Method: SM2540C MOD: Total Sample ID: MB-21790	al Dissolved	Solids MBLK			Batch ID:	21790	Analysis Date:	3/31/2010 12:54:00 PM
Total Dissolved Solids Sample ID: MB-21821	ND	mg/L <i>MBLK</i>	20.0	•	Batch ID:	21821	Analysis Date:	4/2/2010 1:39:00 PM
Total Dissolved Solids Sample ID: LCS-21790	ND	mg/L LCS	20.0		Batch ID:	21790	Analysis Date:	3/31/2010 12:54:00 PM
Total Dissolved Solids Sample ID: LCS-21821	1023	mg/L LCS	20.0	1000 0	102 Batch ID:	80 21821	120 Analysis Date:	4/2/2010 1:39:00 PM
Total Dissolved Solids	1020	mg/L	20.0	1000 0	102	80	120	

Qua	li	fi	e	r	S	:
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E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Page 2

Sample Receipt Checklist

Client Name SMA-FARM				Date Receive	ed:	3/26/2010
Work Order Number 1003638				Received by	y: TLS	Λ
$\mathcal{I}_{\mathcal{I}}$	9		~ l	Sample ID I	abels checked by:	
Checklist completed by:			<u>5</u>	30110		Initials
V	0	(
Matrix:	Carrier name:	Clie	nt dror	o-off		
Shipping container/cooler in good condition?		Yes	\checkmark	No 🗔	Not Present	l
Custody seals intact on shipping container/cod	oler?	Yes		No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	•	Yes		No 🗌	N/A ₩	
Chain of custody present?		Yes	\checkmark	No 🗌		
Chain of custody signed when relinquished an	d received?	Yes	\checkmark	No 🗌		
Chain of custody agrees with sample labels?		Yes	V	No 🗌		
Samples in proper container/bottle?	ı	Yes	\checkmark	No 🗌		
Sample containers intact?		Yes	\checkmark	No 🗌		
Sufficient sample volume for indicated test?		Yes	V	No 🗆		
All samples received within holding time?		Yes	\checkmark	No 🗌		Number of preserved
Water - VOA vials have zero headspace?	No VOA vials subn	nitted	V	Yes 🗌	No 🗌	bottles checked for pH:
Water - Preservation labels on bottle and cap	match?	Yes	V	No 🗌	N/A	4
Water - pH acceptable upon receipt?		Yes	¥	No 🗌	N/A	<2 >12 unless noted
Container/Temp Blank temperature?		4.	.3°	<6° C Acceptat	ole	beldw.
COMMENTS:				If given sufficien	t time to cool.	
		= =	 -			
Client contacted	Elate contacted:			Pers	son contacted	
Contacted by:	Regarding:					
Comments:						
Comments.						
	<u> </u>					
Corrective Action	- 1					4
CONSUMO MOREON	1					
and the second control of the second control						<u>A</u>

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Date: Time: Relinquished by:	3-95-10 1730 Relinguished by The Relinguished									1 Das 1 mm-3	1130 Mw-4	1045 mw-a	3-25-10 0915 Weber MW-1	Date Time Matrix Sample Request ID	☐ EDD (Type) S	☐ Other	1	☐ Randard ☐ Level 4 (Full Validation)		email or Fax#: torlong e Souder tulbrican P	Phone #: 505-325-567	401	Mailing Address: 612 F. Murry Onve		Client: Souder Miller of Associates	Chain-of-Custody Record
Received by:	Received by:									4			4 MB HANS HASSY	Container Preservative Type and # Type	Sample Temperature:)如Yes	Sampler: Thomas		Lover Orde	Project Manager:	8114118	Project #:		Project Name:	☐ Standard ☐ Rush	Turn-Around Time:
Date Time	Date Time 03/85/10 1800									ج	(A)	2	1	HEAL NO.	43	□Xo	Long) rde							
	Remarks:													BTEX + MT												
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									 	-				TPH (Metho					2.0	001)		Tel. 505-345-3975	Hawk	•		
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Chain-of-Custody Record

Turn-Around Time:

Air Bubbles (Y or N)

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If necessary, samples submitted to Hall Environmental may be subcontracted wither accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



COVER LETTER

Thursday, May 13, 2010

Loren Diede Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS 1989

Dear Loren Diede:

Order No.: 1004527

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 4/22/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 13-May-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1004527

Project:

CPS 1989

Lab ID:

1004527-01

Client Sample ID: MW3

Collection Date: 4/21/2010 4:12:00 PM

Date Received: 4/22/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MMS
Chloride	13	0.50		mg/L	1	4/23/2010 2:04:19 PM
Sulfate	7200	100		mg/L	200	5/5/2010 6:19:33 AM
EPA 6010B: HARDNESS						Analyst: SNV
Hardness (As CaCO3)	940	1.0		mg/L	1	4/27/2010
EPA METHOD 6010B: DISSOLVED MI	ETALS					Analyst: SNV
Calcium	350	10		mg/L	10	4/27/2010 11:05:54 AM
Iron	0.42	0.020		mg/L	1	4/27/2010 10:44:00 AM
Magnesium	15	1.0		mg/L	1	4/27/2010 10:44:00 AM
Potassium	6.1	1.0		mg/L	1	4/27/2010 10:44:00 AM
Sodium	2400	50		mg/L	50	4/27/2010 11:41:30 AM
BM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	58	20		mg/L CaCO3	1	4/26/2010 5:54:00 PM
Carbonate	ND	2.0	•	mg/L CaCO3	1	4/26/2010 5:54:00 PM
Bicarbonate	58	20		mg/L CaCO3	1	4/26/2010 5:54:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	4/26/2010 5:54:00 PM
PA 120.1: SPECIFIC CONDUCTANCE						Analyst: NSB
Specific Conductance	12000	0.10		µmhos/cm	10	5/12/2010 5:23:00 PM
:M4600-H+B: PH						Analyst: NSB
pH	7.63	0.1		pH units	1	4/26/2010 5:54:00 PM
PECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.1	0			1	4/30/2010 7:50:00 AM
M2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Sollds	9020	20.0	!	mg/L	1	4/27/2010 3:58:00 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Date: 13-May-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1004527

Project:

CPS 1989

Lab ID:

1004527-02

Client Sample ID: MW3 DUP

Collection Date: 4/21/2010 4:24:00 PM

Date Received: 4/22/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	والمراجع والمستوان والمراجع وا	* 				Analyst: MMS
Chloride	13	0.50		mg/L	1	4/23/2010 2:56:32 PM
Sulfate	6600	100		mg/L	200	5/5/2010 6:36:58 AM
EPA 6010B: HARDNESS						Analyst: SNV
Hardness (As CaCO3)	970	1.0		mg/L	1	4/27/2010
EPA METHOD 6010B: DISSOLVED M	IETALS					Analyst: SNV
Calcium	360	10		mg/L	10	4/27/2010 11:44:42 AM
iron	0.43	0.020		mg/L	1	4/27/2010 11:11:30 AM
Magnesium	15	1.0		mg/L	1	4/27/2010 11:11:30 AM
Potassium	6.0	1.0		mg/L	1	4/27/2010 11:11:30 AM
Sodium	2400	50		mg/L	50	4/27/2010 11:48:48 AM
M 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	59	20		mg/L CaCO3	1	4/26/2010 6:04:00 PM
Carbonate	NO	2.0		mg/L CaCO3	1	4/26/2010 6:04:00 PM
Bicarbonate	59	20		mg/L CaCO3	1	4/26/2010 6:04:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	4/26/2010 6:04:00 PM
PA 120.1: SPECIFIC CONDUCTANC	E					Analyst: NSB
Specific Conductance	12000	0.10		µmhos/cm	10	5/12/2010 5:27:00 PM
M4500-H+B: PH		·			1	Analyst: NSB
PH	7.83	0.1		pH units	1	4/26/2010 6:04:00 PM
PECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	4/30/2010 7:50:00 AM
M2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst: KS
Total Dissolved Solids	9060	20.0		mg/L	1	4/27/2010 3:58:00 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Date: 13-May-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1004527

Project:

CPS 1989

Lab ID:

1004527-03

Client Sample ID: MW2

Collection Date: 4/22/2010 8:42:00 AM

Date Received: 4/22/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MMS
Chloride	19	10		mg/L	20	4/23/2010 6:42:52 PM
Sulfate	7300	100		mg/L	200	5/5/2010 6:54:22 AM
EPA 6010B: HARDNESS	•					Analyst: SNV
Hardness (As CaCO3)	990	1.0		mg/L	1	4/27/2010
EPA METHOD 6010B: DISSOLVED ME	TALS					Analyst: SNV
Calcium	320	10		mg/L	10	4/27/2010 11:51:56 AM
Iron	30	1.0		mg/L	50	4/27/2010 11:56:05 AM
Magnesium	. 44	1.0		mg/L	1	4/27/2010 12:08:07 PM
Potassium	11	1.0		mg/L	1	4/27/2010 12:08:07 PM
Sodium	2600	50		mg/L	50	4/27/2010 11:56:05 AM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	780	20		mg/L CaCO3	1	4/26/2010 6:13:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	4/26/2010 6:13:00 PM
Bicarbonate	780	20		mg/L CaCO3	1	4/26/2010 6:13:00 PM
Hydroxide	ND	2.0	-	mg/L CaCO3	1	4/26/2010 6:13:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: NSB
Specific Conductance	13000	0.10		µmhos/cm	10	5/12/2010 5:35:00 PM
SM4500-H+B: PH						Analyst: NSB
Ηq	7.30	0.1	1	pH units	1	4/26/2010 6:13:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	4/30/2010 7:50:00 AM
6M2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	9740	20.0	1	mg/L	1	4/27/2010 3:58:00 PM
•						

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Date: 13-May-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1004527

Project:

CPS 1989

Lab ID:

1004527-04

Client Sample ID: MWI

Collection Date: 4/22/2010 9:35:00 AM

Date Received: 4/22/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	میں ہیں اس کی انہاں ، کہ اس					Analyst: MMS
Chloride	550	25		mg/L	50	5/6/2010 9:12:20 AM
Sulfate	4700	100		mg/L	200	5/5/2010 7:11:47 AM
EPA 6010B: HARDNESS	•					Analyst: SNV
Hardness (As CaCO3)	220	1.0		mg/L	1	4/27/2010
EPA METHOD 6010B: DISSOLVED MI	ETALS			•		Analyst: SNV
Calcium	87	5.0		mg/L	5	4/27/2010 1:14:21 PM
Iron	0.035	0.020		mg/L	1	4/27/2010 12:27:12 PM
Magnesium	1.2	1.0		mg/L	1	4/27/2010 12:27:12 PM
Potassium	170	5.0		mg/L	5	4/27/2010 1:14:21 PM
Sodium	2200	50	•	mg/L	50	4/27/2010 12:04:59 PM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	85	20		mg/L CaCO3	1	4/26/2010 6:42:00 PM
Carbonate	·, 75	2.0		mg/L CaCO3	1	4/26/2010 6:42:00 PM
Bicarbonate	ND	20		mg/L CaCO3	1	4/26/2010 6:42:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	4/26/2010 6:42:00 PM
PA 120.1: SPECIFIC CONDUCTANCE	•					Analyst: NSB
Specific Conductance	11000	0.10		µmhos/cm	10	5/12/2010 5:38:00 PM
M4500-H+B: PH						Analyst: NSB
рН	10.02	0.1		pH units	1	4/26/2010 6:42:00 PM
PECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	4/30/2010 7:50:00 AM
M2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	7670	100		mg/L	1	4/30/2010 11:40:00 AM

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Date: 13-May-10

QA/QC SUMMARY REPORT

Client: Project:

Souder, Miller and Associates

CPS 1989

Work Order:

