3RP-417

Summary GW Reporting

DATE:
03.31.11

Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS GP, LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

March 31, 2011

RECEIVED OCD

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Return Receipt Requested
7010 0290 0002 7763 7951

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

RM Sartor

Rodney M. Sartor, REM
Remediation Manager

/dep
Enclosure

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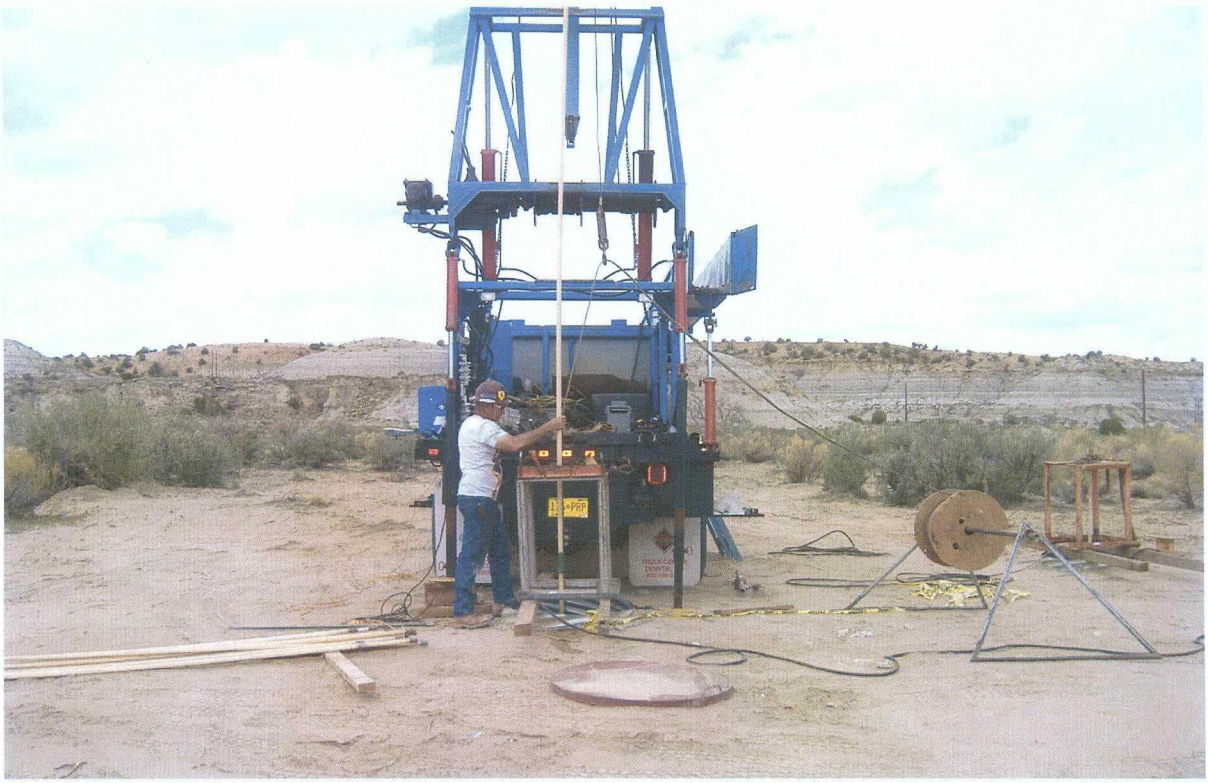
ENTERPRISE FIELD SERVICES
CPS 1989 GROUNDWATER MONITORING WELLS

SUMMARY GROUNDWATER MONITORING REPORT
MARCH – DECEMBER 2010

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

MARCH, 2011



SMA

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

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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.

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.

3. 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:

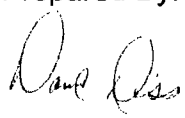
19.15.25.8 NMAC	WELLS TO BE PROPERLY ABANDONED
19.15.25.9 NMAC	NOTICE OF PLUGGING
19.15.25.10 NMAC	PLUGGING
19.15.25.11 NMAC	REPORTS FOR PLUGGING AND ABANDONMENT

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;

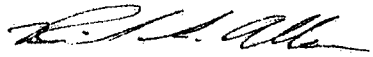
2. Notification of both NMOCD Field Office and Santa Fe as well as the Office of the State Engineer and the BLM Farmington Field Office by filing a Form C-103;
3. Set up traffic control and mob crew in to remove wellhead(s);
4. Using a small pumping rig from HGS or Envirodrill with a long tremie pipe, 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:



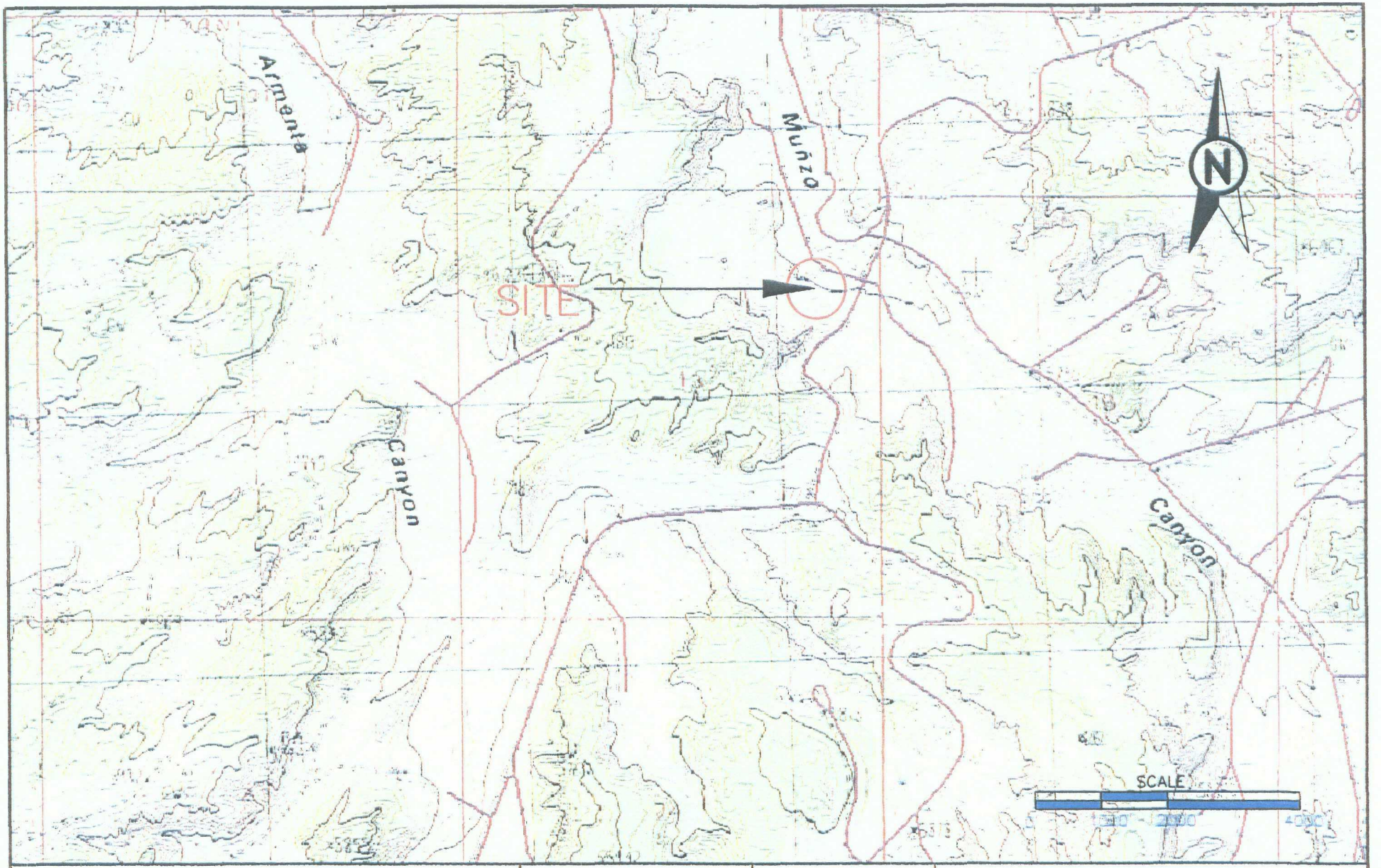
Dave Diss
Project Scientist

Reviewed By:



Reid S. Allan, P.G.
Principal Scientist

FIGURES

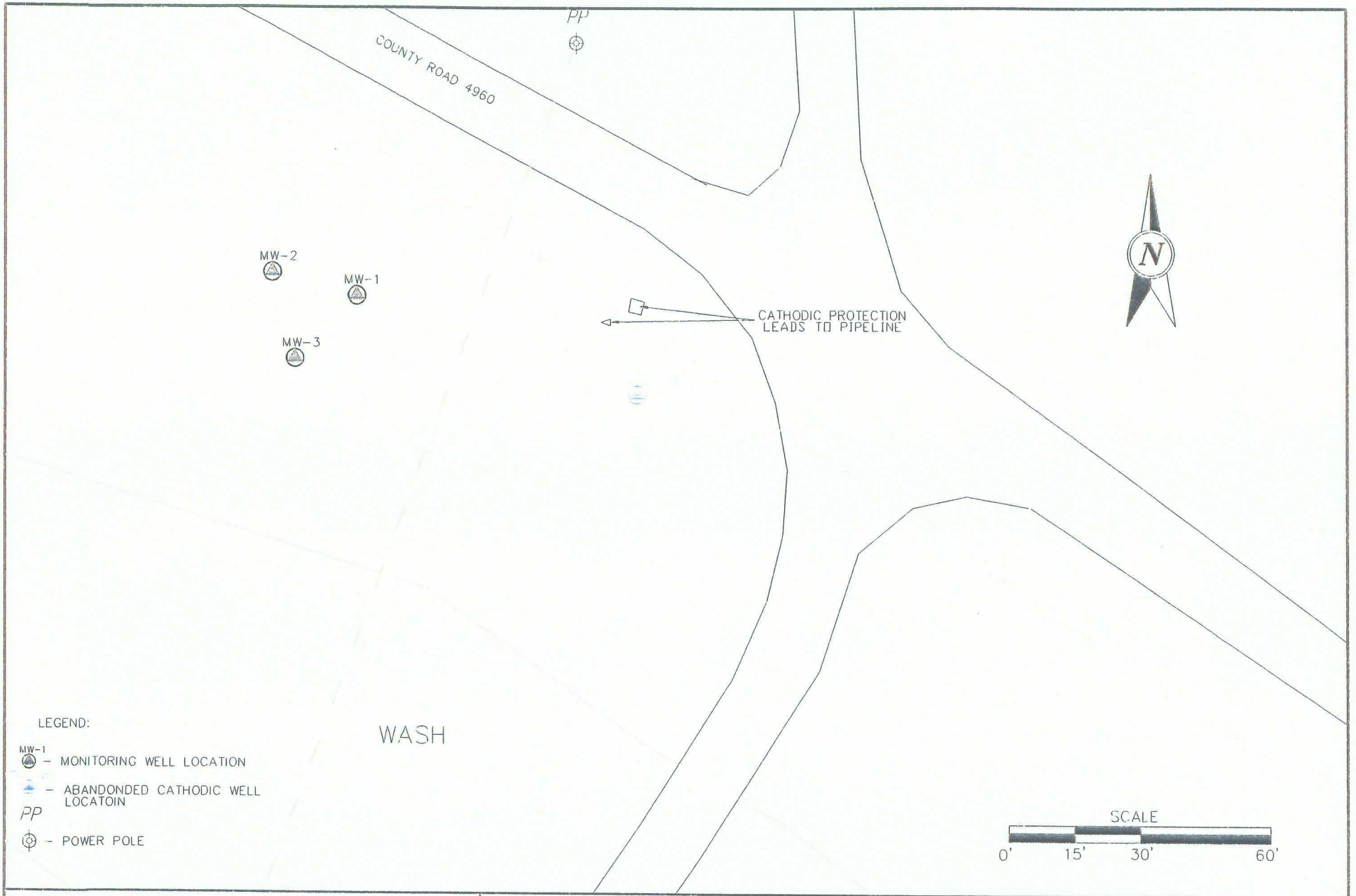


SMA
Civil / Environmental
Scientists & Engineers

612 E. MURRAY DR. PH. (505) 325-5667
FARMINGTON, NM 87401 FAX (505) 327-1496

APPROVED: LD	DATE: 04/02/10
DRAWN BY: TLONG	DATE: 04/02/10
REVISIONS BY:	DATE:
PROJECT #5119748	FIGURE: 1

VICINITY MAP
ENTERPRISE, LLC.
CPS 1989
NE ¼ NE ¼ (UNIT LETTER A)
SECTION 13, T 28N R10W
BLOOMFIELD, NEW MEXICO



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APPROVED: LDIEDE	DATE: 4/1/10
DRAWN BY: TLONG	DATE: 4/1/10
REVISIONS BY:	DATE:
PROJECT #5119748	FIGURE: 2

SITE MAP
ENTERPRISE, LLC.
CPS 1989
NE 1/4 NE 1/4 SECTION 13 T28N R10W
SAN JUAN COUNTY, NEW MEXICO

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

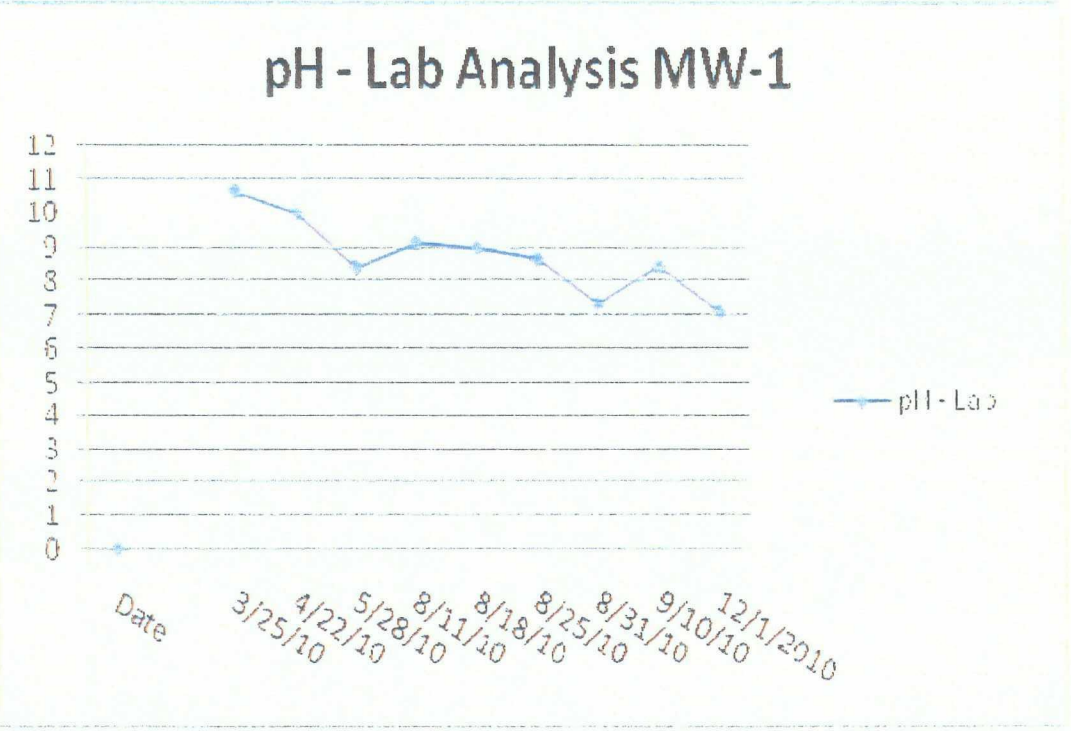
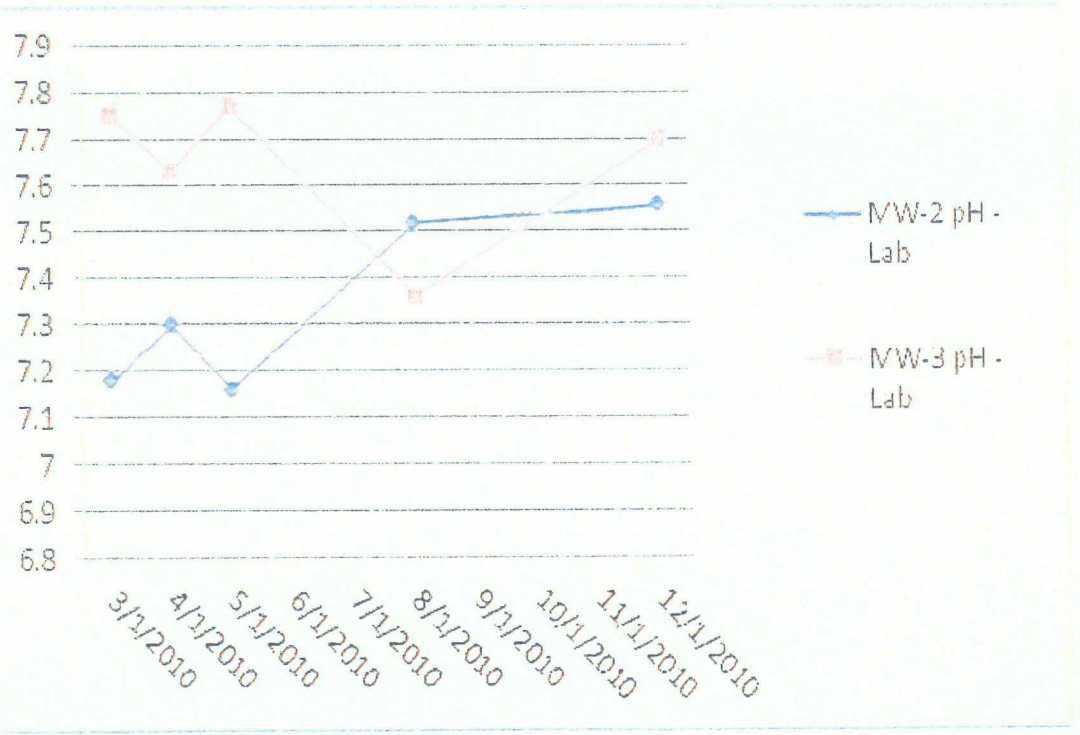


Figure-4 Plot of MW-2 and MW-3 pH vs. Time



TABLE

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

Total Depth (ft) 495

TOC Elevation (ft) = 5682.13

	Anions	Chloride	Sulfate	Alkalinity	Alkalinity CaCO3	Carbonate	Hydroxide	Bicarbonate	Parameters	Specific Conductance	Total Dissolved Solids	Specific Gravity	Hardness CaCO3	pH - Field	pH - Lab	Metals	Iron	Calcium	Magnesium	Potassium	Sodium	
Date		**mg/L**	**mg/L**		**mg/L**	**mg/L**	**mg/l**	**mg/L**		**umhos/ cm**	**mg/l**		**mg/l**	**pH units**	**pH units**		**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**Comments**
MCL		**250**	**0.0035**												**6.5-8.5**		**5**	**n/e**	**n/e**	**n/e**	**n/e**	
2/23/2010		220	10,404		n/a	240	240	232		n/a	16270	1.0	1602	n/a	7.3		0	361	170	6	4636	
3/24/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	7.4,7.2,7.3	n/a		n/a	n/a	n/a	n/a	n/a	
3/24/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	7.6,7.5	n/a		n/a	n/a	n/a	n/a	n/a	
3/25/2010		13	6600		720	ND	ND	720		16000	9410	1.0	930	n/a	7.75		0.43	350	14	7.9	2600	
4/21/2010		13	7200		58	ND	ND	58		12000	9020	1.0	940	7.9,7.8	7.63		0.42	350	15	6.1	2400	
4/21/2010		3	6600		59	ND	ND	59		12000	9060	1.0	970	7.7,7.9	7.83		0.43	360	15	8	2400	
4/22/2010		n/a	7200		n/a	n/a	n/a	n/a		12000	9020	n/a	n/a	n/a	7.63		n/a	n/a	n/a	n/a	n/a	
4/22/2010		n/a	6600		n/a	n/a	n/a	n/a		12000	9060	n/a	n/a	7.83	n/a		n/a	n/a	n/a	n/a	n/a	
5/27/2010		13	7000		61	ND	ND	61		16000	9460	1.0	n/a	n/a	n/a		0.18	360	16	8.5	2700	
5/28/2010		19	6600		710	ND	ND	710		17000	9410	1.0	n/a	n/a	7.77		**25**	310	39	13	2800	Received 6/11/10
5/28/2010B		19	6100		720	ND	ND	720		17000	9330	1.0	n/a	n/a	7.26		**27**	310	39	13	2900	
8/31/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	7.36		n/a	n/a	n/a	n/a	n/a	
11/30/10		12	8500		63	ND	ND	63		8100	10500	1.0	949	7.8,8.1,8.0	7.70		0.45	356	14.3	8.95	2320	

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

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

Total Depth (ft) 275

TOC Elevation (ft) = 5682.13

	Anions	Chloride	Sulfate	Alkalinity	Alkalinity CaCO3	Carbonate	Hydroxide	Bicarbonate	Parameters	Specific Conductance	Total Dissolved Solids	Specific Gravity	Hardness CaCO3	pH - Field	pH - Lab	Metals	Iron	Calcium	Magnesium	Potassium	Sodium	
Date		mg/L	mg/L		mg/L	mg/L	mg/L	mg/L		umhos/ cm	mg/l		mg/l	pH units	pH units		mg/L	mg/L	mg/L	mg/L	mg/L	Comments
MCL		250	250											6.5-8.5	6.5-8.5		5	n/e	n/e	n/e	n/e	
3/24/2010		22	**7000**		880	ND	ND	880		9300	9410	1.0	1000	7.1 & 6.81	7.18		34	320	45	19	2800	
3/25/2010		22	**7000**		880	ND	ND	880		9300	9410	1.0	1000	n/a	7.18		34	320	45	19	2800	
3/25/2010 D		12	**6600**		58	ND	ND	58		8500	8820	1.0	930	n/a	7.75		0.43	350	14	7.9	2600	
4/21/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	7.6,7.2,7.6	n/a		n/a	n/a	n/a	n/a	n/a	
4/22/2010		19	**7300**		780	ND	ND	780		13000	9740	1.0	990	7.05	7.3		30	320	44	11	2600	
5/27/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	6.8,6.9,6.9	n/a		n/a	n/a	n/a	n/a	n/a	
5/28/2010		19	**6600**		710	ND	ND	710		17000	9410	1.0	320	n/a	7.16		25	310	39	13	2800	
5/28/2010 D		19	**6100**		720	ND	ND	720		17000	9330	1.0	n/a	n/a	7.26		27	310	39	13	2900	Received 6/11/10
8/31/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	7.52		n/a	n/a	n/a	n/a	n/a	
12/1/2010		17	**6900**		660	ND	ND	660		8800	10100	1.0	812	6.9,7.0,7.1	7.12		ND	63.7	7.07	53	2150	

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

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

Well Depth (ft) 150

TOC Elevation (ft) 5682.14

	Anions	Chloride	Sulfate	Alkalinity	Alkalinity CaCO3	Carbonate	Hydroxide	Bicarbonate	Parameters	Specific Conductance	Total Dissolved Solids	Specific Gravity	Hardness CaCO3	pH - Field	pH - Lab	Metals	Iron	Calcium	Magnesium	Potassium	Sodium	
Date		mg/L	mg/L		mg/L	mg/L	mg/l	mg/L		umhos/cm	mg/l		mg/l	pH units	pH units		mg/L	mg/L	mg/L	mg/L	mg/L	Comments
MCL		250	250												6.5-8.5		5	n/e	n/e	n/e	n/e	
3/24/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		n/a		n/a	n/a	n/a	n/a	n/a	Insufficient purging to test
3/25/2010		1000	4200		100	73	31	ND		8600	7860	1.0	320		**10.66**		0.23	130	1.5	360	2400	Possible drilling mud influence
4/21/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	9.66	n/a		n/a	n/a	n/a	n/a	n/a	
4/22/2010		550	4700		85	75	ND	ND		11000	7670	1.0	220		**10.02**		0.04	87	1.2	170	2200	Possible drilling mud influence
5/27/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	9.42			n/a	n/a	n/a	n/a	n/a	
5/28/2010		220	5200		71	2.1	ND	69		14000	7490	1.0		9.56	8.44		0.1	70	2.5	99	2400	Received 6/11/10
8/11/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	**9.14**		n/a	n/a	n/a	n/a	n/a	
8/18/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	**8.99**		n/a	n/a	n/a	n/a	n/a	
8/25/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	**8.7**		n/a	n/a	n/a	n/a	n/a	
8/31/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	7.33		n/a	n/a	n/a	n/a	n/a	
9/10/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	8.47		n/a	n/a	n/a	n/a	n/a	
12/1/2010		120	**5100**		670	n/a	n/a	670		8800	7450	1.0	188	n/a	7.1		ND	63.7	7.07	53	2150	