1004527

	Analyte	Result	Units	PQL	SPK Va SPK	ef %Rec	LowLimit H	ighLimit %RPD	RPDLImit Qual
C C	Method: EPA Method 300.0: Ai ₃ Sample ID: MB	nions	MBLK			Batch ID	: R38365	Analysis Date:	4/23/2010 12:19:50 PM
	Chloride Sulfate	ND ND	mg/L mg/L	0.50 0.50					
	Sample ID: MB Chloride	ND	MBLK mg/L	0.50		Batch ID	: R38365	Analysis Date:	4/24/2010 4:17:21 AM
塘	Sample ID: MB	ND	mg/L <i>MBLK</i>	0.50		Batch ID	R38562	Analysis Date:	5/5/2010 10:49:10 AM
優於	Chloride Sulfate Sample ID: LCS	ND ND	mg/L mg/L <i>LCS</i>	0.50 0.50	,	Batch ID:	R38365	Analysis Date:	4/23/2010 12:37:15 PM
	Chloride Sulfate	5.126 10.36	mg/L mg/L	0.50 0.50	5 0 10 0		90 90 R3836 5	110 110 Applyais Data:	4/24/2010 4:34:46 AM
200	Sample ID: LCS Chloride Sulfate	4.958 9.968	LCS mg/L mg/L	0.50 0.50	5 0 10 0	99.2	90 90	Analysis Date: 110 110	4/24/2010 4.34.46 AW
	Sample ID: LCS Chloride	4.911	LCS mg/L	0.50	5 0 10 0		R38562 90 90	Analysis Date: 110 110	5/5/2010 11:06:35 AM
6.00	Sulfate Method: SM 2320B: Alkalinity	10.06	mg/L	0.50	10 0				4/00/00/10 - 70 /0 70
	Sample ID: MB Alkalinity, Total (As CaCO3) Carbonate	ND ND	<i>MBLK</i> mg/L Ca mg/L Ca	20 2.0		Batch ID:	R38393	Analysis Date:	4/26/2010 2:53:00 PM
	Bicarbonate Sample ID: MB-II Aikalinity, Total (As CaCO3)	ND ND	mg/L Ca <i>MBLK</i> mg/L Ca	20		Batch ID:	R38393	Analysis Date:	4/26/2010 9:33:00 PM
	Carbonate Bicarbonate	ND ND	mg/L Ca mg/L Ca	2.0 20		Datab ID	D-0000	An about Date	4100/0040 5 50 00 704
_	Sample ID: 80PPM LCS Alkalinity, Total (As CaCO3) Sample ID: 80PPM LCS-II	79.36	LCS mg/L Ca LCS	20	80 0	Batch ID: 99.2 Batch ID:	R38393 96.5 R38393	Analysis Date: 104 Analysis Date:	4/26/2010 2:58:00 PM 4/26/2010 9:39:00 PM
9	Alkalinity, Total (As CaCO3)	79.96	mg/L Ca	20	80 0	100	96.5	104	

E Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Holding times for preparation or analysis exceeded Н

NC Non-Chlorinated

RPD outside accepted recovery limits R

Page 1

Date: 13-May-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1004527

Project:	CPS 1989									Work	Order:	1004527
Analyte		Result	Units	PQL	SPK V	a SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method:	EPA Method 6010B: I	Dissolved M	etals ,									
Sample ID:	1004527-04BMSD	•	MSD				Batch ID:	R38403	Analysi	s Date:	4/27/2010	1:04:13 PN
Iron		0.5404	mg/l.	0.020	0.5	0.0349	101	75	125	0.131	20	
Magnesium		54.85	mg/l	1.0	50.5	1.184	106	75	125	1.66	20	
Sample ID:	1004527-04BMSD		MSD				Batch ID:	R38403	Analysis	s Date:	4/27/2010	1:30:17 PM
Calcium		334.3	mg/l	5.0	252.5	86.62	98.1	75	125	3.45	20	
Potassium		433.5	mg/L	5.0	275	169.8	95.9	75	125	2.38	20	
Sample ID:	MB		MBLK				Batch ID:	R38403	Analysis	s Date:	4/27/2010 1	0:26:51 AN
Calcium		. ND	mg/L	1.0								
Iron		ND	mg/l.	0.020								
Magnesium		ND	mg/L	1.0								
Potassium		ND	mg/L	1.0							4	
Sodium		ND	mg/l.	1.0								
Sample ID:	LCS		<i>LC</i> S				Batch ID:	R38403	Analysis	Date:	4/27/2010 1	0:30:33 AM
Calcium		50.34	mg/L	1.0	50.5	0	99.7	80	120			
ron		0.5026	mg/L	0.020	0.5	0	101	80	120			
Magnesium		50.50	mg/L	1.0	50.5	0	100	80	120			
Potassium		53.19	mg/L	1.0	55	0	96.7	80	120			
Sodium		49.57	mg/L	1.0	50.5	0	98.1	80	120			
Sample ID:	1804627-04BMS		MS:				Batch ID:	R38403	Analysis	Date:	4/27/2010 1	2:55:59 PM
ron		0.5411	mg/L	0.020	0.5	0.0349	101	75	125			
Magnesium		53.95	mg/L	1.0	50.5	1.184	104	75	125			
Sample ID:	1004527-04BMS		MS				Batch ID:	R38403	Analysis	Date:	4/27/2010	1:21:07 PM
Calcium		322.9	mg/L	5.0	252.5	86.62	93.6	75	125			
Potassium		423.3	mg/L	5.0	275	169.8	92.2	75	125			
Method: S	M2540C MOD: Total	Dissolved S	olids									
Sample ID:	MB-22067		MBLK				Batch ID:	22067	Analysis	Date:	4/27/2010	3:58:00 PM
Total Dissolve	ed Solids	ND	mg/L	20.0								
Sample ID:	LCS-22067		LCS				Batch ID:	22067	Analysis	Date:	4/27/2010	3:58:00 PM
rotal Dissolv	ed Solids	1032	mg/L	20.0	1000	0	103	80	120			

O	al	ifi	ers

E Estimated value

R RPD outside accepted recovery limits

Page 2

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

		Sample		cibr Oil	COMMICE			*	
	Client Name SMA-FARM	\triangle			Date Receiv			4/22/2010	
1	Work Order Number 1004527	/ \			Received b	y: AT		15	
	Checklist completed by: Signature			Date	Sample ID / 22//0	labels checked -	by:	Initials	
ı	Matrix:	Carrier name	Clier	nt drop-of	Í		-		
,	Shipping container/cooler in good condition?		Yes	\square	No 🗆	Not Present			
	Custody seals intact on shipping container/cooler?		Yes	$ \mathbf{V} $	No 🗔	Not Present		Not Shipped	
	Custody seals intact on sample bottles?		Yes		No 🗆	N/A	$ \mathbf{V} $		
(Chain of custody present?		Yes	\checkmark	No 🔲			•	
	Chain of custody signed when relinquished and rec	ceived?	Yes	\checkmark	No 🗆	•			
c	Chain of custody agrees with sample labels?		Yes		No 🗌				
S	amples in proper container/bottle?		Yes	\checkmark	No 🗌				
	ample containers intact?		Yes	$ \mathbf{Z} $	No 🗌				
	sufficient sample volume for indicated test?		Yes	$ \mathbf{V} $	No 🔲				
	.!! samples received within holding time?		Yes	V	No 🔲			Number of	
		No VOA vials subm		\checkmark	Yes 🗌	No 🔲		bottles che	cked for
	Vater - Preservation labels on bottle and cap mate	h?	Yes	\checkmark	No 🔲	N/A 🗆		×	•
٧	/ater - pH acceptable upon receipt?		Yes	V	No 🗌	N/A		(<2)>12 unie.	ss noted
С	ontainer/Temp Blank temperature?		4.	•	<6° C Acceptat				
C	OMMENTS:			•	lf given sufficien	t time to cooi.			
•									
				===					
C	ient contacted Da	te contacted:			Pers	on contacted			
C	ontacted by:	garding:		·					
C	omments:								
-			-						
-						·			
=									
-	Corrective Action								
,	5011501.151.161.011								
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	HALL ENVIKONMENIAL ANALYSIS I ABODATODY		www.nailetivitorinietikai.com 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 505-345-4107	Ana	(\rangle (\lambda)	Gas o	7 PH (6:8/1) 64.1) 7.4(30; 30; 30; 40, 40, 40, 40, 40, 40, 40, 40, 40, 40,	BTEX + MTE BTEX + MTE BTEX + MTE TPH (Method TPH (Method B210 (PNA of B310 (PNA of	*	- %	× × × × × × × × × × × × × × × × × × ×	X						Remarks:		If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time:	J Standard □ Rush	}	CP5 1989	Project #:	5119748	Project Manager:	Loren Diede	Sampler: Shownon Challyhock	Sample Temperagne	Container Preservative F. The Type	4 PICSIC 13V5/456.	2-			A					in the	Received by: Date Time	ontracted to other accredited laboratories. This serves as notice of
hain-of-Custody Record	Client: Saudor, Miller & PXX		Mailing Address: (の)ステーアルディル		-6	ورايعال مدريج معر مريانيان مدريماك المعالمة email or Fax#:	QA/QC Package:	ر □ Other	□ EDD (Type)	Matrix Sample Request ID	4216 1142 Way MIL) 3	42 6 1 m 13 00	Clina Resoluter	4-32 mores 1 Must					i	- 3	Date: Time: Relinquished by:	if necessary, samples submitted to Hall Environmental may be subα

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COVER LETTER

Thursday, June 10, 2010

Cindy Gray Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS 1989

Dear Cindy Gray:

Order No.: 1006037

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 5/28/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 10-Jun-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1006037

CPS 1989

Project: Lab ID:

1006037-01

Client Sample ID: MW3

Collection Date: 5/27/2010 3:10:00 PM

Date Received: 5/28/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	"""			·		Analyst: MMS
Chloride	13	0.50		mg/L	1	6/3/2010 12:52:17 AM
Sulfate	7000	100		mg/L	200	.6/3/2010 12:00:00 PM
EPA METHOD 6010B: DISSOLVED M	ETALS					Analyst: RAGS
Catcium	360	5.0		mg/L	5	6/1/2010 5:28:05 PM
Iron	0.18	0.020		mg/L	1	6/1/2010 3:20:51 PM
Magnesium	16	1.0		mg/L	1	6/1/2010 4:33:42 PM
Potassium	8.5	1.0	•	mg/L	1	6/1/2010 4:33:42 PM
Sodium	2700	100		mg/L	100	6/1/2010 5:33:35 PM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	61	20		mg/L CaCO3	1	6/3/2010 4:00:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	6/3/2010 4:00:00 PM
Bicarbonate	61	20		mg/L CaCO3	1	6/3/2010 4:00:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	6/3/2010 4:00:00 PM
EPA 120.1: SPECIFIC CONDUCTANC	E					Analyst: NSB
Specific Conductance	16000	0.50		µmhos/çm	50	6/3/2010 3:49:00 PM
SM4500-H+B: PH						Analyst: NSB
рН	7.77	0.1		pH units	1	6/3/2010 4:00:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0		•	1	6/7/2010 7:52:00 AM
SM2540C MOD: TOTAL DISSOLVED 8	SOLIDS					Analyst: K\$
Total Dissolved Solids	9460	200		mg/L	1	6/7/2010 12:32:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B. Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 1 of 4

Date: 10-Jun-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1006037

Project:

1006037-02

Lab ID:

CPS 1989

Client Sample ID: MW2

Collection Date: 5/28/2010 8:13:00 AM

Date Received: 5/28/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MMS
Chloride	19	0.50		mg/L	1.	6/3/2010 1:27:06 AM
Sulfate	6600	100		mg/L	200	6/3/2010 12:17:25 PM
EPA METHOD 6010B: DISSOLVED	METALS					Analyst: RAGS
Calcium	310	5.0		mg/L	5	6/1/2010 5:36:26 PM
Iron	25	2.0		mg/L	100	6/1/2010 5:40:05 PM
Magnesium	39	1.0		mg/L	1	6/1/2010 4:37:26 PM
Potassium	13	1.0		mg/L	1	6/1/2010 4:37:26 PM
Sodium	2800	100		mg/L	100	6/1/2010 5:40:05 PM
SM 2320B: ALKALINITY			*			Analyst: NSB
Alkalinity, Total (As CaCO3)	710	20		mg/L CaCO3	1	6/3/2010 4:37:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	6/3/2010 4:37:00 PM
Bicarbonate	710	20		mg/L CaCO3	1	6/3/2010 4:37:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	6/3/2010 4:37:00 PM
EPA 120.1: SPECIFIC CONDUCTA	NCE					Analyst: NSB
Specific Conductance	17000	0.50		µmhos/cm	50	6/3/2010 3:51:00 PM
SM4500-H+B: PH						Analyst: NSB
рН	7.16	0.1		pH units	1	6/3/2010 4:37:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	6/7/2010 7:52:00 AM
SM2540C MOD: TOTAL DISSOLVE	D SOLIDS					Analyst: KS
Total Dissolved Solids	9410	200		mg/L	1	6/7/2010 12:32:00 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits

Date: 10-Jun-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1006037

Client Sample ID: MW2 DUP

Collection Date: 5/28/2010 8:30:00 AM

Project:

CPS 1989

Date Received: 5/28/2010

Lab ID:

1006037-03

Matrix: AQUEOUS

Analyses	Result.	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MMS
Chloride	19	0.50		mg/L	1	6/3/2010 2:01:56 AM
Sulfate	6100	100		mg/L	200	6/3/2010 12:34:49 PM
EPA METHOD 6010B: DISSOLVED MI	ETALS					Analyst: RAG
Calcium	310	5.0		mg/L	5	6/1/2010 5:42:54 PM
Iron	27	2.0		mg/L	100	6/1/2010 5:54:16 PM
Magnesium	39	1.0		mg/L	1	6/1/2010 4:40:55 PM
Potassium	13	1.0		mg/L	1	6/1/2010 4:40:55 PM
Sodium	2900	100		mg/L	100	6/1/2010 5:54:16 PM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	720	20		mg/L CaCO3	1	6/3/2010 5:04:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	6/3/2010 5:04:00 PM
Bicarbonate	720	20		mg/L CaCO3	1	6/3/2010 5:04:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	6/3/2010 5:04:00 PM
EPA 120.1: SPECIFIC CONDUCTANCI	# #					Analyst: NSB
Specific Conductance	17000	0.50		µmhos/cm	50	6/3/2010 3:53:00 PM
SM4500-H+B: PH						Analyst: NSB
рН	7.26	0.1	1	pH units	1	6/3/2010 5:04:00 PM
PECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	6/7/2010 7:52:00 AM
M2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	9330	200	ı	mg/L	1	6/7/2010 12:32:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 3 of 4

Date: 10-Jun-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1006037

Project:

CPS 1989

Lab ID:

1006037-04

Client Sample ID: MW1

Collection Date: 5/28/2010 8:37:00 AM

Date Received: 5/28/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS					· · · · · · · · · · · · · · · · · · ·	Analyst: MMS
Chloride	220	10		mg/L	20	6/3/2010 3:11:34 AM
Sulfate	5200	100		mg/L	200	6/3/2010 3:56:20 PM
EPA METHOD 6010B: DISSOLVED I	METALS					Analyst: RAGS
Calcium	70	1.0		mg/L	1	6/1/2010 4:44:24 PM
Iron	0.10	0.020		mg/L	1	6/1/2010 4:44:24 PM
Magnesium	2.5	1.0		mg/L	1	6/1/2010 4:44:24 PM
Potassium	99	5.0		mg/L	5	6/1/2010 5:57:09 PM
Sodium	2400	100		mg/L	100	6/1/2010 6:00:56 PM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	71	20		mg/L CaCO3	1	6/3/2010 5:39:00 PM
Carbonate	2.1	2.0		mg/L CaCO3	1	6/3/2010 5:39:00 PM
Bicarbonate	69	- 20		mg/L CaCO3	1	6/3/2010 5:39:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	6/3/2010 5:39:00 PM
EPA 120.1: SPECIFIC CONDUCTAN	CE					Analyst: NSB
Specific Conductance	14000	0.50		µmhos/cm	50	6/3/2010 3:55:00 PM
SM4500-H+B: PH						Analyst: NSB
pH	8.44	0.1		pH units	1	6/3/2010 5:39:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	6/7/2010 7:52:00 AM
6M2540C MOD: TOTAL DISSOLVED	SOLIDS					Analyst: KS
Total Dissolved Solids	7490	100		mg/L	1	6/7/2010 12:32:00 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- Estimated value
- Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits

Page 4 of 4

Date: 10-Jun-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1006037

Project: CPS 1989									AAOLK	Order:	1006037
Analyte	Result	Units	PQL	SPK V	a SPK ref	%Rec I	LowLimit H	ighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0:	Anions										
Sample ID: MB		MBLK				Batch ID:	R39038	Analys	is Date:	6/1/2010 1	0:32:04 Al
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R39038	Analys	is Date:	6/1/2010 1	0:08:31 PI
Sulfate	ND	mg/L	0.50			•					
Sample ID: MB		MBLK				Batch ID:	R39060	Analys	is Date:	6/2/2010	1:15:56 Pi
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R39087	Analysi	s Date:	6/3/2010 1	0:16:02 A
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R39089	Analysi	s Date:	6/3/2010	9:44:03 AN
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		LCS				Batch (D:	R39038	Analysi	s Date:	6/1/2010 10	0:49:29 Af
Chloride	4.822	mg/L	0.50	5	0	96.4	90	110			
Sulfate	9.906	mg/L	0.50	10	0	99.1	90	110			
iample ID: LCS-b		LCS				Batch ID:	R39060	Analysi	s Date:	6/2/2010 5	5:54:27 PN
Chloride	4.699	mg/L	0.50	5	0	94.0	90	110			
Sulfate	9.931	mg/L	0.50	10	0	99.3	90	110			
sample ID: LCS		LCS				Batch ID:	R39087	Analysi	s Date:	6/3/2010 10):33:26 AN
Chloride	4.645	mg/L	0.50	5	0	92.9	90	110			
Sulfate	9.554	mg/L	0.50	10	0	95.5	90	110			
sample ID: LCS		LCS				Batch ID:	R39089	Analysi	s Date:	6/3/2010 10):01:27 AN
Chloride	4.553	mg/L	0.50	5	٥	91.1	90	110			
ulfate	9.418	mg/L	0.50	10	0	94.2	90	110			
ample ID: LCSD		LCSD				Batch ID:	R39038	Analysis	s Date:	6/1/2010 5	5:29:56 PN
hloride	4.892	mg/L	0.50	5	0	97.8	90	110			
ulfate	10.10	mg/L	0.50	10	0	101	90	110			
Nethod: SM 2320B: Alkalinity											
Sample ID: 1008037-01AMSD		MSD				Batch ID:	R39080	Analysis	Date:	6/3/2010 4	:22:00 PN
Ikalinity, Total (As CaCO3)	138.2	mg/L Ca	20	80	61.04	96.4	32.8	119	0.785	7.36	
ample ID: MB	700.2	MBLK			01.01	Batch ID:	R39080	Analysis		6/3/2010 3	:34:00 PM
Ikalinity, Total (As CaCO3)	ND	mg/L Ca	20					7		-, -, -, -, -, -,	
arbonate	ND	mg/L Ca	2.0								
carbonate	ND	mg/L Ca	20								
ample ID: 80PPM LCS	•	LCS				Batch ID:	R39080	Analysis	Date:	6/3/2010 3	:40:00 PM
Ikalinity, Total (As CaCO3)	79.88	mg/L Ca	20	80	0	99.8	96.5	104		; -	
ample ID: 1006037-01AMS	, 0.00	MS	~~	00	v	Batch ID:	R39080	Analysis	Date:	6/3/2010 4	.07.00 PM
•	127 4		20	80	61.04			•		0.0.20107	.57.50 : 14
Ikalinity, Total (As CaCO3)	137.1	mg/L Ca	20	80	61.04	95.1	32.8	119			

Page 1

E Estimated value

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Date: 10-Jun-10

QA/QC SUMMARY REPORT

Souder, Miller and Associates

CPS 1989

Work Order:

1006037

	Project:	CPS 1989									Work	Order:	1006037
	Analyte		Result	Units	PQL	SPK V	a SPK ref	%Rec L	owLimit Hi	ghLimit	%RPD	RPDLimi	t Quat
-	Method:	EPA Method 6010B: D	issolved Me	tais						-			
A	Sample ID:	: MB		MBLK				Batch ID:	R39014	Analysis	Date:	6/1/2010	2:56:49 PM
	iron		ND	mg/L	0.020								
(CAN)	Sample ID:	MB		MBLK				Batch ID:	R39014	Analysis	Date:	6/1/2010	4:28:04 PM
	Calcium		ND	mg/L	1.0								
	Iron		ND	mg/L	0.020								
	Magnesium		ND	mg/L	1.0								
	Potassium		ND	mg/L	1.0								
	Sodium		ND	mg/L	1.0								
	Sample ID:	LCS		LCS				Batch ID:	R39014	Analysis	Date:	6/1/2010	2:59:48 PM
	Iron		0.4986	mg/L	0.020	0.5	0.0063	98.5	80	120			
	Sample ID:	LCS		LCS				Batch ID:	R39014	Analysis	Date:	6/1/2010	4:31:03 PM
	Calcium		50.58	mg/L	1.0	50.5	0	100	80	120			
	iron		0.4916	mg/L	0.020	0.5	0	98.3	80	120			
	Magnesium		50.96	mg/L	1.0	50.5	0	101	80	120			
	Potassium		54.50	mg/L	1.0	55	0	99.1	80	120			
E)	Sodium		54.06	mg/L	1.0	50.5	0	107	80	120			
Ç,	Method:	SM2540C MOD: Total I	Dissolved So	lids						_			
	Sample ID:			MBLK				Batch ID:	22514	Analysis	Date:	6/7/2010 1	2:32:00 PM
	Total Dissolv		ND	mg/L	20.0								
		LCS-22514	ND	LCS	20.0			Batch ID:	22514	Analysis	Date	6/7/2010 1	2:32:00 PM
1	•		4004		00.0	4000	-			•	-a.v.	5.77£010 1	
l	Total Dissolv	vea Solias	1021	mg/L	20.0	1000	7	101	80	120			

Qualifiers:

Estimated value

Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Н Holding times for preparation or analysis exceeded

NC Non-Chlorinated

RPD outside accepted recovery limits

Page 2

Sample Receipt Checklist

Client Name SMA-FARM		Date Received:	5/28/2010
Work Order Number 1006037		Received by: AT	1 1-
() () (-1-	Sample ID labels checked	
Checklist completed by:	Date Date	8/10	Initials
Organica -	}		
Matrix: Carrier name	e <u>Client drop-</u>	<u>off</u>	
Chinaina containaviacalor in good condition?	Yes 🗹	No Not Present	П
Shipping container/cooler in good condition?	Yes 🗆	No Not Present	
Custody seals intact on shipping container/cooler?		No 🗆 N/A	✓ Not Snibbed 🖭
Custody seals intact on sample bottles?	Yes 📙	•	
Chain of custody present?	Yes 🗹	No 🗆	
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗆	
Chain of custody agrees with sample labels?	Yes 🗹	No 🗆	
Samples in proper container/bottle?	Yes 🗹	No 🗆	
Sample containers intact?	Yes 🗹	No 🗆	1
Sufficient sample volume for indicated test?	Yes 🗹	No 🗆	
All samples received within holding time?	Yes 🗹	No 🗆	Number of preserved bottles checked for
Water - VQA vials have zero headspace? No VOA vials sul	bmitted 🗹	Yes 🗌 No 🗀	pH:
Water - Preservation labels on bottle and cap match?	Yes 🗹	No 🗌 N/A 🗎	4
Water - pH acceptable upon receipt?	Yes 🗹	No □ N/A □	<2 >12 unless noted below.
Container/Temp Blank temperature?	9.2°	<6° C Acceptable	Delow.
COMMENTS:		If given sufficient time to cool.	
		•	
	=====		
Client contacted Date contacted:		Person contacted	
Contacted by: Regarding:			
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Comments: full no 1664 are	1950/	6/1/10	
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Corrective Action			

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Tum-Around Time:	真 Standard	Project Project	기	Project #:		Project Manager:		Sampler:	Sample 1	S S	Ploshe.	Pastic.				ł						1	Received by		ntracter
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COVER LETTER

Tuesday, August 17, 2010

Cindy Gray Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS 1989

Dear Cindy Gray:

Order No.: 1008441

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/12/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 17-Aug-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1008441

Project:

CPS 1989

Lab ID:

1008441-01

Client Sample ID: MW-1

Collection Date: 8/11/2010 11:00:00 AM

Date Received: 8/12/2010

Matrix: AQUEOUS

Analyses	Result	PQL Q	ial Units	DF	Date Analyzed
SM4500-H+B: PH					Analyst: BDH
pΗ	9.14	0.1	pH units	1	8/12/2010 2:08:05 PM

- Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Sample Receipt Checklist

Client Name SMA-FARM			Date Receive	d:	8	/12/2010	
Work Order Number 1008441			Received by	: TLS		○ -	
Checklist completed by:		S S	1.	abels checked	by:		-
Matrix:	Carrier name	Greyhound					
Shipping container/cooler in good condition?		Yes 🗹	No 🗆	Not Present			
Custody seals intact on shipping container/cooler)	Yes 🗹	No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes 🗌	No 🗌	N/A	\checkmark		
Chain of custody present?		Yes 🗹	No 🗆				
Chain of custody signed when relinquished and re	ceived?	Yes 🗹	No 🗌				
Chain of custody agrees with sample labels?	'	Yes 🗹	No 🗆				
Samples in proper container/bottle?	•	Yes 🗹	No 🗌			·	
Sample containers intact?		Yes 🗹	No 🗌				
Sufficient sample volume for indicated test?		Yes 🗹	No 🗌				
All samples received within holding time?		Yes 🗹	No □			Number o	f preserved
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗹	Yes 🗌	No 🗌		bottles che pH:	ecked for
Water - Preservation labels on bottle and cap mate	ch?	Yes 🗌	No 🗌	N/A 🗹			
Water - pH acceptable upon receipt?		Yes 🗌	No 🗆	N/A 🗹		<2 >12 unl	ess noted
Container/Temp Blank temperature? COMMENTS:		3.6°	<6° C Acceptable If given sufficient			below.	
Client contacted D	ate contacted:		Pers	on contacted			
Contacted by:	garding:		·				
Comments:							
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Corrective Action							
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COVER LETTER

Monday, August 23, 2010

Cindy Gray Souder, Miller and Associates PO Box 248 Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS 1989

Dear Cindy Gray:

Order No.: 1008745

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/19/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 23-Aug-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1008745

Project:

CPS 1989

Lab ID:

1008745-01

Client Sample ID: MW-1

Collection Date: 8/18/2010 11:08:00 AM

Date Received: 8/19/2010

Matrix: AQUEOUS

Analyses	Result	PQL Q	ial Units	DF	Date Analyzed
SM4500-H+B: PH			<u> </u>		Analyst: NSB
рH	8.99	0.1	pH units	1	8/20/2010 8:49:00 PM

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Date: 23-Aug-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1008745

SPK Val SPK ref %Rec LowLimit HighLimit Result Units **PQL** %RPD RPDLimit Qual Analyte

Method: SM4500-H+B: pH

Sample ID: 1008739-01A DUP

DUP pH units Batch ID: R40505

Analysis Date:

8/20/2010 7:44:00 PM

pН

7.740

0.1

0.129

Qualifiers:

Estimated value

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit Н Holding times for preparation or analysis exceeded

NC Non-Chlorinated

RPD outside accepted recovery limits

Page 1

Sample Receipt Checklist

	Sample Recei	bi Cueckie	•			
Cijent Name SMA-FARM		Date	Received:		8/19/	2010
Work Order Number 1008745		Re	ceived by:	AMG	\bigcap	7
Checklist completed by: Signature	gas 8/1	9/10 Sa	mple ID labels	checked	by: Initials	<u> </u>
Matrix: Car	rrier name: <u>Greyh</u>	ound				
Shipping container/cooler in good condition?	Yes (☑ No	☐ Not	t Present		
Custody seals intact on shipping container/cooler?	Yes	✓ No	☐ Not	Present	☐ Not S	Shipped 🔲
Custody seals intact on sample bottles?	Yes (] No	□ N/A		$ \mathbf{V} $	
Chain of custody present?	Yes 8	✓ No				
Chain of custody signed when relinquished and received?	Yes [✓ No				
Chain of custody agrees with sample labels?	Yes 8	✓ No				
Samples in proper container/bottle?	Yes (☑ No				
Sample containers intact?	Yes 6	≥ No				
Sufficient sample volume for indicated test?	Yes 9	Z No				
All samples received within holding time?	Yes (Z No			٨	lumber of preserved
	A vials submitted	✓ Yes		No 🗀		ottles checked for H:
Water - Preservation labels on bottle and cap match?	Yes [□ No		N/A 🗹		
Water - pH acceptable upon receipt?	Yes [] No		N/A 🗹		>12 unless noted
Container/Temp Blank temperature?	0.9	° <6° C∵	Acceptable		Dei	low.
COMMENTS:		If given	sufficient time	to cool.		
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Client contacted Date contacted	acted:		Person co	ontacted		
Contacted by: Regarding	g:	·				
Comments:						
Corrective Action						
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ġ,						email or Fax#cloundiss (Sandar Millar, Con Project Manager		☐ Level 4 (Full Validation)				Sample Request ID															If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories.	
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COVER LETTER

Thursday, September 23, 2010

Tom Long Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX: (505) 327-1496

RE: CPS 1989

Dear Tom Long:

Order No.: 1009168

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 8/31/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001 Texas Lab# T104704424-08-TX



Date: 23-Sep-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1009168

CPS 1989 .

Project: Lab ID:

1009168-01

Client Sample ID: MW-1

Collection Date: 8/31/2010 4:50:00 PM

Date Received: 8/31/2010 Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	######################################				Analyst: SRN
Chloride	130	5.0	mg/L	10	9/18/2010 2:04:34 PM
Sulfate	5400	100	mg/L	200	9/20/2010 3:42:46 PM
SM 2320B: ALKALINITY					Analyst: NSE
Alkalinity, Total (As CaCO3)	110	20	mg/L CaCO3	1	9/7/2010 7:10:00 PM
Carbonate	ND	2.0	mg/L CaCO3	1	9/7/2010 7:10:00 PM
Bicarbonate	110	20	mg/L CaCO3	1	9/7/2010 7:10:00 PM
Hydroxide	ND	2.0	mg/L CaCO3	1	9/7/2010 7:10:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE	!				Analyst: NSE
Specific Conductance	8200	0.010	µmhos/cm	1	9/7/2010 7:10:00 PM
SM4500-H+B: PH					Analyst: NSB
рН	7.33	0.100	pH units	1	9/7/2010 7:10:00 PM
SPECIFIC GRAVITY BY SM 2710F					Analyst: TAF
Specific Gravity	1.0	0		1	9/7/2010 6:14:00 AM
SM2540C MOD: TOTAL DISSOLVED S	OLIDS				Analyst: SNV
Total Dissolved Solids	7350	40.0	mg/L	1	9/9/2010 10:07:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 1 of 4

Date: 23-Sep-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1009168

Project:

CPS 1989

Lab ID:

1009168-02

Client Sample ID: MW-2

Collection Date: 8/31/2010 4:20:00 PM

Date Received: 8/31/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: SRM
Chloride	22	5.0		mg/L	10	9/18/2010 2:21:59 PM
Suifate	6500	250		mg/L	500	9/20/2010 4:00:11 PM
SM 2320B: ALKALINITY						Analyst: NSB
Alkalinity, Total (As CaCO3)	680	20		mg/L CaCO3	1	9/7/2010 7:19:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	9/7/2010 7:19:00 PM
Bicarbonate	680	20	•	mg/L CaCO3	1	9/7/2010 7:19:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	9/7/2010 7:19:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: NSB
Specific Conductance	9600	0.010		µmhos/cm	1	9/7/2010 7:19:00 PM
SM4500-H+B: PH						Analyst: NSB
Hq	7.52	0.100		pH units	1	9/7/2010 7:19:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	9/7/2010 6:14:00 AM
SM2540C MOD: TOTAL DISSOLVED SO	OLIDS					Analyst: SNV
Total Dissolved Solids	9590	20.0		mg/L	1	9/9/2010 10:07:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 2 of 4

Date: 23-Sep-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1009168

Project:

CPS 1989

Lab ID:

1009168-03

Client Sample ID: MW-3

Collection Date: 8/31/2010 1:00:00 PM

Date Received: 8/31/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS		*************************************	- 1, -, - , - , - 1, - 1,		Analyst: SRN
Chloride '	13	5.0	mg/L	10	9/18/2010 3:14:13 PM
Sulfate	6500	250	mg/L	500	9/20/2010 4:17:35 PM
SM 2320B: ALKALINITY					Analyst: NSB
Alkalinity, Total (As CaCO3)	60	20	mg/L C	aCO3 1	9/7/2010 7:44:00 PM
Carbonate	ND	2.0	mg/L C	aCO3 1	9/7/2010 7:44:00 PM
Bicarbonate	60	20	mg/L C	aCO3 1	9/7/2010 7:44:00 PM
Hydroxide	ND	2.0	mg/L C	aCO3 1	9/7/2010 7:44:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE					Analyst: NSB
Specific Conductance	8900	0.010	µmhos/	cm 1	9/7/2010 7:44:00 PM
5M4500-H+B: PH				*	Analyst: NSB
pH	7.36	0.100	pH units	3 1	9/7/2010 7:44:00 PM
PECIFIC GRAVITY BY SM 2710F					Analyst: TAF
Specific Gravity	1.0	0		1	9/7/2010 6:14:00 AM
SM2540C MOD: TOTAL DISSOLVED SO	DLIDS .				Analyst: SNV
Total Dissolved Solids	9000	20.0	mg/L	1	9/9/2010 10:07:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 3 of 4

Date: 23-Sep-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1009168

Project:

CPS 1989

Lab ID:

1009168-04

Client Sample ID: MW-2 Duplicate

Collection Date: 8/31/2010 2:10:00 PM

Date Received: 8/31/2010

Matrix: AQUEOUS

Analyses	Result	PQL Qua	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS		——————————————————————————————————————			Analyst: SRM
Chloride	19	5.0	mg/L	10	9/18/2010 3:31:38 PM
Sulfate	6300	250	mg/L	500	9/20/2010 4:34:59 PM
SM 2320B: ALKALINITY					Analyst: NSB
Alkalinity, Total (As CaCO3)	680	20	mg/L CaCO3	1	9/7/2010 7:52:00 PM
Carbonate	ND	2.0	mg/L CaCO3	1	9/7/2010 7:52:00 PM
Bicarbonate	680	20	mg/L CaCO3	1	9/7/2010 7:52:00 PM
Hydroxide	ND	2.0	mg/L CaCO3	1	9/7/2010 7:52:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE	<u>.</u>		•		Analyst: NSB
Specific Conductance	9600	0.010	µmhos/cm	1	9/7/2010 7:52:00 PM
SM4500-H+B: PH		•			Analyst: NSB
pH	7.56	0.100	pH units	1	9/7/2010 7:52:00 PM
SPECIFIC GRAVITY BY SM 2710F					Analyst: TAF
Specific Gravity	1.0	0		1	9/7/2010 6:14:00 AM
SM2540C MOD: TOTAL DISSOLVED S	OLIDS				Analyst: SNV
Total Dissolved Solids	9570	20.0	mg/L	1	9/9/2010 10:07:00 AM

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits



12065 Lebanon Rd. 12053 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

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YOUR LAB OF CHOICE

REPORT OF ANALYSIS

September 10, 2010

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

ESC Sample # : L477329-01

Date Received Description

September 04, 2010 1009168

Site ID :

Sample ID

MW-1

Project # : 1009168

Collected By : Collection Date :

08/31/10 16:50

Parameter ,	Result	Det. Limit	Units	Method	Date	Dil.
Hardness, Total (mg/L as CaCO3)	210	30.	mg/l	130.1	09/09/10	1
Calcium, Dissolved Iron, Dissolved Magnesium, Dissolved Potassium, Dissolved Sodium, Dissolved	69. 1.1 6.0 54. 2600	0.50 0.10 0.10 0.50 2.5	mg/l mg/l mg/l mg/l mg/l	6010B 6010B 6010B 6010B 6010B	09/06/10 09/06/10 09/06/10 09/06/10 09/06/10	1 1 1 1 5

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.