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

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

Well Depth (ft) N/A

TOC Elevation (ft) N/A

	Anions	Chloride	Sulfate	Alkalinity	Alkalinity CaCO3	Carbonate	Hydroxide	Bicarbonate	Parameters	Specific Conductance	Total Dissolved Solids	Specific Gravity	Hardness CaCO3	pH - Field	pH - Lab	Metals	Iron	Calcium	Magnesium	Potassium	Sodium	Blind QC/QA Sample
Date		**mg/L**	**mg/L**		**mg/L**	**mg/L**	**mg/l**	**mg/L**		**umhos/cm**	**mg/l**		**mg/l**		**pH units**		**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**Comments**
MCL		***250***	***250***												**6.5-8.5**		**5**	n/e	n/e	n/e	n/e	
3/25/2010		21	6600		870	ND	ND	870		8600	7860	1.0	1000		**10.65**		35	330	47	18	2900	
5/28/2010		220	5200		71	2.1	ND	69		14000	7490	1.0	n/a	n/a	8.44		0.1	70	2.5	99	2400	
8/31/2010		n/a	n/a		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	n/a	7.56		0.45	355	14.3	8.89	2320	
11/30/2010		12	7000		370	ND	ND	370		930	9050	1.0	946	7.8,8,8	7.56		8.89	355	14.3	8.89	2320	

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

APPENDIX A

FIELD NOTES

WELL PURGE RECORD

JOB NAME: CPS 1989	DATE: 3-24-10 TIME:
	Sampled @ 0915 3/25/10
JOB #:	SMA Representative: T Long

MONITORING WELL: 1
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: Clear, cool

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

Total Depth of well: 130 feet
Depth to water before purging 51.11 feet

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			
78.89	0.163	0.653	51.5	3	154.5

TIME	VOLUME PURGED (GAL)	pH	SPECIFIC CONDUCTIVITY	TEMP °C	REDOX POTENTIAL	TURBIDITY	COMMENTS
	NA →						
	Well Purged Dry And Did Not Recover Enough to Continue Purging. A Total of 1 Well Volume was Purged prior to Sampling.						

WELL PURGE RECORD	
JOB NAME: CB 1989	DATE: 3/24/10 TIME: Sampled @ 1045 on 3/25/10
JOB #:	SMA Representative: T. Long

MONITORING WELL: 2
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: Clear / warm

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

Total Depth of well: 275 feet
Depth to water before purging Surface feet

20 psi on pressure guage

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			
275	0.163	0.653	179.5	3	

	TIME	VOLUME PURGED	PH	SPECIFIC CONDUCTANCE	TEMPERATURE	DISSOLVED OXYGEN	TURBIDITY	COMMENTS
Start	515,407	200 gal	7.14	11.90	17.0			
		300 gal	6.81	11.57	17.0			
		~870 gal	7.15	11.06	17.4			
End	516,140	(totalizer malfunction)						
		Purge 240' water Column (156 gallons)						
		Total gallons purge = 869 gallon 4.8 well volumes						

WELL PURGE RECORD

JOB NAME: CPS 1989	DATE: 3-25-10 TIME: 1705
JOB #:	SMA Representative: L. Diede / T. Long

MONITORING WELL: 3
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: Clear / warm

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

Total Depth of well: 500 feet
Depth to water before purging Surface feet 35 psi on pressure guage

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			
500	0.163	0.653	326.5	3	975.5

TIME	VOLUME PURGED	PH	SPECIFIC CONDUCTIVITY	TEMPERATURE	DISSOLVED OXYGEN	TURBIDITY	COMMENTS
	Pump set @ 405'						
Start	60211	@	5.3 gal/min @	1.53			
		Open	valve =	6.4 gal/min			
		"	=	6.7 gal/min			
		"	=	7.0 gal/min			
	60610	7.36	10.10	20.4			
	60700	7.23	10.54	18.0			
	60780	7.28	10.43	17.6			
	61120	7.57	10.27	16.9			
	61232	7.54	10.32	16.8			
			Total =	1021 gallons Purged			

WELL PURGE RECORD

JOB NAME: CPS 1989	DATE: 5-27-10 TIME:
JOB #:	~~SAA~~ Representative: SLC

MONITORING WELL: 1
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS:

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

Total Depth of well: 150 feet
Depth to water before purging 81.67 feet

Pump @143

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	
68.33	0.163	0.653	44.6		

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMP IN °C	DISOLVED OXYGEN	TURBIDITY	COMMENTS
1125	meter @ 62390						
1136	Stop pumping WL @ 148.2 meter @ 62437						
1600	WL: 132	9.42	8.90	19.4			
	62439						
0837	WL: 127	Sample					
0848	62431	9.56	9.06	19.4			
	WL 132						

WELL PURGE RECORD

JOB NAME: CP5989	DATE: 5-27-10 TIME:
JOB #:	SAIC Representative: SLC

MONITORING WELL: 2
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: _____

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

Total Depth of well: 275 feet
Depth to water before purging 7 feet

~~psi~~ pump @ 265 psi
pressure = 19 psi

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	
275	0.163	0.653	180		

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMP (°C)	DISSOLVED OXYGEN	TURBIDITY	COMMENTS
1315	Meter	@ 14,222					
1410	14378	6.75	10.55	21.3			WL @ pump, pump had turned off
1517	14376	6.87	10.52	19.9			
	meter moved back when air flowed through		last time, pump has been off since last				
1618	14453	6.89	10.29	19.1			pump off after sample
	WL: 221						
5/26 0813	14641	6.94	10.52	16.0			
0818	14644 WL=52	Sample					
0830	14705 WL=20	Dup					

WELL PURGE RECORD	
JOB NAME: CPS 1989	DATE: 5-27-10 TIME:
JOB #:	~~SAIC~~ Representative: SLC

MONITORING WELL: 3
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: _____

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

Total Depth of well: 495 **feet**
Depth to water before purging _____ **feet**

pump @406'
pressure = 37 psi

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	
495	0.163	0.653	323		

TIME	VOLUME PURGED (meter)	pH	SPECIFIC CONDUCTIVITY	TEMP IN °C	DISSOLVED OXYGEN	TURBIDITY	COMMENTS
1053	meter @ 117022						
1140	117295, WL 186						
1145	117321	7.81	9.76	19.8			
124	117655	7.45	9.96	21.6			
1319	117881	WL 288					
406	118117	7.42	9.86	21.1			5-16 off pump went to fill sample bottles
1510	118211	Sample					
		Turn off pump, disassemble					

SUBJECT | PROJECT | PAGE

CLIENT | DATE 5.27.15 | BY

CHECKED | BY

0820 - Arrive on site

MW1 - 81'8" = 81.67
TD = 150

meter start @ 62390
1 vol = ~~6284~~ 62435

MW2
TD = 275

meter start @ 14,222
1 vol = 14,402
2 = 14582
3 = 14,762

MW3
TD 495 bottom of screen 455
meter start - 117.022
1 volume = 117345
2 = 117668
3 = 117991

5/28

MW2 water to top of casing, turn pump on @ 0810

0850 - Call Robert to pick up tank
140 bbl tank, w/ 1/2 full

- Call Key → ~70 bbls coming

Aug 10, 2010
- Shawna Chubbuck, Dave Diss

0955 18.95 ft Initial

1207 1425 - turned off pump
pump rate = 277 Hz

1246 137.9

August 16, 2010
Dave Diss & Tom Long -

10:30 129.00 Depth
- Drop Bailer + Collect Sample.
- Sample Collected 11:00 am

Sample Results - PH 9.14 on August 17, from Hall Environmental

Aug. 17, 2010
Dave Diss and Denny Foust -

9:35 am 102.3 ft Initial Depth
Pump Rate - 271 Hz

10:55 138.9 ft (Pumped down to) Pump off

Field pH = 8.08 grab Sample
Temp = 22.6°C

12:30 Pumped down to 141.3 feet

Aug 18, 2010
Dave Diss & Shawna Chubbuck

0950 133.81 Pump down to 142.5 ft
1020 133.70
1108 Collected sample

Field pH: 8.47

8/25/10 Tom Long
WL @ ~~HGS~~ Denny Foust
110.58'

1150 Pump @ 135'
Water @ ~ 135'

1200 Ph = 7.54
1202 Ph = 7.59
1204 Ph = 7.75 = Lab Sample
1205 Ph = 7.91

final Lvl @ 139.30
1235 off site

	8/30/10	~~MW-1~~
14:30	MW-1	117.2' MW-1
14:30	John Sevin w/ HGS on site	
14:55	MW-2	19 psi
14:57	MW-3	38 psi

8/30/10 continued
15:05 MW-1
pH = 8.41
Temp = 17.5°C
Conduct = 9.72 mS

15:06 Set up over MW-1 and lower pump & piping down hole - 3" of the B the bottom

15:55 Set up over MW-3

8/31/10 MW-3
MW-3 -
0750 Totalizer 10,050 gallons
7.2 gpm

8:15 60 gpm -

8:51
pH = 7.59
Temp = 18.6°C
Cond = 10.73 mS

0950 10,770 gallons 720 gallons
0950 Pumped in 2 hrs 720 gallons
5.7 gpm

MW-1

WELL PURGE RECORD

JOB NAME: CPS - 1989	DATE: 8/31/10 TIME: 8:57
JOB #: 5119748 Enterprise	SNA Representative: DAVE DISS

MONITORING WELL: MW-1
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: Hot & Dry

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**

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	
150	0.163	0.653	98.0		294

TIME	VOLUME PURGED	PH	SPECIFIC CONDUCTIVITY	TEMP	DISOLVED O2	TURBIDITY	COMMENTS
8:57	Initial	8.26	9.94	18.9°C			
9:05		8.30	10.23	16.5°C			
9:20	21gal	7.90	9.57	19.5°C			Purged Dry
	- Well Recharging from 09:20 To					16:50	-
16:50		8.36	9.47	21.8			
16:50	- Collected Sample -						

MW-2

WELL PURGE RECORD

JOB NAME: CPS - 1989	DATE: 8/31/10 TIME: 08:50
JOB #: 5119748 Enterprise	SAIC Representative: DAVE DISS

MONITORING WELL: MW-2
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: Hot and Dry

Pump at 260'

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

Total Depth of well: 275' **feet**
Depth to water before purging 0 **feet**

19 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	
275'	0.163	0.653	179.5		538.7

Meter
08:50
Initial meter @ 14,737

NUMBER	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMPERATURE	DISSOLVED OXYGEN	TURBIDITY	COMMENTS
9:25	161 gal	6.65	11.23 mS	18.0c			
14,910 9:41	173 gal					Pump of well Recharging	
10:50			started Pump	back up.			Pump on
11:10	239 gal	6.69	11.22 mS	17.8°c			
14,990 11:13	253 gal						Pump off
12:45	314	6.79	11.28	18.5			
15,070 13:00	333	6.76	11.22	18.6			
15,120 15:05	383 gal	6.84	10.82	20.2			
16:20	453 gal	6.92	11.25	18.2			
15,190 16:20	- Sample		Collected	-			
		Avgs	average	Average			
Avgs →		6.7	11.17	18.5			

Blind Sample collected and submitted to labs as MW-4

MW-3

WELL PURGE RECORD

JOB NAME: CPS- 1989	DATE: 8/31/10 TIME: 07:50
JOB #: 5119748 Enterprise	~~SWA~~ Representative: DAVE DISS