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REPORT OF ANALYSIS

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

September 10, 2010

Date Received Description

September 04, 2010 1009168

Collection Date :

Sample ID

MW-1

Collected By

08/31/10 16:50

ESC Sample # : L477329-02

Site ID :

Project # : 1009168

Parameter Result Det. Limit <u>Units</u> Method Dil. Date Oil & Grease (Hexane Extr) BDL 5.0 mg/l 1664A 09/10/10 1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL) Note:
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REPORT OF ANALYSIS

September 10, 2010

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

ESC Sample # :

L477329-03

Date Received Description

September 04, 2010 1009168

Site ID :

Project # :

1009168

Sample ID

Collected By : Collection Date : 08/31/10 16:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness, Total (mg/L as CaCO3)	860	90.	mg/1	130.1	09/09/10	3
Calcium, Dissolved Iron, Dissolved Magnesium, Dissolved Potassium, Dissolved Sodium, Dissolved	260 16. 32. 13. 3000	0.50 0.10 0.10 0.50 2.5	mg/l mg/l mg/l mg/l mg/l	6010B 6010B 6010B 6010B 6010B	09/06/10 09/06/10 09/06/10 09/06/10 09/06/10	1 1 1 1 5

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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REPORT OF ANALYSIS

September 10, 2010

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

ESC Sample # : L477329-04

Date Received Description

September 04, 2010 1009168

Site ID :

Sample ID

MW-2

Project # : 1009168

Collected By : Collection Date :

08/31/10 16:20

Det. Limit Units Method Dil. Parameter Result Date Oil & Grease (Hexane Extr) BDL 5.0 mg/11664A 09/10/10

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.



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REPORT OF ANALYSIS

September 10, 2010

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

ESC Sample # : L477329-05

Date Received Description

September 04, 2010 1009168

Site ID :

Project # : 1009168

Collected By : Collection Date :

Sample ID

08/31/10 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness, Total (mg/L as CaCO3)	970	180	mg/l	130.1	09/09/10	6
Calcium, Dissolved	340	0.50	mq/l	6010B	09/06/10	1
Iron, Dissolved	0.46	0.10	mg/l	6010B	09/06/10	1
Magnesium, Dissolved	14:	0.10	mg/l	6010B	09/06/10	1
Potassium, Dissolved	9.0	0.50	mg/l	6010B	09/06/10	1
Sodium, Dissolved	2600	2.5	mg/l	6010B	09/06/10	5

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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REPORT OF ANALYSIS

September 10, 2010

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

ESC Sample # : L477329-06 ·

Date Received Description

September 04, 2010 1009168

Site ID :

Sample ID

MW-3

Project # : 1009168

Collected By : Collection Date :

08/31/10 13:00

Result Det. Limit Units Method Date Dil. Parameter mg/l09/10/10 5.0 1664A 1 Oil & Grease (Hexane Extr) BDL

BDL - Below Detection Limit Det. Limit - Practical Quantitation Limit(PQL) The reported analytical results relate only to the sample submitted.

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L477329-07

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YOUR LAB OF CHOICE

REPORT OF ANALYSIS

September 10, 2010

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE

Albuquerque, NM 87109

September 04, 2010 1009168

Date Received Description

Sample ID

MW-2 Duplicate

Site ID :

ESC Sample # :

Project # : 1009168

Collected By : Collection Date :

08/31/10 14:10

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Hardness, Total (mg/L as CaCO3)	850	90.	mg/1	130.1	09/09/10	3
Calcium, Dissolved Iron, Dissolved Magnesium, Dissolved Potassium, Dissolved Sodium, Dissolved	260 16. 31. 13. 2800	0.50 0.10 0.10 0.50 2.5	mg/l mg/l mg/l mg/l mg/l	6010B 6010B 6010B 6010B	09/06/10 09/06/10 09/06/10 09/06/10 09/06/10	1 1 1 5

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: 09/10/10 14:56 Printed: 09/10/10 14:56



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REPORT OF ANALYSIS

Anne Thorne Hall Environmental Analysis Laborat 4901 Hawkins NE Albuquerque, NM 87109

September 10, 2010

Date Received Description

September 04, 2010 1009168

Sample ID

MW-2 Duplicate

Site ID :

Project # : 1009168

ESC Sample # : L477329-08

Collected By : Collection Date :

08/31/10 14:10

Parameter Oil & Grease (Hexane Extr) Result Det. Limit BDL 5.0

mg/1

Units

Method 1664A

Date Dil

09/10/10 1

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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YOUR LAB OF CHOICE

Hall Environmental Analysis Laboratory Anne Thorne

4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report

L477329

Level II

September 10, 2010

Analyte	Result		its	Rec	Lin	it	Batch I	Date Analyzed
Iron, Dissolved Magnesium, Dissolved Porter The Dissolved Sodium, Dissolved	< .1 < .1 < .5	mg.	/1 A				WG497095 (WG497095 (19/06/10 12:26 19/06/10 12:26 19/06/10 12:26 19/06/10 12:26 19/06/10 12:26
	s examin							9/09/715 (9-5:02
Oil & Grease (Hexane Extr)	< 5	ng/	<u>′1 </u>		·		WG497668 (9/10/10 09:41
Analyte	Unite	Result	DUPLICATE Duplica	ate RPD	3	Limit	Ref Samp	Batch
And The State of t	mg/1 mg/1 mg/1 mg/1	0 4.30 16.0	0.0203 4.37 2.18 16.8	NA 1.9 2.4	2 05 2 2	o b	L477178-1 L477178-1 L477178-1	6 WG497095 6 WG497095 WG497095
Have the department of the first of the firs	100000		TO DETAIL				10000	19 WG497204
Analyte	Units	Known V		Result	% R	ec	Limit	Batch
Iron, Dissolved Magnesium, Dissolved Magnesium, Dissolved Sodium, Dissolved	mg/l mg/l mg/l mg/l	1.13 11.3 10.3 11.3		1.08 12.4 11.9	95. 110		85-115 85-115	MG497095 WG497095 WG497095 WG497095 WG497095
Battanyanatara 1800/diadestacom 1893/	£9573783	102212001427		1997/1/201			¥864]18936	200497204
Oil & Grease (Hexane Extr)	mg/l	40		38.5	96.	3	78-114	WG497668
Analyte		Result R		To oppiac Rec	Limit	RPD	Limi	t Batch
Hadenada esta falkaratza a saggeria kerda	10070000			1003412517		isaansina		M3497204
Oil & Grease (Hexane Extr)	mg/l	36.0 3	8.5	90.0	78-114	6.71	20	WG497668
Analyte	Units		Ref Res		Rec	Limit	Ref Samp	Batch
Caux on preserved in the control of	mg/l				0.2	75-125	L477178-16	WG497095 WG497095
Magnesium, Dissolved Political Dissolved Sodium, Dissolved	mg/l mg/l	4013142703	497	1144 (024.2)	02. 6.8.1.253333 4.7	75-125 75-125 75-125	1477178-16 1477178-16 1477178-16	WG497095 WG497095
	enzalastera anteka	errenenenen	en anno publicat	randales sa	CSP CONTRACTOR	· BACONNA BLANCONA A	SAMONDO ESCRETA AD	**************************************



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YOUR LABIOF CHOICE

Hall Environmental Analysis Laboratory

Anne Thorne

4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report

L477329

Level II

September 10, 2010

Analyte	Units	MS Res	MALTATA Ref R	POLICE es TV	% Rec	Limit	Ref Samp	Batch
DIOPOSICIONO SECURIARIES PARTE DO SECURITARIO	arezak	Oranie Sile		10.4	78106 TAX	NE SVIOLATIA		7068
Analyte	Units	MSD	Ref	Rec	Limit	RPD	Limit Ref Samp	Batch
Balcatun Dissolved Iron, Dissolved Magnesium, Dissolved Magnesium, Dissolved Sodium, Dissolved	mg/l mg/l mg/l mg/l	1.04 16.0 14.4 27.8	1.04 15.9 27.5	90.2 103. 97.3	75-125 75-125 75-125 75-125 75-125	0.627 0.373965 1.08	20 L477178-16 20 L477178-16 20 L477178-16 20 L477178-16 20 L477178-16	WG497095 WG497095
HANNESS DELL'ADRIGHTATION DELL	TO THE	DEDIME.		MARINE TO SERVICE AND ADDRESS OF THE SERVICE AND	HTTO THOU		Korkanderiekoleke	200 497204
Oil & Grease (Hexane Extr)	mg/l	81.8	72.7	128.*	78-114	19.6*	18 1477635-02	WG497668

Batch number /Run number / Sample number cross reference

WG497095: R1365169: L477329-01 03 05 07 WG497204: R1369408: L477329-01 03 05 07 WG497668: R1370148: L477329-02 04 06 08

^{* *} 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.'

Date: 23-Sep-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1009168

110,000									*** OX IC		1007100
Analyte	Result	Units	PQL	SPK Val SPK	ref	%Rec i	owLimit H	ighLimit	%RPD	RPDLimit	Quai
Method: EPA Method 300.0:	Anions										
Sample ID: MB		MBLK				Batch ID:	R41040	Analysi	s Date:	9/19/2010	1:04:48 PI
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R41063	Analysi	s Date:	9/20/2010	2:50:33 PI
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		MBLK				Batch ID:	R41063	Analysi	s Date:	9/21/2010	5:55:49 Af
Chloride	ND	mg/L	0.50							•	
Sulfate	ND	mg/L	0.50								
Sample ID: LCS-b		LCS				Batch ID:	R41040	Analysi	s Date:	9/19/2010	1:39:37 PN
Chloride	5.065	mg/L	0.50	5	0	101	90	110			
Sulfate	10.51	mg/L	0.50	10	0	105	90	110			
Sample ID: LCS		LCS				Batch ID:	R41063	Analysis	s Date:	9/20/2010	3:07:57 PN
Chloride	4.847	mg/L	0.50	. 5	0	96.9	90	110			
Sulfate	10.08	mg/L	0.50	10	0	101	90	110			
Sample ID: LCS		LCS				Batch ID:	R41063	Analysis	s Date:	9/21/2010	5:13:14 AN
Chloride	4.789	mg/L	0.50	5	0	95.8	90	110			
Sulfate	9.774	mg/L	0.50	10	0	97.7	90	110			
Method: SM 2320B: Alkalinit	y										
Sample ID: MB	•	MBLK				Batch ID:	R40821	Analysis	Date:	9/7/2010 1	:06:00 PM
Alkalinity, Total (As CaCO3)	ND	mg/L Ca	20								
Carbonate	ND	mg/L Ca	2.0								
Bicarbonate	ND	mg/L Ca	20								
Sample ID: MB2		MBLK				Batch ID:	R40821	Analysis	Date:	9/7/2010 8	:08:00 PM
Alkalinity, Total (As CaCO3)	ND	mg/L Ca	20								
Carbonate	ND	mg/L Ca	2.0								
Bicarbonate	ND	mg/L Ca	20								
Sample ID: 80PPM LCS		LCS				Batch ID:	R40821	Analysis	Date:	9/7/2010 1	:12:00 PM
Alkalinity, Total (As CaCO3)	79.56	mg/L Ca	20	80 (0	99.5	96.5	104			
Sample ID: 80PPM LCS2		LCS				Batch ID:	R40821	Analysis	Date:	9/7/2010 6	:13:00 PN
Alkalinity, Total (As CaCO3)	80.28	mg/L Ca	20	80 (0	100	96.5	104			
Nethod: SM2640C MOD: Total	i Dissolved S	olids									
Sample ID: MB-23685		MBLK				Batch ID:	23685	Analysis	Date:	9/9/2010 10	:07:00 AN
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS-23685		LCS				Batch ID:	23685	Analysis	Date:	9/9/2010 10	:07:00 AN
Total Dissolved Solids	987.0	mg/L	20.0	1000 6	3	98.1	80	120			
	~ ~ , , w	· · · · · · · · · · · · · · · · · · ·			-						

On	aliffe	

E Estimated value

Page 1

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded

NC Non-Chlorinated

R RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc. Sample Receipt Checklist 8/31/2010 Client Name SMA-FARM Date Received: Work Order Number 1009168 Received by: AT Sample ID labels checked by: Initials Checklist completed by: Client drop-off Matrix: Carrier name Not Present Yas V No [] Shipping container/cooler in good condition? Not Present No 🗌 Yes 🔲 Not Shipped Custody seals intact on shipping container/cooler? No 🗌 V Yes 🗌 N/A Custody seals intact on sample bottles? No 🗆 Chain of custody present? Yes 🗹 No 🗌 Chain of custody signed when relinquished and received? No 🗌 Yes 🔽 Chain of custody agrees with sample labels? No 🗆 Yes 🔽 Samples in proper container/bottle? Yes 🗹 No 🔲 Sample containers intact? No 🖂 Yes 🗹 Sufficient sample volume for indicated test? No 🗆 Yes 🔽 Number of preserved All samples received within holding time? bottles checked for Yes 🗌 No 🗌 No VOA vials submitted 🗹 pH: Water - VOA vials have zero headspace? No 🗆 Yes 🗹 N/A Water - Preservation labels on bottle and cap match? No 🗆 -Yes 🗹 N/A 🗀 Water - pH acceptable upon receipt? Container/Temp Blank temperature? <6° C Acceptable 2.0° If given sufficient time to cool. COMMENTS: Client contacted Date contacted: Contacted by: Regarding: Comments:

Corrective Action

Air Bubbles (Y or N) ANALYSIS LABORATORY HALL ENVIRONMENTAL If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report. IdV × 4901 Hawkins NE - Albuquerque, NM 87109 Fax 505-345-4107 (NOV-imag) 07S8 www.hallenvironmental.com Analysis Request (AOV) 809S8 8081 Pesticides | 8082 PCB's Anions (F,CI,NO3,NO2,PO4,SO4) RCRA 8 Metals (HA9 to AN9) 0168 Tel. 505-345-3975 EDB (Method 504.1) TPH (Method 41/3.1) PH Method 80 (58 (Gaş/Diesel) Remarks: BTEX + MTBE + TPH (Gas only) BTEX + MTBE + TMB's (8021) Time Date 10 Preservative □ Rush 17cm 045 Verious Ver1045 12/06/5 cps-1989 Sample Temperature 846115 You Lough Turn-Around Time: Project Manager: Verlous Tead 421.000 H 2300. Container Type and # Y Standard Project Name: Sampler: D Received by: Verieus 4 esd Received by: Zazioes On ice Project #: Liss @ Souch miller Com ☐ Level 4 (Full Validation) Sample Request ID とこと H.6.S. OAIOC Package. Tom. Lang 6 Sector willen Com-Chain-of-Custody Record Client: Souder Miller & Associates 10613 - MW 32 M.W. 2101 San Japan 5667 Signal S 250 Relinquisted by: 120 1420 120 Other 8/21/10 1420 O Matrix Mailing Address: β_0 42 email or Fax#: dave. Farmington Phone #: SOS -02/64/10 Gros 8/10/16:20 8/3//18/1300 Time 3/3/10/1652 Time: □ EDD (Typė) Accreditation 致 Standard O NELAP Date Date:

25.5

4

10 May 20
		HALL ENVIRONMENTAL	ANALISTS LABORATORY	www.nallenvironmental.com 4901 Hawkins NF - Albuquerque NM 87109		Analysis Request	esel)	Ssə) O\ss 'pOq	HPH (682) (H) (H) (H) (H) (H) (H) (H) (H) (H) (H	NO31 411 1 4	BTEX + MTE BTEX + MTE BTEX + MTE BTEX + MET BTEX + MET BTEX + MTE BTEX + MET BTEX + MTE	X					Remarks:	accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
A TANK TANK TOWN	Tum-Around Time:	Candard Rush	.	CR MB9	Project #:	8676110	Project Manager:	المحل المحري	Sampler: Thyres Long	Sample Temperature	Container Preservative Type and # Type	1- 30E 7msc4						
PARK GARD TAXAS TAXAS (MERC)	hain-of-Custody Record	Client: SMA		Mailing Address: 2101 San Jan Blud.	Formington, WM B7-101		5 6 6 6 000	J 7.7 €	Accreditation	□ EDD (Type)	Matrix Sample Request ID	76/10 1005 CLEAM MUS -2					Date: Time: Relinquished by: Date: Time: Relinquished by:	If necessary, samples submitted to Hall Environmental may be subcontracted to other



COVER LETTER

Thursday, September 23, 2010

Tom Long Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX: (505) 327-1496

RE: CPS 1989

Dear Tom Long:

Order No.: 1009168

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 8/31/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX





COVER LETTER

Wednesday, September 29, 2010

Cindy Gray Souder, Miller and Associates 612 E Murray Dr. Farmington, NM 87401

TEL: (505) 325-5667 FAX: (505) 327-1496

RE: CPS 1989

Dear Cindy Gray:

Order No.: 1009508

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 9/10/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 29-Sep-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1009508

Project:

CPS 1989

Lab ID:

1009508-01

Client Sample ID: MW-1

Collection Date: 9/9/2010 10:50:00 AM

Date Received: 9/10/2010

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			-		Analyst: SRM
Sulfate	5400	100	mg/L	200	9/24/2010 3:33:03 AM
SM4500-H+B: PH					Analyst: NSB
рН	8.47	0.100	pH units	1	9/11/2010 1:23:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Date: 29-Sep-10

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS 1989

Work Order:

1009508

								1009308
Analyte	Result	Units	PQL	SPK Val SPK ref	%Rec L	owLimit Hig	ghLimit %RPD	RPDLimit Qual
Method: EPA Method 300.0 Sample ID: MB	Anions	MBLK			Batch ID:	R41122	Analysis Date:	9/22/2010 12:57:03 PM
Suifate Sample ID: LCS	ND	mg/L LCS	0.50		Batch ID:	R41122	Analysis Date:	9/22/2010 1:14:28 PM
Sulfate	10.00	mg/L	0.50	10 0	100	90	110	

Qu	ΩÌ	ifi	er	s	

E Estimated value

J Analyte detected below quantitation limits

NC Non-Chlorinated

Hall Environmental Analysis Laboratory, Inc. Sample Receipt Checklist 9/10/2010 Client Name SMA-FARM Date Received: Received by: MLW Work Order Number 1009508 Sample ID labels checked by: Checklist completed by: Matrix: Carrier name: Greyhound Yes 🗹 No 🖂 Not Present Shipping container/cooler in good condition? No 🗀 Custody seals intact on shipping container/cooler? Yes 🗹 Not Present Not Shipped Yes 🗆 No 🔲 \checkmark N/A Custody seals intact on sample bottles? Yes 🗹 No 🗌 Chain of custody present? No 🗌 Chain of custody signed when relinquished and received? Yes 🗹 Yes 🗹 No 🗆 Chain of custody agrees with sample labels? Yes 🗹 No 🗌 Samples in proper container/bottle? No 🗌 Yes 🗹 Sample containers intact? Yes 🗹 No [] Sufficient sample volume for indicated test? No 🔲 Number of preserved Yes 🗹 All samples received within holding time? bottles checked for Yes No 🗌 No VOA vials submitted . pH: Water - VOA vials have zero headspace? No 🗌 N/A 🗹 Water - Preservation labels on bottle and cap match? Yes 🗌 No 🗆 N/A 🗹 <2 >12 unless noted Water - pH acceptable upon receipt? below. Container/Temp Blank temperature? 0.5° <6° C Acceptable If given sufficient time to cool. COMMENTS: Person contacted Date contacted: Client contacted Contacted by: Regarding: Comments: Corrective Action

_	Shain	-0f-Ct	Chain-of-Custody Record		Tum-Around Time:	Time:														
Client:	SMA	4			Detandard	□ Rush				I	A	ш ;	2	HALL ENVIRONMENT		፮ :	Z	Z	,) }	
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email	or Fax#: -	è			Project Manager:	ger:	,						(*C		-					
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Date	Time	Matrix	Sample Request ID		Container Type and #	Preservative Type	LEGENO.	и + ХЭТЕ и + ХЭТЕ	TPH Meth	teM) H91	JeM) 805	3310 (PN) 3310 (PN)	귀) anoin/	18081 Pest	OV) 80928	9570 (Sen	4175		lir Bubble	
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Date:	Time:	Relingy Shed by:	ied by:		Received by:		Date Time	·												
	if necessary.	samples subn	nitted to Hall Environmental may	y be subcon	fracted to other ac	accredited laboratories.	s. This serves as notice of this	possibility.	Any su	sub-contra	acted da	d data will b	e clear	y notate	d on the	analy	ical rep	15 15		7

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P. Carlot

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Service A

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COVER LETTER

Tuesday, September 21, 2010

Cindy Gray Souder, Miller and Associates PO Box 248

Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS1989

Dear Cindy Gray:

Order No.: 1009749

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 9/16/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 21-Sep-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1009749

Project:

CPS1989

Lab ID:

1009749-01

Client Sample ID: MW-1

Collection Date: 9/15/2010 10:15:00 AM

Date Received: 9/16/2010

Matrix: AQUEOUS

Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
SM4500-H+B: PH					Analyst: IC
рН	8.38	0.100	pH units	1	9/17/2010 8:22:03 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 1 of 1

Date: 21-Sep-10

QA/QC SUMMARY REPORT

SPK Va SPK ref

Client:

Souder, Miller and Associates

Project:

CPS1989

Work Order:

1009749

Analyte Method:

SM4500-H+B: pH

Sample ID: 1009749-01A DUP

DUP

%Rec LowLimit HighLimit

%RPD

RPDLimit Qual

Units

Batch ID:

Analysis Date: R41030

9/17/2010 8:33:00 PM

8.460

Result

pH units

PQL

0.950

Qualifiers:

E Estimated value

J Analyte detected below quantitation limits

Not Detected at the Reporting Limit

Н Holding times for preparation or analysis exceeded

NC Non-Chlorinated

RPD outside accepted recovery limits

Page 1

Sample Receipt Checklist

T.

Client Name SMA-FARM			Date Received	l:	9/16/2010
Work Order Number 1009749			Received by:	TLS	<u> </u>
Checklist completed by:	<u> </u>	C)	Sample ID la	bels checked by:	Initials
Matrix:	Carrier name	<u>FedEx</u>			
Shipping container/cooler in good condition?		Yes 🗹	No 🗆	Not Present	
Custody seals intact on shipping container/co	ooler?	Yes 🗹	No 🗌	Not Present \Box	Not Shipped
Custody seals intact on sample bottles?		Yes 🗌	No □ .	N/A ☑	
Chain of custody present?		Yes 🗹	No 🗌		
Chain of custody signed when relinquished a	nd received?	Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?		Yes 🗹	No 🗌		
Samples in proper container/bottle?		Yes 🗹	No 🗀		
Sample containers intact?		Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?		Yes 🗹	No 🗆		
All samples received within holding time?		Yes 🗹	No 🗀		Number of preserved bottles checked for
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗹	Yes 🗌	No 🗌	pH:
Water - Preservation labels on bottle and cap	match?	Yes 🗌	No 🗆	N/A 🗹	
Water - pH acceptable upon receipt?		Yes 🗌	No 🗌	N/A 🗹	<2 >12 unless noted below.
Container/Temp Blank temperature?		0.6°	<6° C Acceptable		
COMMENTS:			If given sufficient	time to cool.	
Client contacted	Date contacted:	====	Peren	n contacted	
				TOTALIBO	
Contacted by:	Regarding:				
Comments:					
			 		
	· · · · · · · · · · · · · · · · · · ·				
Carrective Action					

HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109	Tel. 505-345-3975 Fax 5: (Gas only) Gas/Diesel) Gas/Diesel) Gas/Diesel)	BTEX + MTBE + TMB BTEX + MTBE + TPH TPH Method 8015B (C TPH (Method 418.1) EDB (Method 504.1) RCRA 8 Metals RS10 (PNA or PAH) RORA 8 Metals Anions (F,CI,NO ₃ ,NO ₂ , ROB1 Pesticides \ 8082 8260B (VOA) 8270 (Semi-VOA) Air Bubbles (Y or N)	x		Remarks: this possibility. Any sub-contracted data will be clearly notated on the analytical report.
of-Custody Record Turn-Around Time: Project Name: CR PB9 4901 Haw	Project #: Tot. 101	ler: Three Control of PNA or PAH) EDB (Method 504.1) BTEX + MTBE + TPH BTEX + MTBE + TPH Type Type Type Type Type Type Type Type			Date: Time: Relinquished by: Machine Remarks: All All Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.



COVER LETTER

Monday, December 20, 2010

Dave Diss Souder, Miller and Associates PO Box 248 Farmington, NM 87401

TEL: (505) 325-5667 FAX (505) 327-1496

RE: CPS-1989 Enterprise

Dear Dave Diss:

Order No.: 1012042

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 12/1/2010 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites.