MONITORING WELL: MW-3
SAMPLING METHOD: USEPA SW846
FIELD CONDITIONS: _____

Pump Set at 405'

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

Total Depth of well: 495 feet
Depth to water before purging 0 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	
495	0.163	0.653	323		969

07:50 hrs Meter @ 10,050

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMP (°C or °F)	DISSOLVED O2 (mg/L)	TURBIDITY (NTU)	COMMENTS
07:50	Init Val						
08:51	366	7.59	10.73 mS	18.6°C			6.0 gpm
09:50	720	7:41	9.37 mS	19.5°C			5.7 gpm
10:50	1,060	7.49	10.46 mS	19.1			
11:50	1,390	7.66	10.48 mS	19.3			
12:50	1,721	7.60	10.42	19.8			
1300	1,778	Sample Collected					
		Avg	Average	Avg			
		7.53	10.28	19.3°C			

11,928

1,778 gallons pumped

MW-2 Continued

1300 Totalizer 15,070
pH = 6.76 333 gallons pumped
Temp = 18.6°C
Condct = 11.22 mS
pump off Recharging
1455 Pump on

1505
pH = 6.86 383 gallons pumped
Temp = 20.2°C
Cond = 10.82 mS
15:05 Pump off Totalizer 15,120

16:05 Pump on
16:10 Totalizer
pH = 6.92 15,190
Temp = 18.2°C 453 gallons pumped
cond = 11.25 mS

16:20 Collected Sample -

Blind sample MW-4 Same as MW-2 Sample - MW-4 Time 14:10

8/31/10 MW-1
0857 Totalizer 62,431 gallons
1.0 gpm
pH = 8.26 (8.26)
Temp = 18.9°C
Condct = 9.94 mS

09:05 Pump 10' off Bottom
pH = 8.30
Temp = 16.5°C
Cond = 10.23 150 feet depth to Pump

0920
pH = 7.90
Temp = 19.5°C Sample collected at 13:
Cond = 9.57 mS

09:20 - 16:50 Recharging

16:50 Totalizer 62,460
16:50 pH = 8.36
Temp = 21.8°C
Cond = 9.47
Sample Collected

MW-3 Continued 8/31/10

0950 5.6 gpm

PH = 7.41
Temp = 19.5°C
Cond = 9.37 mS

1050

PH = 7.49
Temp = 19.1°C
Cond = 10.46

10:50
Totalizer 11,110 gallons
4,060 gallons pumped

11:50 Totalizer 11,440
1,390 gallons pumped
5.8 gpm

11:55 PH = 7.54
Temp 19.3°C
Cond 10.45 mS

12:50 PH = 7.60 1721 gallons pumped
Temp = 19.8°C
Cond = 10.42

1300 Sample Collected - 5.73 gpm
Totalizer 11,828
10,050
1,778 gallons

MW-2 8/31/10

0850 Totalizer 14,737
4.6 gpm

09:35
PH = 6.88 (6.65)
Temp = 18.0°C
Cond = 11.23 mS

9:41 Shut off Pump 14,910
Pump 138 gallons - well Recharging

10:50 Started back up Pump

1010
PH = 6.69
Temp = 17.8°C
Cond = 11.22 mS

11:13 Shut off Pump 14,990
80 gallons pumped Total 253 gallons

12:30 Pump On - 4.1 gpm *
12:45 314 gallons 4.1 gpm X 15 min = 61.5 gal
PH = 6.79
Temp = 18.5°C
Cond = 11.28

8/9/10 CPS 19 EG

Tom Long Danny Faust

0940 WL @ 109.81'

1000 Pump set @ ~~135~~ 130'

1045 Phe 8.29

1047 Phe 8.25

1049 Phe 8.17

1051 Phe 8.03 @ 123.9'

1053 Phe @ 7.97

1120 Sample work for Ph + Sulfates

9/15/10

0915 onsite, up Pack, test pump

0930 Wire 104.90'
0943 Pump set @ 135'
0948 Ph = 8.18
0950 Ph = 8.22
0951 Ph = 8.23
0953 Ph = 8.21
0955 Ph = 8.23
1000 Ph = 7.94
1004 Ph = 8.05
1006 Ph = 8.05 @ 130'

MW-1

CPS- 1989

WELL PURGE RECORD

JOB NAME: CPS - 1989	DATE: 11/30 and 12/1/10 TIME: 08:25
	Sabbey Pump
JOB #: 5119748 Enterprise	SAIC Representative: DAVE DISS

MONITORING WELL: MW-1
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: 150 feet
Depth to water before purging 21'3½" feet

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	
119	0.163	0.653	77		233

Tobacyr
62457
62507

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMP °C	DO (mg/L)	TURBIDITY (NTU)	COMMENTS
0915	Initial	7.3	9.7 mS	16.3°C			
0935	50 gal	Sample Collected - Re-Charge -			NO	1420 for	

MW-2

WELL PURGE RECORD

JOB NAME: CPS - 1989	DATE: 11/30 and 12/1/10 TIME: 0920
	Setting Pump
JOB #: 511748 Enterprise	SAIC Representative: DAVE DISS

MONITORING WELL: MW-2
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: 275 feet
Depth to water before purging 0 feet - 18 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	
265'	0.163	0.653	173		519

TIME	VOLUME PURGED	pH	SPECIFIC CONDUCTIVITY	TEMP °C	DISSOLVED OXYGEN	TURBIDITY	COMMENTS
Total/gal 92690 1050		6.90	11.59 mS	16.4°C			7.7 gpm
92870 1123	180 gal	7.04	11.62 mS	15.6°C			5.5 gpm
Start 1230	180 gal	7.02	11.54 mS	14.8°C			
92920 1250	270	7.04	11.07 mS	16.0°C			6.2 gpm
End 92960 1406	300	7.05	11.35 mS	16.0°C			
End 93057 1420	360						4.3 gpm
Start 93058 1645	345	7.09	11.63 mS	15.1°C			
93101 1652	411	7.04	11.34 mS	15.3°C			6.6 gpm
93175 1709	480	7.04	11.34 mS	16.2°C	Not enough H2O for Sample		
	12/1/10						
Start 93333 0810	643	7.50	11.05 mS	16.1°C			

MW-2

SUBJECT CPS - 1989 PROJECT QtrLy Smpl PAGE 1 of

CLIENT Enterprise DATE 11/30/10 BY DAS

MW-2 CHECKED BY

Pump set at 265 feet Need to purge 539 gal.

Initial Totalizer 92690 psi at well head 1.8

Start Time 10:50am Pumping Rate 7.7 gpm

pH = 6.9 Cond. 11.59 mS Temp = 15.4°C

End pumping 11:23Am

Totalizer = 92870 = 180 gal. purged in 33 min = 5.5 gpm

pH = 7.04 Cond = 11.62 mS Temp = 15.6°C

Start Pumping 12:30 pm

Totalizer = 92870 = 180 gal

pH = 7.02 Cond = 11.54 mS Temp = 14.8°C

Time = 12:38

pH = 7.04 Cond = 11.07 mS Temp = 16.0°C

Totalizer = 92920 = 230 gal

End pumping 12:50 pm

Totalizer = 92960 = 270 gal pumped

Start Pumping 14:00

Totalizer = 92990 = 300 gal

Time = 1406 pH = 7.05 Cond = 11.35 Temp = 16.01°C

End pumping 1420

Totalizer = 93055 = 360 gal

Start Time 1645

Totalizer = 93058

pH = 7.09 Cond = 11.63 Temp = 15.1°C

Time = 1652

Totalizer 93101 = 411 gallon

pH = 7.04 Cond = 11.34 Temp = 15.3°C

Time = 1709

Totalizer = 93170 = 480

pH = 7.04 Cond = 11.34 Temp = 16.2°C

End Totalizer 93175

12/1/10

Start Time 0810 Totalizer 93175

pH = 7.10 Cond = 11

Sample Collected 0835 hrs

MW-2

SUBJECT CPS 1989 PROJECT Quarterly Samples PAGE 1 of

CLIENT Enterprise DATE 11/30/1/6/12/11/90 BY DAD

MW-2 CHECKED BY

Pump set at 365' Need to purge 55 gallons.

Initial Flow Meter 92690 psi at well head 18 psi

START Time 10:50 Am GPM 7.7 180 gal. pumped in 33 min
= 5.45 GPM

End Time 11:23 Am 92870

START Time 12:30 pm 92870

End Time 12:50 pm 92960 = 90 gal / 20 min = 4.5 GPM

START Time 1406 92960 = 30 gal
92990

$17.2
6.20
1.82

MW-3

WELL PURGE RECORD

JOB NAME: CPS-1989	DATE: 11/30/10	TIME: 10:50 Setting Pump
JOB #: 5119748 Enterprise	S[illegible] Representative: Dave Diss	

MONITORING WELL: MW-3
SAMPLING METHOD: USEPA SW846 7
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 0 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	
405	0.163	0.653	264		793

Totalizer	TIME	VOLUME PURGED	pH	CONDUCTIVITY	TEMP °C	PURGE WATER APPEARANCE	ODOR	COMMENTS
27995	12:18		7.76	9.72 mS	16.3			8.20 gpm
28250	12:52	260	8.07	10.40 mS	16.9			7.2 gpm
28440	1322	450	8.11	10.62 mS	17.4			6.8 gpm
28592	1352	600	8.01	10.40 mS	17.3			6.3 gpm
28881	1428	820	8.02	10.44 mS	71.1			6.1 gpm
28955	1453	960	8.06	10.34 mS	16.8			5.6 gpm
29077	1501	1005	Collect Sample					
29100	1505	1,105	Duplicate Sample Collected					

MW-3

SUBJECT CPS - 1989 PROJECT GRB Smpl PAGE 1 of

CLIENT Enterprise DATE 11/30/10 BY D. Dean

MW-3 CHECKED BY

Pump Set at 405 feet Need to Purge 969 gal

Init of Totalizer 27990 gal Well head PSI = 38

Start Time 12:16

pH = 7.74 Cond = 9.72 ms Temp = 16.3°C

~~Totalizer~~ =

Time = 12:52

Totalizer 28250 = 260 gal Flow Rate = 7.2 gpm

pH = 8.07 Cond = 10.40 ms Temp = 16.9°C

Time = 13:22

Totalizer = 28440 = 450 gal Flow Rate = 6.8 gpm

pH = 8.11 Cond = 10.62 ms Temp = 17.4°C

Time = 13:52

Totalizer = 28590 = 600 gallons Flow Rate = 6.25 gpm

pH = 8.01 Cond = 10.40 ms Temp = 17.3°C

Time = 1428

Totalizer = 28810 = 820 gal

pH = 8.02 Cond = 10.44 ms Temp = 17.1°C

Time = 1453

Totalizer = 28950 = 960 gal / 132 min = 7.27 gpm

pH = 8.04 Cond = 10.39 ms Temp = 16.8°C

Time ~~1455~~ 1501 Collect Sample

Totalizer 29100

APPENDIX B

PURGE WATER DISPOSAL RECORD

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

D215027

WT NUMBER D215027

WT Date 03-25-10
S M T W T F S

☐ Brine Water Sale ☐ Fresh Water Sale ☑ Disposal

Water Facility/ Disposal Name Key Disposal Disposal Asset # 5120001

County/ Parish S.J. State NM RRC #

Customer Name	Lease (origin of Disposal Fluid)
Souder Miller	Enterprise GPS 1989

Trucking Company Pace Delivery Ticket #

Load	Truck (Asset #)	BBLS	Time	Driver Name (Print)	Signature
1	1844	40	9:15 ☑AM ☐PM	Hubert Yazzie	
2			☐AM ☐PM		
3			☐AM ☐PM		
4			☐AM ☐PM		
5			☐AM ☐PM		

Additional load description Loaded Diesel Co. Man

☐ H2S _____ PPM ☑ No H2S ☐ Waste Oil ____ bbls
☐ Black ☐ Solid Content ____ % ☐ Non Exempt
☐ White Water __ Light __ Med __ Heavy

☐ Clean Produced Field Saltwater
☐ Frac Flowback Water (Regular Frac Job)
☐ Washpit Fluid (No Mud or Solids)
☐ Gelled Workover or Frac Fluid
☑ Other Waste Water

☐ 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 BBL	Extended Amount
40	.85	34 00

Sub Total 34 00
Sales Tax
Total

DWT-010

Farmington, NM Fluid Services

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

D215286

WT NUMBER D215286

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

☐ Brine Water Sale ☐ Fresh Water Sale ☒ Disposal

Water Facility/ Disposal Name Key Disposal Asset # 512000

County/ Parish San Juan State NM RRC #

Customer Name	Lease (origin of Disposal Fluid)
Souder Miller 320-1953 Logan Dodd	CPS 1989 Job No 5119748

Trucking Company Pace Delivery Ticket # 32275

Load	Truck (Asset #)	BBLS	Time	Driver Name (Print)	Signature
1	1301	50 ~~120~~	12:25 ☐AM ☒PM	[illegible]	[illegible]
2			☐AM ☐PM	Virgil	
3			☐AM ☐PM		
4			☐AM ☐PM		
5			☐AM ☐PM		

Additional load description

☐ H2S _____ PPM ☒ No H2S ☐ Waste Oil ____ bbls
☐ Black ☐ Solid Content _____ % ☐ Non Exempt
☐ White Water __ Light __ Med __ Heavy

☐ Clean Produced Field Saltwater
☐ Frac Flowback Water (Regular Frac Job)
☐ Washpit Fluid (No Mud or Solids)
☐ Gelled Workover or Frac Fluid
☐ Other Flow Back Waste Water
☐ 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 BBL	Extended Amount
50	.85	$42 50
	Sub Total	$42 50
	Sales Tax	
	Total	

DWT-010

Farmington, NM Fluid Services

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

D254565

WT NUMBER D254565

WT Date 5/28/10
S M T W T F S

☐ Brine Water Sale ☐ Fresh Water Sale ☒ Disposal

Water Facility/ Disposal Name Key Disposal Asset # 512cccc

County/ Parish San Juan State NM RRC #

Customer Name	Lease (origin of Disposal Fluid)
Saucer Miller	CPS 1989

Trucking Company Roberts Trucking Delivery Ticket # 19752

Load	Truck (Asset #)	BBLS	Time	Driver Name (Print)	Signature
1	91	80	12:40 ☐AM ☒PM	Robert Cowtheets	
2			☐AM ☐PM		
3			☐AM ☐PM		
4			☐AM ☐PM		
5			☐AM ☐PM		

Additional load description

☐ H2S _____PPM ☒ No H2S ☐ Waste Oil ____bbls
☐ Black ☐ Solid Content _____% ☐ Non Exempt
☐ White Water __Light __ Med ___Heavy

☐ Clean Produced Field Saltwater
☐ Frac Flowback Water (Regular Frac Job)
☐ Washpit Fluid (No Mud or Solids)
☐ Gelled Workover or Frac Fluid
☐ Other Flow Back water

☐ 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 BBL	Extended Amount
80	.85	$68.00
	Sub Total	$68.00
	Sales Tax	
	Total	

AUG 16 2010

DWT-010

Farmington, NM Fluid Services

BASIN DISPOSAL, INC.

"SPECIALIZING IN DISPOSAL OF PRODUCED WATER AND DRILLING MUD
P.O. BOX 100 · AZTEC, NEW MEXICO 87410 · PHONE (505) 632-8936

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

DATE 9-1-10
DEL. TKT# 08699
GENERATOR: Sauder miller
BILL TO: Sauder miller
HAULING CO. HEGH TECH
DRIVER: Manuel Armenta
(Print Full Name)
ORDERED BY: Tom Long
CODES:

WASTE DESCRIPTION: ☒ Exempt Oilfield Waste ☑ Produced Water ☐ Drilling/Completion Fluids ☐ Reserve Pit

STATE: ☑ NM ☐ CO ☐ AZ ☐ UT TREATMENT/DISPOSAL METHODS: ☒ EVAPORATION ☒ INJECTION ☒ TREATING PLANT

NO.	TRUCK	LOCATION(S)	VOLUME	AM	PM	COST	TOTAL	TIME
1	26/101	C.P.S 1989	50			856	42 56	
2								
3								
4								
5								
						TOTAL		

10 SEP 1 9:23AM

Manuel Armenta 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, Oil field wastes generated from oil and gas exploration and production operations and not mixed with non-exempt waste, per OCD's mixing policy.

☑ Approved ☐ Denied ATTENDANT SIGNATURE:

BASIN DISPOSAL, INC.
"SPECIALIZING IN DISPOSAL OF PRODUCED WATER AND DRILLING MUD"
P.O. BOX 100 · AZTEC, NEW MEXICO 87410 · PHONE (505) 632-8936

NO. 513772
NMOCD PERMIT NM-001-0005
Oil Field Waste Document, Form C138
INVOICE:

DATE 12-1-10 DEL. TKT# 08575

GENERATOR: Souder-miller BILL TO: Souder-miller

HAULING CO. High Tech DRIVER: Manuel Armenta
(Print Full Name)

ORDERED BY: Dave Diss CODES:

WASTE DESCRIPTION: [X] Exempt Oilfield Waste [ ] Produced Water [ ] Drilling/Completion Fluids [ ] Reserve Pit

STATE: [ ] NM [ ] CO [ ] AZ [ ] UT TREATMENT/DISPOSAL METHODS: [X] EVAPORATION [X] INJECTION [X] TREATING PLANT

NO.	TRUCK	LOCATION(S)	VOLUME	AM	PM	COST	TOTAL	TIME
1	96 T136	CPS NBA Enterprise	6		1	85	55	4:30 PM
2								
3								
4								
5								
						TOTAL		

Manuel Armenta 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, Oil field wastes generated from oil and gas exploration and production operations and not mixed with non-exempt waste, per OCD's mixing policy.

[X] Approved [ ] Denied ATTENDANT SIGNATURE:

Non-part reproduction forbidden

APPENDIX C

LABORATORY ANALYTICAL REPORTS

Souder, Miller & Associates
612 E Murray Dr.
Farmington, NM
505-325-5667

API Water Analysis Report

Customer/Well Information

Company:	Enterprise Field Services, LLC	**Date:**	2/23/2010
Well Name:	CPS-1989 MW-3	**Prepared for:**	David Smith
Legal Desc.	Sec.13 ,T28N, R10W	**Submitted by:**	Loren Diede
State:	San Juan, NM	**Prepared by:**	Shelly Doescher
Formation:	San Jose	**Water Type:**	Produced
Depth:	405-455	**Sample ID #:**	Ent-022310-01

Background Information

Reason for Testing:	Monitor well development
Completion type:	screen = 405-455
Well History:	Sample after air lifting 40 bbl
Comments:	SO4 dilution = 100 x

Sample Characteristics

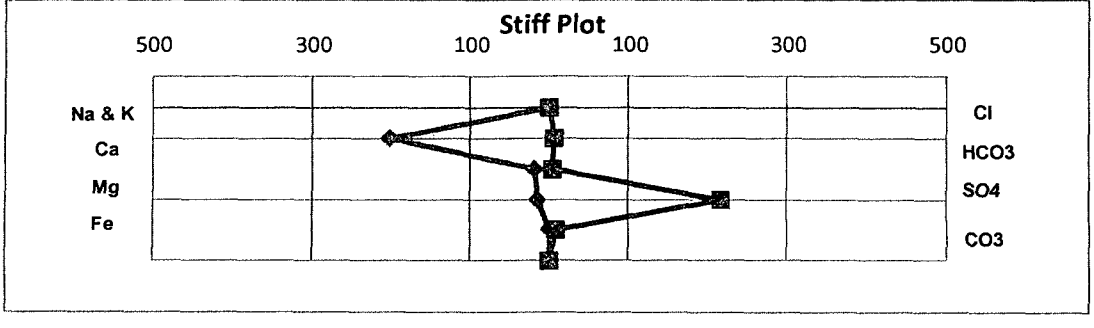
Sample Temp:	**55** (°F)	**Color:**	Clear
pH:	**7.30**	**Odor:**	none
Specific Gravity:	**1.020**	**Turbidity:**	Extremely light
S.G. (Corrected):	1.019 @ 60 °F	**Filter Resiual:**	None
Resistivity (Meas.):	**1.30** Ω-m		

Sample Composition

		mg/l	me/l	ppm
CATIONS	**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



HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Order No.: 1003638

Dear Loren Diede:

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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Apr-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1003638	**Collection Date:**	3/25/2010 9:15:00 AM
Project:	CPS 1989	**Date Received:**	3/26/2010
Lab ID:	1003638-01	**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 METALS						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 SOLIDS						Analyst: **KS**
Total Dissolved Solids	7860	100		mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Apr-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-2
Lab Order:	1003638	**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 METALS						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**
pH	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 SOLIDS						Analyst: **KS**
Total Dissolved Solids	9810	100		mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Apr-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-4
Lab Order:	1003638	**Collection Date:**	3/25/2010 11:30:00 AM
Project:	CPS 1989	**Date Received:**	3/26/2010
Lab ID:	1003638-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	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 METALS						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						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 SOLIDS						Analyst: **KS**
Total Dissolved Solids	9910	100		mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *06-Apr-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-3
Lab Order:	1003638	**Collection Date:**	3/25/2010 5:05:00 PM
Project:	CPS 1989	**Date Received:**	3/26/2010
Lab ID:	1003638-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 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
EPA 6010B: HARDNESS						Analyst: **SNV**
Hardness (As CaCO3)	930	1.0		mg/L	1	3/31/2010
EPA METHOD 6010B: DISSOLVED METALS						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
SM 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
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	8500	0.010		µmhos/cm	1	3/26/2010 7:05:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	7.75	0.1		pH units	1	3/26/2010 7:05:00 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 SOLIDS						Analyst: **KS**
Total Dissolved Solids	8820	100		mg/L	1	4/2/2010 1:39:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1003638

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				Batch ID:	**R38021**	Analysis Date:	3/31/2010 3:49:33 PM		
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R38064**	Analysis Date:	4/2/2010 11:42:32 AM		
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				Batch ID:	**R38021**	Analysis Date:	3/31/2010 4:06:58 PM		
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 11:59:57 AM		
Chloride	4.925	mg/L	0.50	5	0	98.5	90	110			
Sulfate	10.10	mg/L	0.50	10	0	101	90	110			
Method: SM 2320B: Alkalinity											
Sample ID: MB		*MBLK*				Batch ID:	**R37953**	Analysis Date:	3/26/2010 4:39:00 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 4:45:00 PM		
Alkalinity, Total (As CaCO3)	79.49	mg/L Ca	20	80	0	99.4	92.5	110			
Method: EPA Method 6010B: Dissolved Metals											
Sample ID: MB		*MBLK*				Batch ID:	**R38000**	Analysis Date:	3/31/2010 11:07:49 AM		
Calcium	ND	mg/L	1.0								
Iron	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 12:58:00 PM		
Sodium	ND	mg/L	1.0								
Sample ID: LCS		*LCS*				Batch ID:	**R38000**	Analysis Date:	3/31/2010 11:10:40 AM		
Calcium	50.72	mg/L	1.0	50.5	0	100	80	120			
Iron	0.5350	mg/L	0.020	0.5	0	107	80	120			
Magnesium	51.30	mg/L	1.0	50.5	0	102	80	120			
Potassium	54.51	mg/L	1.0	55	0	99.1	80	120			
Sample ID: LCS		*LCS*				Batch ID:	**R38000**	Analysis Date:	3/31/2010 1:00:49 PM		
Sodium	51.79	mg/L	1.0	50.5	0.3355	102	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1003638

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				Batch ID:	**R38021**	Analysis Date:	3/31/2010 3:49:33 PM		
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R38064**	Analysis Date:	4/2/2010 11:42:32 AM		
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				Batch ID:	**R38021**	Analysis Date:	3/31/2010 4:06:58 PM		
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 11:59:57 AM		
Chloride	4.925	mg/L	0.50	5	0	98.5	90	110			
Sulfate	10.10	mg/L	0.50	10	0	101	90	110			
Method: SM 2320B: Alkalinity											
Sample ID: MB		*MBLK*				Batch ID:	**R37953**	Analysis Date:	3/26/2010 4:39:00 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 4:45:00 PM		
Alkalinity, Total (As CaCO3)	79.49	mg/L Ca	20	80	0	99.4	92.5	110			
Method: EPA Method 6010B: Dissolved Metals											
Sample ID: MB		*MBLK*				Batch ID:	**R38000**	Analysis Date:	3/31/2010 11:07:49 AM		
Calcium	ND	mg/L	1.0								
Iron	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 12:58:00 PM		
Sodium	ND	mg/L	1.0								
Sample ID: LCS		*LCS*				Batch ID:	**R38000**	Analysis Date:	3/31/2010 11:10:40 AM		
Calcium	50.72	mg/L	1.0	50.5	0	100	80	120			
Iron	0.5350	mg/L	0.020	0.5	0	107	80	120			
Magnesium	51.30	mg/L	1.0	50.5	0	102	80	120			
Potassium	54.51	mg/L	1.0	55	0	99.1	80	120			
Sample ID: LCS		*LCS*				Batch ID:	**R38000**	Analysis Date:	3/31/2010 1:00:49 PM		
Sodium	51.79	mg/L	1.0	50.5	0.3355	102	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1003638

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

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **SMA-FARM** Date Received: **3/26/2010**

Work Order Number **1003638** Received by: TLS

Checklist completed by: _____ 3/26/10 Sample ID labels checked by: _____
Signature Date Initials

Matrix: Carrier name: Client drop-off

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	

Number of preserved bottles checked for pH: 4

<2 >12 unless noted below.