Reporting limits are determined by EPA methodology.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901 AZ license # AZ0682 ORELAP Lab # NM100001

Texas Lab# T104704424-08-TX



Date: 20-Dec-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1012042

Project:

CPS-1989 Enterprise

Lab ID:

1012042-01

Client Sample ID: MW-3

Collection Date: 11/30/2010 3:01:00 PM

Date Received: 12/1/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJE
Chloride	12	0.50		mg/L	1	12/3/2010 9:05:41 PM
Sulfate	8500	100		mg/L	200	12/11/2010 1:54:31 AN
SM 2320B; ALKALINITY						Analyst: IC
Alkalinity, Total (As CaCO3)	63	20		mg/L CaCO3	1	12/3/2010 4:09:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	12/3/2010 4:09:00 PM
Bicarbonate	63	20		mg/L CaCO3	1	12/3/2010 4:09:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	12/3/2010 4:09:00 PM
PA 120.1: SPECIFIC CONDUCTANCE	İ					Analyst: IC
Specific Conductance	8100	0.010		µmhos/cm	1	12/3/2010 4:09:00 PM
M4500-H+B: PH						Analyst: IC
ρН	7.70	0.100		pH units	1	12/3/2010 4:09:00 PM
PECIFIC GRAVITY BY SM 2710F			•			Analyst: TAF
Specific Gravity	1.0	0			1	12/14/2010 6:43:00 AM
M2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	10500	100		mg/L	1	12/5/2010 1:21:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Date: 20-Dec-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1012042

CPS-1989 Enterprise

Project: Lab ID:

1012042-02

Client Sample ID: Duplicate

Collection Date: 11/30/2010 3:05:00 PM

Date Received: 12/1/2010

Matrix: AQUEOUS

Analyses	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS			<u> </u>		Analyst: LJE
Chloride	12	0.50	mg/L	1	12/3/2010 9:28:09 PM
Sulfate	7000	100	mg/L	200	12/11/2010 2:11:56 AN
SM 2320B: ALKALINITY					Analyst: IC
Alkalinity, Total (As CaCO3)	370	20	mg/L CaCO3	1	12/3/2010 4:17:00 PM
Carbonate	ND	2.0	mg/L CaCO3	1	12/3/2010 4:17:00 PM
Bicarbonate	370	20	mg/L CaCO3	1	12/3/2010 4:17:00 PM
Hydroxide	ND	2.0	mg/L CaCO3	1	12/3/2010 4:17:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE					Analyst: IC
Specific Conductance	930	0.010	µmhos/cm	1	12/3/2010 4:17:00 PM
SM4500-H+B: PH					Analyst: IC
рН	7.56	0.100	pH units	1	12/3/2010 4:17:00 PM
SPECIFIC GRAVITY BY SM 2710F					Analyst: TAF
Specific Gravity	1.0	0		1	12/14/2010 6:43:00 AM
BM2540C MOD: TOTAL DISSOLVED S	OLIDS		,		Analyst: KS
Total Dissolved Solids	9050	100 -	mg/L	1	12/5/2010 1:21:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 2 of 4

Date: 20-Dec-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1012042

CPS-1989 Enterprise

Project: Lab ID:

1012042-03

Client Sample ID: MW-2

Collection Date: 12/1/2010 8:35:00 AM

Date Received: 12/1/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	 			سناسك المراجب سالته معالق ليهوسا		Analyst: LJE
Chloride	17	0.50		mg/L	1	12/3/2010 9:50:38 PM
Suifate	6900	100		mg/L	200	12/11/2010 2:29:20 AN
SM 2320B: ALKALINITY						Analyst: IC
Alkalinity, Total (As CaCO3)	660	20		mg/L CaCO3	1	12/3/2010 4:32:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	12/3/2010 4:32:00 PM
Bicarbonate	660	20		mg/L CaCO3	1	12/3/2010 4:32:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	12/3/2010 4:32:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE	:					Analyst: IC
Specific Conductance	8800	0.010		µmhos/cm	1	12/3/2010 1:32:00 PM
SM4500-H+B: PH						Analyst: IC
рН	7.12	0.100		pH units	1	12/3/2010 4:32:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravity	1.0	0			1	12/14/2010 6:43:00 AM
M2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	10100	100		mg/L	1	12/5/2010 1:21:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Page 3 of 4

Date: 20-Dec-10

CLIENT:

Souder, Miller and Associates

Lab Order:

1012042

CPS-1989 Enterprise

Project: Lab ID:

1012042-04

Client Sample ID: MW-1

Collection Date: 12/1/2010 9:35:00 AM

Date Received: 12/1/2010

Matrix: AQUEOUS

Analyses	Result	PQL	Qual I	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS	مهرانشا المستأثر والتسويسية والمتراضية	#. 				Analyst: LJB
Chloride	120	10	n	ng/L	20	12/3/2010 10:24:20 PM
Sulfate	5100	100	n	ng/L	200	12/11/2010 2:46:44 AM
SM 2320B: ALKALINITY						Analyst: iC
Alkalinity, Total (As CaCO3)	670	20	n	ng/L CaCO3	1	12/3/2010 4:58:00 PM
Carbonate	ND	2.0	n	ng/L CaCO3	1	12/3/2010 4:58:00 PM
Bicarbonate	670	20	n	ng/L CaCO3	1	12/3/2010 4:58:00 PM
Hydroxide	ND	2.0	m	ng/L CaCO3	1 .	12/3/2010 4:58:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE	<u>.</u>					Analyst: IC
Specific Conductance	8800	0.010	μ	mhos/cm	1	12/3/2010 4:58:00 PM
SM4500-H+B: PH						Analyst: IC
pΗ	7.10	0.100	p	H units	1	12/3/2010 4:58:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: TAF
Specific Gravily	1.0	0			1	12/14/2010 6:43:00 AM
SM2540C MOD: TOTAL DISSOLVED S	OLIDS					Analyst: KS
Total Dissolved Solids	7450	100	m	ng/L	1	12/5/2010 1:21:00 PM

Oualifiers:

- * Value exceeds Maximum Contaminant Level
- E Estimated value
- J Analyte detected below quantitation limits
- NC Non-Chlorinated
- PQL Practical Quantitation Limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
 - ND Not Detected at the Reporting Limit
 - S Spike recovery outside accepted recovery limits

Page 4 of 4

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

101203027

Project Name:

1012042

Analytical Results Report

Sample Number Client Sample ID Matrix Comments	Sample ID 1012042-01B / MW-3 Water		t Sample ID 1012042-01B / MW-3 Sample x Water Sample		Sampling Date Sampling Time Sample Location	npling Time 3:01 PM			Date/Time Received 12/3/2010 Extraction Date		
Parameter		Result	Units	PQL	Analysis Dat	e Analyst	Met	thod	Qualifier		
Calcium		356	mg/L	1	12/15/2010	ETL	EPA	200.7			
Hardness		949	mg/L	10	12/15/2010	ETL	EPA	200.7			
Magnesium		14.3	mg/L	1	12/15/2010	ETL	EPA	200.7			
Iron	•	0.449	mg/L	0.1	12/15/2010	ETL	EPA	200.7			
Potassium		8.95	mg/L	0.1	12/15/2010	ETL	EPA	200.7			
Sodium		2320	mg/L	1	12/15/2010	ETL	EPA	200.7			

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0085

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

101203027

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1012042

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

101203027-002

Sampling Date

11/30/2010 3:01 PM

Date/Time Received

12/3/2010 12:00 PM

Client Sample ID

1012042-01D / MW-3

Sampling Time

Extraction Date

12/13/2010

Matrix

Water

Sample Location

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Hexane extractable material (HEM)	ND	mg/L	1	12/15/2010	MAH	EPA 1664A	

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@enateklabs.com 504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

101203027

Project Name:

1012042

Analytical Results Report

Sample Number

101203027-003

Sampling Date

11/30/2010

Date/Time Received

12/3/2010 12:00 PM

Client Sample ID

1012042-02B / DUPLICATE Water

Sampling Time
Sample Location

3:05 PM

Extraction Date

12:00 PM

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifler
Calcium	355	mg/L	1	12/15/2010	ETL	EPA 200.7	
Hardness	946	mg/L	10	12/15/2010	ETL	EPA 200.7	
Magnesium	14.3	mg/L	1	12/15/2010	ETL	EPA 200.7	
Iron	0.446	mg/L	0.1	12/15/2010	ETL	EPA 200.7	
Potassium	8.89	mg/L	0.1	12/15/2010	ETL	EPA 200.7	
Sodium	2320	mg/L	1	12/15/2010	ETL	EPA 200.7	

Certifications held by Anatek Lebs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Lebs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

101203027

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1012042

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

101203027-004

Sampling Date

11/30/2010 3:05 PM

Date/Time Received

12/3/2010 12:00 PM

Client Sample ID

1012042-02D / DUPLICATE

Sampling Time

Extraction Date

12/13/2010

Matrix

Sample Location

Comments

Parameter

Result

Units

PQL Analysis Date Analyst

Method

Qualifier

Hexane extractable material (HEM)

ND

mg/L

12/15/2010

EPA 1664A

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E97893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

101203027

Project Name:

1012042

Analytical Results Report

Sample Number Client Sample ID 101203027-005

Sampling Date

12/1/2010

Date/Time Received

12/3/2010 12:00 PM

Matrix

1012042-03B / MW-2

Sampling Time
Sample Location

8:35 AM

Extraction Date

3/2010 12.00 610

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Calcium	277	mg/L	1	12/15/2010	ETL	EPA 200.7	
Hardness	812	mg/L	10	12/15/2010	ETL	EPA 200.7	
Magnesium	29.0	mg/L	1	12/15/2010	ETL	EPA 200.7	
Iron	12.6	mg/L	0.1	12/15/2010	ETL	EPA 200.7	
Potassium	13.2	mg/L	0.1	12/15/2010	ETL	EPA 200.7	
Sodium	2670	mg/L	1	12/15/2010	ETL	EPA 200.7	

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Batch #:

101203027

Address:

4901 HAWKINS NE SUITE D ALBUQUERQUE, NM 87109

Project Name:

1012042

Attn:

ANDY FREEMAN

Analytical Results Report

Sample Number

101203027-008

Sampling Date

12/1/2010 8:35 AM

Date/Time Received

12/3/2010 12:00 PM

Cilent Sample iD

1012042-03D / MW-2

Sampling Time

Extraction Date

Sample Location

12/13/2010

Comments

Parameter

Result ND

Units

PQL **Analysis Date Analyst** Method

Hexane extractable material (HEM)

mg/L

12/15/2010

EPA 1664A

Qualifier

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; CO:ID(0013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: ID00013; OR:ID200081-002; WA:C595 Certifications held by Anatek Labs WA: EPA:WA00169; CA:Cert2632; ID:WA00169; WA:C585; MT:Cert0095

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Client:

HALL ENVIRONMENTAL ANALYSIS LAB

Address:

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

101203027

Project Name:

1012042

Analytical Results Report

Sample Number Client Sample ID 101203027-007 1012042-04B / MW-1 Sampling Date

12/1/2010 9:35 AM

Date/Time Received

12/3/2010 12:00 PM

Matrix

Sampling Time

Sample Location

Extraction Date

Comments

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Calcium	63.7	mg/L	1	12/15/2010	ETL	EPA 200.7	
Hardness	188	mg/L	10	12/15/2010	ETL	EPA 200.7	
Magnesium	7.07	mg/L	1	12/15/2010	ETL	EPA 200.7	
Iron	ND	mg/L	0.1	12/15/2010	ETL	EPA 200.7	
Potassium	53.0	mg/L	0.1	12/15/2010	ETL	EPA 200.7	
Sodium	2150	mg/L	1	12/15/2010	ETL.	EPA 200.7	

Certifications held by Anatek Lebs ID: EPA:ID00013; AZ:0701; CO:ID00013; FL(NELAP):E87893; ID:ID00013; IN:C-ID-01; KY:80142; MT:CERT0028; NM: ID00013; OR:ID200001-002; WA:C595 Certifications held by Anatek Lebs WA: EPA:WA00189; CA:Cert2832; ID:WA00189; WA:C588; MT:Cert0095

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Client: Address: HALL ENVIRONMENTAL ANALYSIS LAB

4901 HAWKINS NE SUITE D

ALBUQUERQUE, NM 87109

Attn:

ANDY FREEMAN

Batch #:

101203027

Project Name:

1012042

Analytical Results Report

Sample Number

101203027-008

Sampling Date Sampling Time 12/1/2010 9:35 AM

Date/Time Received

12/3/2010 12:00 PM

Client Sample ID Matrix

1012042-04D / MW-1 Water

Sample Location

Extraction Date

12/13/2010

Comments

Parameter

Result

Units

PQL Analysis Date Analyst

Method

Qualifier

Hexane extractable material (HEM)

ND

mg/L

12/15/2010

MAH

EPA 1664A

Authorized Signature

John Coddington, Lab Manager

MCL

EPA's Maximum Contaminant Level Not Detected

ND

Practical Quantitation Limit PQL

This report shall not be reproduced except in full, without the written approval of the laboratory.