Container/Temp Blank temperature? **4.3°** *<6° C Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Souder, Miller & Associates

Mailing Address: 612 E. Murray Drive
Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: tom.long@soudermiller.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: CPS 1989

Project #: 5119748

Project Manager: Loren Dode

Sampler: Thomas Long

On Ice: ☑ Yes ☐ No

Sample Temperature: 4.3

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1003L038	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	APZ Water Suite	Air Bubbles (Y or N)
3-25-10	0915	Water	MW-1	4 HDPE	HNO3, H2SO4	1												X	
	1045		MW-2			2												X	
	1130		MW-4			3												X	
↓	1705	↓	MW-3	↓	↓	4												X	

Analysis Request

Date:	Time:	Relinquished by:	Received by:	Date	Time
3-25-10	1730	Thomas Long	Jon Sani	03/25/10	1800
Date:	Time:	Relinquished by:	Received by:	Date	Time
				3/26/10	805

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Order No.: 1004527

Dear Loren Diede:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW3
Lab Order:	1004527	**Collection Date:**	4/21/2010 4:12:00 PM
Project:	CPS 1989	**Date Received:**	4/22/2010
Lab ID:	1004527-01	**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 METALS						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
SM 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
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	12000	0.10		µmhos/cm	10	5/12/2010 5:23:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	7.63	0.1		pH units	1	4/26/2010 5:54:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	1.1	0			1	4/30/2010 7:50:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9020	20.0		mg/L	1	4/27/2010 3:58:00 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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW3 DUP
Lab Order:	1004527	**Collection Date:**	4/21/2010 4:24:00 PM
Project:	CPS 1989	**Date Received:**	4/22/2010
Lab ID:	1004527-02	**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 2:56:32 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 METALS						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
SM 2320B: ALKALINITY						Analyst: **NSB**
Alkalinity, Total (As CaCO3)	59	20		mg/L CaCO3	1	4/26/2010 6:04:00 PM
Carbonate	ND	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
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	12000	0.10		µmhos/cm	10	5/12/2010 5:27:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	7.83	0.1		pH units	1	4/26/2010 6:04:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	1.0	0			1	4/30/2010 7:50:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9060	20.0		mg/L	1	4/27/2010 3:58:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- NC Non-Chlorinated
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitation Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW2
Lab Order:	1004527	**Collection Date:**	4/22/2010 8:42:00 AM
Project:	CPS 1989	**Date Received:**	4/22/2010
Lab ID:	1004527-03	**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 METALS						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**
pH	7.30	0.1		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
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9740	20.0		mg/L	1	4/27/2010 3:58:00 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

Hall Environmental Analysis Laboratory, Inc.

Date: *13-May-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW1
Lab Order:	1004527	**Collection Date:**	4/22/2010 9:35:00 AM
Project:	CPS 1989	**Date Received:**	4/22/2010
Lab ID:	1004527-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						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 METALS						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
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **NSB**
Specific Conductance	11000	0.10		µmhos/cm	10	5/12/2010 5:38:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	10.02	0.1		pH units	1	4/26/2010 6:42:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	1.0	0			1	4/30/2010 7:50:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	7670	100		mg/L	1	4/30/2010 11:40:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1004527

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				**Batch ID: R38365**		**Analysis Date: 4/23/2010 12:19:50 PM**			
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				**Batch ID: R38365**		**Analysis Date: 4/24/2010 4:17:21 AM**			
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				**Batch ID: R38562**		**Analysis Date: 5/5/2010 10:49:10 AM**			
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				**Batch ID: R38365**		**Analysis Date: 4/23/2010 12:37:15 PM**			
Chloride	5.126	mg/L	0.50	5	0	103	90	110			
Sulfate	10.36	mg/L	0.50	10	0	104	90	110			
Sample ID: LCS		*LCS*				**Batch ID: R38365**		**Analysis Date: 4/24/2010 4:34:46 AM**			
Chloride	4.958	mg/L	0.50	5	0	99.2	90	110			
Sulfate	9.968	mg/L	0.50	10	0	99.7	90	110			
Sample ID: LCS		*LCS*				**Batch ID: R38562**		**Analysis Date: 5/5/2010 11:06:35 AM**			
Chloride	4.911	mg/L	0.50	5	0	98.2	90	110			
Sulfate	10.06	mg/L	0.50	10	0	101	90	110			
Method: SM 2320B: Alkalinity											
Sample ID: MB		*MBLK*				**Batch ID: R38393**		**Analysis Date: 4/26/2010 2:53:00 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: MB-II		*MBLK*				**Batch ID: R38393**		**Analysis Date: 4/26/2010 9:33:00 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: R38393**		**Analysis Date: 4/26/2010 2:58:00 PM**			
Alkalinity, Total (As CaCO3)	79.36	mg/L Ca	20	80	0	99.2	96.5	104			
Sample ID: 80PPM LCS-II		*LCS*				**Batch ID: R38393**		**Analysis Date: 4/26/2010 9:39:00 PM**			
Alkalinity, Total (As CaCO3)	79.96	mg/L Ca	20	80	0	100	96.5	104			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1004527

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 6010B: Dissolved Metals											
Sample ID: 1004527-04BMSD		*MSD*				Batch ID:	**R38403**	Analysis Date:		4/27/2010 1:04:13 PM	
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 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 Date:		4/27/2010 10:26:51 AM	
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:	**R38403**	Analysis Date:		4/27/2010 10:30:33 AM	
Calcium	50.34	mg/L	1.0	50.5	0	99.7	80	120			
Iron	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: 1004527-04BMS		*MS*				Batch ID:	**R38403**	Analysis Date:		4/27/2010 12:55:59 PM	
Iron	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: SM2540C MOD: Total Dissolved Solids											
Sample ID: MB-22067		*MBLK*				Batch ID:	**22067**	Analysis Date:		4/27/2010 3:58:00 PM	
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS-22067		*LCS*				Batch ID:	**22067**	Analysis Date:		4/27/2010 3:58:00 PM	
Total Dissolved Solids	1032	mg/L	20.0	1000	0	103	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 4/22/2010

Work Order Number 1004527 | Received by: AT

Checklist completed by: _____ 4/22/10 | Sample ID labels checked by: _____ Initials

Signature | Date

Matrix: | Carrier name Client drop-off

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted	☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	4.5°	<6° C Acceptable If given sufficient time to cool.		

Number of preserved bottles checked for pH: 8

(<2) >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Snyder, Miller & Pisor

Mailing Address: 612 E Murray
Farm NM 87401

Phone #: 505-325-5667

email or Fax#: Shawna.chisholm@snyderandmiller.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____

Project Name: CPS 1989

Project #: 5119748

Project Manager: Loren Diede

Sampler: Shawna Chisholm

On Ice: ☒ Yes ☐ No

Sample Temperature: 4.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1002527	Analysis Request: BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	DRT water suite				Air Bubbles (Y or N)
4-21-10	1142	Water	MW3	4 Plastic	HNO3/HCl	-1												X				
4-21-10	1624		MW3 Dup			-2												X				
4-22-10	0842		MW2			-3												X				
4-22-10	0935	↓	MW1	↓	↓	-4												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
4-22-10	1016	Shawna Chisholm		4/22/10	1345
Date:	Time:	Relinquished by:	Received by:	Date	Time

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Order No.: 1006037

Dear Cindy Gray:

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

4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jun-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW3
Lab Order:	1006037	**Collection Date:**	5/27/2010 3:10:00 PM
Project:	CPS 1989	**Date Received:**	5/28/2010
Lab ID:	1006037-01	**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 METALS						Analyst: **RAGS**
Calcium	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 CONDUCTANCE						Analyst: **NSB**
Specific Conductance	16000	0.50		µmhos/cm	50	6/3/2010 3:49:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	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 SOLIDS						Analyst: **KS**
Total Dissolved Solids	9460	200		mg/L	1	6/7/2010 12:32:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- NC Non-Chlorinated
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitation Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jun-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW2
Lab Order:	1006037	**Collection Date:**	5/28/2010 8:13:00 AM
Project:	CPS 1989	**Date Received:**	5/28/2010
Lab ID:	1006037-02	**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 CONDUCTANCE						Analyst: **NSB**
Specific Conductance	17000	0.50		µmhos/cm	50	6/3/2010 3:51:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	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 DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9410	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

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jun-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW2 DUP
Lab Order:	1006037	**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 METALS						Analyst: **RAGS**
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 CONDUCTANCE						Analyst: **NSB**
Specific Conductance	17000	0.50		µmhos/cm	50	6/3/2010 3:53:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	7.26	0.1		pH units	1	6/3/2010 5:04:00 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 SOLIDS						Analyst: **KS**
Total Dissolved Solids	9330	200		mg/L	1	6/7/2010 12:32:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- NC Non-Chlorinated
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitation Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *10-Jun-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW1
Lab Order:	1006037	**Collection Date:**	5/28/2010 8:37:00 AM
Project:	CPS 1989	**Date Received:**	5/28/2010
Lab ID:	1006037-04	**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 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 CONDUCTANCE						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
SM2540C 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	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1006037

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				Batch ID:	**R39038**	Analysis Date:		6/1/2010 10:32:04 AM	
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R39038**	Analysis Date:		6/1/2010 10:08:31 PM	
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R39060**	Analysis Date:		6/2/2010 1:15:56 PM	
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R39087**	Analysis Date:		6/3/2010 10:16:02 AM	
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID:	**R39089**	Analysis Date:		6/3/2010 9:44:03 AM	
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS		*LCS*				Batch ID:	**R39038**	Analysis Date:		6/1/2010 10:49:29 AM	
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			
Sample ID: LCS-b		*LCS*				Batch ID:	**R39060**	Analysis Date:		6/2/2010 5:54:27 PM	
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**	Analysis Date:		6/3/2010 10:33:26 AM	
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**	Analysis Date:		6/3/2010 10:01:27 AM	
Chloride	4.553	mg/L	0.50	5	0	91.1	90	110			
Sulfate	9.418	mg/L	0.50	10	0	94.2	90	110			
Sample ID: LCSD		*LCSD*				Batch ID:	**R39038**	Analysis Date:		6/1/2010 5:29:56 PM	
Chloride	4.892	mg/L	0.50	5	0	97.8	90	110			
Sulfate	10.10	mg/L	0.50	10	0	101	90	110			
Method: SM 2320B: Alkalinity											
Sample ID: 1006037-01AMSD		*MSD*				Batch ID:	**R39080**	Analysis Date:		6/3/2010 4:22:00 PM	
Alkalinity, Total (As CaCO3)	138.2	mg/L Ca	20	80	61.04	96.4	32.8	119	0.785	7.36	
Sample ID: MB		*MBLK*				Batch ID:	**R39080**	Analysis Date:		6/3/2010 3:34:00 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:	**R39080**	Analysis Date:		6/3/2010 3:40:00 PM	
Alkalinity, Total (As CaCO3)	79.88	mg/L Ca	20	80	0	99.8	96.5	104			
Sample ID: 1006037-01AMS		*MS*				Batch ID:	**R39080**	Analysis Date:		6/3/2010 4:07:00 PM	
Alkalinity, Total (As CaCO3)	137.1	mg/L Ca	20	80	61.04	95.1	32.8	119			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1006037

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 6010B: Dissolved Metals											
Sample ID: MB		*MBLK*				Batch ID:	**R39014**	Analysis Date:	6/1/2010 2:56:48 PM		
Iron	ND	mg/L	0.020								
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			
Sodium	54.06	mg/L	1.0	50.5	0	107	80	120			
Method: SM2540C MOD: Total Dissolved Solids											
Sample ID: MB-22514		*MBLK*				Batch ID:	**22514**	Analysis Date:	6/7/2010 12:32:00 PM		
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS-22514		*LCS*				Batch ID:	**22514**	Analysis Date:	6/7/2010 12:32:00 PM		
Total Dissolved Solids	1021	mg/L	20.0	1000	7	101	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM Date Received: 5/28/2010

Work Order Number 1006037 Received by: AT

Checklist completed by: _____ 5/28/10 Sample ID labels checked by: _____

Signature Date Initials

Matrix: Carrier name Client drop-off

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☑	Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	9.2°	<6° C Acceptable If given sufficient time to cool.		

Number of preserved bottles checked for pH: 4

(<2 >12 unless noted below.)

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: per CG no 1664 analysis 6/1/10

Corrective Action _____

Chain-of-Custody Record

Client: Souder Miller & Associates

Mailing Address: 612 E Murray Farmington NM 87401

Phone #: (505)325-5667

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CPS 1989

Project #: 5119748

Project Manager: Cindy Gray

Sampler: S Stubbuck

On Ice: ☒ Yes ☐ No

Sample Temperature: 9.2

HEAL No. 1006037

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
5-27-10	1510	Water	~~Dup~~ MW3	Plastic-4	H_2SO_4/HNO$_3$	-1
5-28-10	0813	Water	MW2	Plastic-4	H_2SO_4/HNO$_3$	-2
5-28-10	0830	Water	MW2 Dup	↓ -5	↓	-3
5-28-10	0837	Water	MW1			-4

Date	Time	Relinquished by:	Received by:	Date	Time
5-28-10	0955	Shawna Chadwick		5/28/10	1355
Date:	Time:	Relinquished by:	Received by:	Date	Time

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	API Water				Air Bubbles (Y or N)
											X				
											X				
											X				
											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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Order No.: 1008441

Dear Cindy Gray:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Aug-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1008441	**Collection Date:**	8/11/2010 11:00:00 AM
Project:	CPS 1989	**Date Received:**	8/12/2010
Lab ID:	1008441-01	**Matrix:**	AQUEOUS

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 8/12/2010

Work Order Number 1008441 | Received by: TLS

Checklist completed by: _____ 8/12/10 | Sample ID labels checked by: _____

Signature | Date | Initials

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted ☑		Yes ☐	No ☐	
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?	**3.6°**	*<6° C Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: SMA

Mailing Address: 2101 San Juan Blvd.
Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: tom.long@soudermiller.com

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: CPS 1989

Project #: 5119748

Project Manager: Cindy Grey

Sampler: Thomas Long

On Ice: ☑ Yes ☐ No

Sample Temperature: 3°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1008441	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	pH				Air Bubbles (Y or N)
8/11/10	11:10	water	MW-1	500mL HDPE	HCF	-1												X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/11/10	1530			8/12/10	835
Date:	Time:	Relinquished by:	Received by:	Date	Time

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.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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

Order No.: 1008745

Dear Cindy Gray:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Aug-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1008745	**Collection Date:**	8/18/2010 11:08:00 AM
Project:	CPS 1989	**Date Received:**	8/19/2010
Lab ID:	1008745-01	**Matrix:**	AQUEOUS

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1008745

Analyte	Result	Units	PQL	SPK Val	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SM4500-H+B: pH											
Sample ID: 1008739-01A DUP		*DUP*					**Batch ID: R40505**		Analysis Date:		8/20/2010 7:44:00 PM
pH	7.740	pH units	0.1						0.129		

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name **SMA-FARM** Date Received: **8/19/2010**

Work Order Number **1008745** Received by: **AMG**

Checklist completed by: Ashley M Gallegos 8/19/10 (Signature / Date) Sample ID labels checked by: _____ (Initials)

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☑		Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	**0.9°**	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: SMA

Mailing Address: 2101 San Juan

Phone #: 505-325-5667

email or Fax#: dave.diss@sandermiller.com

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: CPS 1989

Project #: 5119748

Project Manager: Cindy Gray

Sampler: Brown / Dave

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.9

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1008745	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
8/18/10	11:08	~~H2O~~	MW-1	500 ml	ICE	1												PH	X			

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/18/10	15:30	Dave Diss	Ashley M Gallegos	8/19	8:25
Date:	Time:	Relinquished by:	Received by:	Date	Time

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.

HALL
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ANALYSIS
LABORATORY

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

Order No.: 1009168

Dear Tom Long:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1009168	**Collection Date:**	8/31/2010 4:50:00 PM
Project:	CPS 1989	**Date Received:**	8/31/2010
Lab ID:	1009168-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
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: **NSB**
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: **NSB**
Specific Conductance	8200	0.010		µmhos/cm	1	9/7/2010 7:10:00 PM
SM4500-H+B: PH						Analyst: **NSB**
pH	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 SOLIDS						Analyst: **SNV**
Total Dissolved Solids	7350	40.0		mg/L	1	9/9/2010 10:07:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-2
Lab Order:	1009168	**Collection Date:**	8/31/2010 4:20:00 PM
Project:	CPS 1989	**Date Received:**	8/31/2010
Lab ID:	1009168-02	**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
Sulfate	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**
pH	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 SOLIDS						Analyst: **SNV**
Total Dissolved Solids	9590	20.0		mg/L	1	9/9/2010 10:07:00 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- NC Non-Chlorinated
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitation Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-3
Lab Order:	1009168	**Collection Date:**	8/31/2010 1:00:00 PM
Project:	CPS 1989	**Date Received:**	8/31/2010
Lab ID:	1009168-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **SRM**
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 CaCO3	1	9/7/2010 7:44:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	9/7/2010 7:44:00 PM
Bicarbonate	60	20		mg/L CaCO3	1	9/7/2010 7:44:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	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
SM4500-H+B: PH						Analyst: **NSB**
pH	7.36	0.100		pH units	1	9/7/2010 7:44:00 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 SOLIDS						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

Hall Environmental Analysis Laboratory, Inc.

Date: *23-Sep-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-2 Duplicate
Lab Order:	1009168	**Collection Date:**	8/31/2010 2:10:00 PM
Project:	CPS 1989	**Date Received:**	8/31/2010
Lab ID:	1009168-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	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						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 SOLIDS						Analyst: **SNV**
Total Dissolved Solids	9570	20.0		mg/L	1	9/9/2010 10:07:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

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

September 10, 2010

Date Received : September 04, 2010
Description : 1009168

Sample ID : MW-1

Collected By :
Collection Date : 08/31/10 16:50

ESC Sample # : L477329-01

Site ID :

Project # : 1009168

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	69.	0.50	mg/l	6010B	09/06/10	1
Iron, Dissolved	1.1	0.10	mg/l	6010B	09/06/10	1
Magnesium, Dissolved	6.0	0.10	mg/l	6010B	09/06/10	1
Potassium, Dissolved	54.	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.

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 : September 04, 2010
Description : 1009168

Sample ID : MW-1

Collected By :
Collection Date : 08/31/10 16:50

ESC Sample # : L477329-02

Site ID :

Project # : 1009168

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
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:
The reported analytical results relate only to the sample submitted.

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 : September 04, 2010
Description : 1009168

Sample ID : MW-2

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

ESC Sample # : L477329-03

Site ID :

Project # : 1009168

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

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 : September 04, 2010
Description : 1009168

ESC Sample # : L477329-04

Sample ID : MW-2

Site ID :

Project # : 1009168

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

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
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:
The reported analytical results relate only to the sample submitted.

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 : September 04, 2010
Description : 1009168

Sample ID : MW-3

Collected By :
Collection Date : 08/31/10 13:00

ESC Sample # : L477329-05

Site ID :

Project # : 1009168

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	mg/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.

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

ESC Sample # : L477329-06

Date Received : September 04, 2010
Description : 1009168

Site ID :

Sample ID : MW-3

Project # : 1009168

Collected By :
Collection Date : 08/31/10 13:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
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:
The reported analytical results relate only to the sample submitted.

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 : September 04, 2010
Description : 1009168

Sample ID : MW-2 Duplicate

Collected By :
Collection Date : 08/31/10 14:10

ESC Sample # : L477329-07

Site ID :

Project # : 1009168

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

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 : September 04, 2010
Description : 1009168

Sample ID : MW-2 Duplicate

Collected By :
Collection Date : 08/31/10 14:10

ESC Sample # : L477329-08

Site ID :

Project # : 1009168

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
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:
The reported analytical results relate only to the sample submitted.

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

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Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L477329

September 10, 2010

[illegible]

Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed
[illegible]		mg/l			[illegible]	12:26
Iron, Dissolved	< .1	mg/l			WG497095	09/06/10 12:26
Magnesium, Dissolved	< .1	mg/l			WG497095	09/06/10 12:26
[illegible]		mg/l			[illegible]	12:26
Sodium, Dissolved	< .5	mg/l			WG497095	09/06/10 12:26
[illegible]		mg/l			[illegible]	15:02
Oil & Grease (Hexane Extr)	< 5	mg/l			WG497668	09/10/10 09:41

[illegible]

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	20	[illegible]	7095
Iron, Dissolved	mg/l	0	0.0203	NA	20	L477178-16	WG497095
Magnesium, Dissolved	mg/l	4.30	4.37	1.85	20	L477178-16	WG497095
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	20	[illegible]	7095
Sodium, Dissolved	mg/l	16.0	16.8	2.41	20	L477178-16	WG497095
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	20	[illegible]	7204

[illegible]

Analyte	Units	Known Val	Result	% Rec	Limit	Batch
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	7095
Iron, Dissolved	mg/l	1.13	1.08	95.6	85-115	WG497095
Magnesium, Dissolved	mg/l	11.3	12.4	110.	85-115	WG497095
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	7095
Sodium, Dissolved	mg/l	11.3	11.9	105.	85-115	WG497095
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	7204
Oil & Grease (Hexane Extr)	mg/l	40	38.5	96.3	78-114	WG497668

[illegible]

Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7204
Oil & Grease (Hexane Extr)	mg/l	36.0	38.5	90.0	78-114	6.71	20	WG497668

[illegible]

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7095
Iron, Dissolved	mg/l	1.04	0.0203	1.13	90.2	75-125	L477178-16	WG497095
Magnesium, Dissolved	mg/l	15.9	4.37	11.3	102.	75-125	L477178-16	WG497095
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7095
Sodium, Dissolved	mg/l	27.5	16.8	11.3	94.7	75-125	L477178-16	WG497095
[illegible]	mg/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7204

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

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Est. 1970

Hall Environmental Analysis Laboratory
Anne Thorne
4901 Hawkins NE

Albuquerque, NM 87109

Quality Assurance Report
Level II

L477329

September 10, 2010

Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97668

Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97095
Iron,Dissolved	mg/l	1.04	1.04	90.2	75-125	0	20	L477178-16	WG497095
Magnesium,Dissolved	mg/l	16.0	15.9	103.	75-125	0.627	20	L477178-16	WG497095
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97095
Sodium,Dissolved	mg/l	27.8	27.5	97.3	75-125	1.08	20	L477178-16	WG497095
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	97204
Oil & Grease (Hexane Extr)	mg/l	81.8	72.7	128.*	78-114	19.6*	18	L477635-02	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.'