The results reported relate only to the samples indicated.

Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Lebs ID: EPA:(ID00013; AZ:0701; CO:tiD00013; FL(NELAP):E87893; ID:(ID00013; IN:C-ID-01; KY:90142; MT:CERT0028; NM: (ID00013; OR:(IO200001-002; WA:C595 Certifications held by Anatek Lebs WA: EPA:WA00169; CA:Cert2632; ID:(WA00169; WA:C585; MT:Cert0095

Thursday, December 16, 2010

Page 8 of 8

Date: 20-Dec-10

QA/QC SUMMARY REPORT

lient: roject:

Souder, Miller and Associates

CPS-1989 Enterprise

Work Order:

1012042

Analyte	Result	Units	PQL	SPK V	al SPK ref	%Rec I	owLimit H	ighLimit %	6RPD	RPDLimit	Qual
Method: EPA Method 300,0; A	nions										
Sample ID: 1012128-01AMSD		MSD				Batch ID:	R42506	Analysis I	Date:	12/3/2010	2:10:10 Pf
Chloride Sample ID: MB-b	6.493	mg/L <i>MBLK</i>	0.50	5	1.438	101 Batch ID:	78 R42506	107 Analysis I	0.430 Date:	20 12/3/2010 4	1:13:42 PI
Chloride Sample ID: MB	ND	mg/L MBLK	0.50			Batch ID:	R42506	Analysis t	Date:	12/4/2010 2	2:20:08 AN
Chloride Sample ID: MB	ND	mg/L <i>MBLK</i>	0.50			Batch ID:	R42614	Analysis [Date:	12/10/2010 11	1:23:56 AN
Chloride Sulfate Sample ID: LCS-b	ND ND	mg/L mg/L LCS	0.50 0.50			Batch ID:	R42506	Analysis E	lata.	12/3/2010 4	1·24·56 DN
Chloride Sample ID: LCS	5.254	mg/L LCS	0.50	5	o	105 Batch ID:	90 R42506	110 Analysis D		12/4/2010 2	
Chloride Sulfate Sample ID: LCS	5.246 10.59	mg/L mg/L <i>LCS</i>	0.50 0.50	5 10	0 0	105 106 Batch ID:	90 90 R42614	110 110 Anglysis D)ate:	12/10/2010 11	·41:20 AN
Chloride Sulfate Sample ID: 1012128-01AMS	4.879 10.13	mg/L mg/L MS	0.50 0.50	5 10	0	97.6 101 Batch ID:	90 90 R42508	110 110 Analysis D		12/3/2010 1	
Chloride	6.521	mg/L	0.50	5	1.438	102	78	107			
Method: SM 2320B: Alkalinity Sample ID: 1012042-04AMSD		MSD				Batch ID:	R42490	Analysis D	ate:	12/3/2010 6	:18:00 PM
Alkalinity, Total (As CaCO3) Sample ID: 1012096-01DMSD	728.3	mg/L Ca MSD	20	80	672.3	70.0 Batch ID:	32.8 R42490	119 (Analysis D).534 ate:	7.36 12/3/2010 7	:51:00 PM
Alkalinity, Total (As CaCO3) Sample ID: MB-1	259.7	mg/L Ca <i>MBLK</i>	20	80	213.7	57.5 Batch ID:	32.8 R42490	119 Analysis D	1.27 ate:	7.36 12/3/2010 3	:43:00 PM
Alkalinity, Total (As CaCO3) Carbonate Bicarbonate Sample ID: LCS-1	ND ND ND	mg/L Ca mg/L Ca mg/L Ca	20 2.0 20			Batch ID:	B40400	Amelonia D	-4-	40/8/2040.0	40.00 50.
Alkalinity, Total (As CaCO3) Sample ID: 1012042-04AMS	80.24	<i>LCS</i> mg/L Ca <i>MS</i>	20	80	0	100 Batch ID:	R42490 96.5 R42490	Analysis Di 104 Analysis Di		12/3/2010 3: 12/3/2010 5:	
Alkalinity, Total (As CaCO3) Sample ID: 1012096-01DMS	724.4	mg/L Ca MS	20	80	672.3	65.1 Batch ID:	32.8 R42490	119 Analysis Da		12/3/2010 7:	
Alkalinity, Total (As CaCO3)	263.0	mg/L Ca	20	80	213.7	61.6	32.8	119			

Page 1

Estimated value

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Н Holding times for preparation or analysis exceeded

NC

R RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client:

Souder, Miller and Associates

Project:

CPS-1989 Enterprise

Work Order:

1012042

Analyte	Result	Units	PQL	SPK Val	SPK ref	%Rec Lo	owLimit Hi	ghLimit	%RPD	RPDLimit	Qual
Method: SM2540C MOD: Total	Dissolved S	olids									
Sample ID: 1011A50-01BMSD		MSD				Batch ID:	24725	Analysis	Date:	12/5/2010	1:21:00 PM
Total Dissolved Solids Sample ID: 1012093-04/AMSD	1292	mg/L <i>MSD</i>	20.0	1000	272	102 Batch ID:	80 24754	120 Analysis	0.310 Date:	20 12/7/2010	1:38:00 PM
Total Dissolved Solids Sample ID: MB-24725	3052	mg/L <i>MBLK</i>	40.0	2000	952	105 Batch ID:	80 24725	120 Analysia	0.856 Date:	20 12/5/2010 1	1:21:00 PM
Total Dissolved Solids Sample ID: MB-24754	ND	mg/L <i>MBLI</i> K	20.0			Batch ID:	24754	Analysis	Date:	12/7/2010 1	I:38:00 PM
Total Dissolved Solids Sample ID: LCS-24725	ND	mg/L LCS	20.0			Batch ID:	24725	Analysis	Date:	12/5/2010 1	I:21:00 PM
Total Dissolved Solids Sample ID: LCS-24754	1036	mg/L LCS	20.0	1000	16	102 Batch ID:	80 24754	120 Analysis	Date:	12/7/2010 1	:38:00 PM
Total Dissolved Solids Sample ID: 1011A50-01BMS	1020	mg/L <i>MS</i>	20.0	1000	0	102 Batch ID:	80 24725	120 Analysis	Date:	12/5/2010 1	:21:00 PM
Total Dissolved Solids Sample ID: 1012093-04AMS	1288	mg/L <i>MS</i>	20.0	1000	272	102 Batch ID:	80 24754	120 Analysis	Date:	12/7/2010 1	:38:00 PM
Total Dissolved Solids	3026	mg/L	40.0	2000	952	104	80	120			

Qualifiers:

ND Not Detected at the Reporting Limit

NC Non-Chlorinated

R RPD outside accepted recovery limits

Page 2

E Estimated value

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

Corrective Action

Sample Receipt Checklist

	Client Name SMA-FARM		Date Recei	ved:	12/1/2010						
Ì	Work Order Number 1012042			Received by: KMS							
	Checklist completed by:	La Stas	Nic	Date	Sample ID 12/1/	labels checked	by:	Initials			
	Matrix:	Carrier name:	<u>Clier</u>	nt drop-of							
70	Shipping container/cooler in good condition?		Yes	✓	No	Not Present					
	Custody seals intact on shipping container/cod	oler?	Yes		No	Not Present		Not Shipped 🗸			
	Custody seals intact on sample bottles?		Yes		No	N/A	✓				
	Chain of custody present?		Yes	✓	No						
	Chain of custody signed when relinquished an	d received?	Yes	•	No						
H	Chain of custody agrees with sample labels?	•	Yes	•	No						
	Samples in proper container/bottle?		Yes	✓	No			•			
ilg:	Sample containers intact?		Yes	✓	No						
	Sufficient sample volume for indicated test?		Yes	✓	No						
	All samples received within holding time?		Yes	✓	No			Number of preserved bottles checked for			
	Water - VOA vials have zero headspace?	No VOA vials subm	nitted	•	Yes	No	٠,	pH:			
36	Water - Preservation labels on bottle and cap r	match?	Yes	✓	No	N/A		\sim \times			
	Water - pH acceptable upon receipt?		Yes	✓	No	N/A		<2 >12 unless noted below.			
	Container/Temp Blank temperature?		9.	-	<6° C Accepta		Control of the contro				
	COMMENTS:			ſ	f given sufficie	nt time to cool.					
	Client contacted	Date contacted:			Per	son contacted					
,	Contacted by:	Regarding:									
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APPENDIX D NMBMMR TABLE 6

I	TS,		<u> </u>						Γ
	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	2210	2520	3850	1590	1930	4660	606	0086
1983)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)		14.0	12.0	13.0	22.0	11.0	0.01	6.6
n, Basin	SULFATE CHLORIDE, (MG/L AS DISSOLVED SO4) (MG/L AS (00945) (CL) (00940)	64.0	70.0	90.0	42.0	16.0	180.0	20.0	100.0
San Jua	SULFATE DISSOLVED (MG/L AS SO4) (00945)	1300.0	1600.0	2100.0	0'006	1300.0	0'002	0.072	6700.0
and Mineral Resources - Hydrogeology and Water Resources of San Juan, Basin 1983	BICARBONATE (MG/L AS HCO3) (00440)	280	220	750	260	100	710	420	52
Water Re	SODIUM + POTASSIUM DISSOLVED (MG/L AS NA) (00933)		160.0	620.0	260.0	130.0	850.0	-	•
logy and	SODIUM, POTASSIUM + DISSOLVED (MG/L AS (MG/L AS NA) (00933)	,	-				1	320.0	2300.0
. Hydrogeo	HARDNESS, NONCARBO CALCIUM MAGNESIUM, SODIUM, NATE (MG/L DISSOLVED DISOLVED CACO3) (MG/L AS (MG/L AS MG) (MG/L AS (00925) NA) (00930)	110.0	58.0	61.0	34.0	54.0	230.0	2.7	270.0
sources.	CALCIUM DISSOLVED (MG/L AS CA) (00915)	330.0	540.0	550.0	200.0	380.0	340.0	22.0	350.0
neral Re		1000	1400	1000	440	1100	1200	0	1900
s and Mi	HARDNESS (MG/L AS CACO3) (00900)	1300	1600	1600	059	1200	1800	99	2000
s of Mine	pH (UNITS) (00400)		7.6	7.3	6.7	7.8	9.9	8.5	6.8
xico Burea	SPECIFIC CONDUCTANCE CONDUCTANCE GEOLOGIC (MICROMHOS) SAMPLE UNIT (00095)	•	2950	4620	2140	2230	2620	1410	10500
New Me	GEOLOGIC	110AVMB	110AVMB	110AVMB	110AVMB	110AVMB	110AVMB	110AVMB	110AVMB
Table-6	DATE OF SAMPLE	59-04-30	68-04-17	68-04-18	68-04-18	68-04-09	68-04-18	68-04-18	68-04-18
NMBMMR Table-6 (New Mexico Bureau of Mines	LOCAL IDENTIFIER	29N.12W.29.	29N.12W.34.421	29N.12W.35.342	29N.12W.35.342A	29N.12W.35.3434	29N.12W.36.144	29N.12W.36.311	29N.12W.36.311A

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Excerpt of monitoring data on the San Juan River, within 3 to 9 miles of CPS 1989 Site Monitoring Wells
* SAMPLE COLLECTED FROM NACIMENTO FORMATION