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1009168

Analyte	Result	Units	PQL	SPK Val	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: MB		*MBLK*				**Batch ID: R41040**		**Analysis Date: 9/19/2010 1:04:48 PM**			
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				**Batch ID: R41063**		**Analysis Date: 9/20/2010 2:50:33 PM**			
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				**Batch ID: R41063**		**Analysis Date: 9/21/2010 5:55:49 AM**			
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS-b		*LCS*				**Batch ID: R41040**		**Analysis Date: 9/19/2010 1:39:37 PM**			
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 Date: 9/20/2010 3:07:57 PM**			
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 Date: 9/21/2010 6:13:14 AM**			
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: Alkalinity											
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 6:08:00 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 PM**			
Alkalinity, Total (As CaCO3)	80.28	mg/L Ca	20	80	0	100	96.5	104			
Method: SM2540C MOD: Total Dissolved Solids											
Sample ID: MB-23685		*MBLK*				**Batch ID: 23685**		**Analysis Date: 9/9/2010 10:07:00 AM**			
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS-23685		*LCS*				**Batch ID: 23685**		**Analysis Date: 9/9/2010 10:07:00 AM**			
Total Dissolved Solids	987.0	mg/L	20.0	1000	6	98.1	80	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 8/31/2010

Work Order Number 1009168 | Received by: AT

Checklist completed by: Signature 08/31/10 Date | Sample ID labels checked by: Initials

Matrix: | Carrier name Client drop-off

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☑		Yes ☐	No ☐	
Water - Preservation labels on bottle and cap match?	Yes ☑	No ☐	N/A ☐	
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐	
Container/Temp Blank temperature?	2.0°	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: 12

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Souder Miller & Associates

2101 San Juan

Mailing Address: POB 248

Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: dave.diss@soudermiller.com

QA/QC Package: Tom.Long@Soudermiller.com

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:

☒ Standard ☐ Rush

Project Name: CPS-1989

Project #: 5119748

Project Manager: Tom Long

Sampler: D. Diss

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1009118
8/31/10	1652	H2O	MW-1	Various 4 each	Various	-1
8/31/10	1620	H2O	MW-2	Various 4 each	Various	-2
8/31/10	1300	H2O	MW-3	Various 4 each	Various	-3
8/31/10	1410	H2O	~~MW-4~~ MW2 Dup!	Various 4 each	Various	-4

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	APH H2O				Air Bubbles (Y or N)
											X				
											X				
											X				
											X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
8/31/10	18:30	Dave Diss			
09/01/10	0900	Jon Sevo H.G.S.		9/01/10	0900

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.

Chain-of-Custody Record

Client: SMA

Mailing Address: 2101 San Juan Blvd. Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: tom.longe@sadarmiller.com

QA/QC Package: Cindy.Grey@Sadarmiller.com

☑ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☑ Standard ☐ Rush _____

Project Name: CB #89

Project #: 5119248

Project Manager: Cindy Grey

Sampler: Thomas Long

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1206 1749	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/5/10	1105	Water	MW-1	4 oz 250mL	ICE	-1												X	Ph			

Date: 3/5/10 Time: 1400 Relinquished by: _____

Date: _____ Time: _____ Relinquished by: _____

Received by: _____ Date: _____ Time: 900

Received by: _____ Date: _____ Time: _____

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.

HALL
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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

Order No.: 1009168

Dear Tom Long:

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

HALL
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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

Order No.: 1009508

Dear Cindy Gray:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *29-Sep-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1009508	**Collection Date:**	9/9/2010 10:50:00 AM
Project:	CPS 1989	**Date Received:**	9/10/2010
Lab ID:	1009508-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	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**
pH	8.47	0.100		pH units	1	9/11/2010 1:23:00 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS 1989 **Work Order:** 1009508

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

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 9/10/2010

Work Order Number 1009508 | Received by: MLW

Checklist completed by: _____ 9/10/10 | Sample ID labels checked by: MG

Signature | Date | Initials

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace? No VOA vials submitted ☑	Yes ☐	No ☐		
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	0.5°	*<6° C Acceptable* If given sufficient time to cool.		

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

_____

_____

Corrective Action _____

_____

_____

Chain-of-Custody Record

Client: SMA

Mailing Address: 2101 San Juan Blvd. Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: tom-long@sundancemillwork.com cindy-gray@sundancemillwork.com

QA/QC Package: ☑ Standard ☐ Level 4 (Full Validation)

Accreditation ☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: ☑ Standard ☐ Rush

Project Name: CPS 1989

Project #: 5119748

Project Manager: Cindy Gray

Sampler: Thomas Long

On Ice: ☐ Yes ☐ No

Sample Temperature: 0.5

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1009508	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	pH	Sulfates			Air Bubbles (Y or N)
9/9/10	1050	Water	MW-1	1 HDPE	ICE	1												X				
↓	1120	↓	MW-1	1 HDPE	↓	1													X			

Date	Time	Relinquished by	Received by	Date	Time
9/9/10	1430		MWithers	9/10/10	926
Date:	Time:	Relinquished by:	Received by:	Date	Time

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.

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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

Order No.: 1009749

Dear Cindy Gray:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *21-Sep-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1009749	**Collection Date:**	9/15/2010 10:15:00 AM
Project:	CPS1989	**Date Received:**	9/16/2010
Lab ID:	1009749-01	**Matrix:**	AQUEOUS

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

QA/QC SUMMARY REPORT

Client: Souder, Miller and Associates
Project: CPS1989

Work Order: 1009749

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SM4500-H+B: pH											
Sample ID: 1009749-01A DUP		*DUP*					**Batch ID: R41030**		Analysis Date:	9/17/2010 8:33:00 PM	
pH	8.460	pH units	0.100						0.950		

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 9/16/2010

Work Order Number 1009749 | Received by: TLS

Checklist completed by: _____ Signature _____ Date | Sample ID labels checked by: S Initials

Matrix: | Carrier name FedEx

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 ☑	
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 ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		Number of preserved bottles checked for pH:
Water - VOA vials have zero headspace? No VOA vials submitted	☑	Yes ☐	No ☐	
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* If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

_____

_____

_____

_____

Corrective Action _____

_____

_____

Chain-of-Custody Record

Client: SMA

Mailing Address: 2101 San Juan Blvd. Farmington, NM 87401

Phone #: 505-325-5667

email or Fax#: tom.long@sadermiller.com

QA/QC Package: Cindy.Grey@Sadermiller.com

☑ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:

☑ Standard ☐ Rush _____

Project Name: CB 1B9

Project #: 5119248

Project Manager: Cindy Grey

Sampler: Thomas Long

On Ice: ☑ Yes ☐ No

Sample Temperature: 0.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1206 1749	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
3/5/10	1105	Water	MW-1	HCl 2 40mL	ICE	-1												X	Ph			

Date: 3/5/10 Time: 1400 Relinquished by: _____

Received by: _____ Date Time 90

Date: Time: Relinquished by:

Received by: _____ Date Time

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.

HALL
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LABORATORY

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

Order No.: 1012042

Dear Dave Diss:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Dec-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-3
Lab Order:	1012042	**Collection Date:**	11/30/2010 3:01:00 PM
Project:	CPS-1989 Enterprise	**Date Received:**	12/1/2010
Lab ID:	1012042-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
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 AM
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
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **IC**
Specific Conductance	8100	0.010		µmhos/cm	1	12/3/2010 4:09:00 PM
SM4500-H+B: PH						Analyst: **IC**
pH	7.70	0.100		pH units	1	12/3/2010 4:09:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	1.0	0			1	12/14/2010 6:43:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	10500	100		mg/L	1	12/5/2010 1:21:00 PM

Qualifiers:

*	Value *exceeds Maximum Contaminant Level*	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Dec-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	Duplicate
Lab Order:	1012042	**Collection Date:**	11/30/2010 3:05:00 PM
Project:	CPS-1989 Enterprise	**Date Received:**	12/1/2010
Lab ID:	1012042-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: LJB
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 AM
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
pH	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
SM2540C MOD: TOTAL DISSOLVED SOLIDS						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

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Dec-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-2
Lab Order:	1012042	**Collection Date:**	12/1/2010 8:35:00 AM
Project:	CPS-1989 Enterprise	**Date Received:**	12/1/2010
Lab ID:	1012042-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Chloride	17	0.50		mg/L	1	12/3/2010 9:50:38 PM
Sulfate	6900	100		mg/L	200	12/11/2010 2:29:20 AM
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**
pH	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
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	10100	100		mg/L	1	12/5/2010 1:21:00 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Estimated value
- H Holding times for preparation or analysis exceeded
- J Analyte detected below quantitation limits
- MCL Maximum Contaminant Level
- NC Non-Chlorinated
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitation Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *20-Dec-10*

CLIENT:	Souder, Miller and Associates	**Client Sample ID:**	MW-1
Lab Order:	1012042	**Collection Date:**	12/1/2010 9:35:00 AM
Project:	CPS-1989 Enterprise	**Date Received:**	12/1/2010
Lab ID:	1012042-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LJB**
Chloride	120	10		mg/L	20	12/3/2010 10:24:20 PM
Sulfate	5100	100		mg/L	200	12/11/2010 2:46:44 AM
SM 2320B: ALKALINITY						Analyst: **IC**
Alkalinity, Total (As CaCO3)	670	20		mg/L CaCO3	1	12/3/2010 4:58:00 PM
Carbonate	ND	2.0		mg/L CaCO3	1	12/3/2010 4:58:00 PM
Bicarbonate	670	20		mg/L CaCO3	1	12/3/2010 4:58:00 PM
Hydroxide	ND	2.0		mg/L CaCO3	1	12/3/2010 4:58:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **IC**
Specific Conductance	8800	0.010		µmhos/cm	1	12/3/2010 4:58:00 PM
SM4500-H+B: PH						Analyst: **IC**
pH	7.10	0.100		pH units	1	12/3/2010 4:58:00 PM
SPECIFIC GRAVITY BY SM 2710F						Analyst: **TAF**
Specific Gravity	1.0	0			1	12/14/2010 6:43:00 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	7450	100		mg/L	1	12/5/2010 1:21:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

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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	101203027-001	**Sampling Date**	11/30/2010	**Date/Time Received**	12/3/2010 12:00 PM
Client Sample ID	1012042-01B / MW-3	**Sampling Time**	3:01 PM	**Extraction Date**	
Matrix	Water	**Sample Location**			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	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	

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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	**Date/Time Received**	12/3/2010	12:00 PM
Client Sample ID	1012042-01D / MW-3	**Sampling Time**	3:01 PM	**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	

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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	101203027-003	**Sampling Date**	11/30/2010	**Date/Time Received**	12/3/2010	12:00 PM
Client Sample ID	1012042-02B / DUPLICATE	**Sampling Time**	3:05 PM	**Extraction Date**		
Matrix	Water	**Sample Location**				
Comments						

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
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	

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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	**Date/Time Received**	12/3/2010	12:00 PM
Client Sample ID	1012042-02D / DUPLICATE	**Sampling Time**	3:05 PM	**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	

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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	101203027-005	**Sampling Date**	12/1/2010	**Date/Time Received**	12/3/2010 12:00 PM
Client Sample ID	1012042-03B / MW-2	**Sampling Time**	8:35 AM	**Extraction Date**	
Matrix	Water	**Sample Location**			
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	**Date/Time Received**	12/3/2010 12:00 PM
Client Sample ID	1012042-03D / MW-2	**Sampling Time**	8:35 AM	**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	

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Client:	HALL ENVIRONMENTAL ANALYSIS LAB	**Batch #:**	101203027
Address:	4901 HAWKINS NE SUITE D	**Project Name:**	1012042
	ALBUQUERQUE, NM 87109		
Attn:	ANDY FREEMAN		

Analytical Results Report

Sample Number	101203027-007	**Sampling Date**	12/1/2010	**Date/Time Received**	12/3/2010 12:00 PM
Client Sample ID	1012042-04B / MW-1	**Sampling Time**	9:35 AM	**Extraction Date**	
Matrix	Water	**Sample Location**			
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	

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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	**Date/Time Received**	12/3/2010	12:00 PM
Client Sample ID	1012042-04D / MW-1	**Sampling Time**	9:35 AM	**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	

Authorized Signature

John Coddington, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

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.

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	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 300.0: Anions											
Sample ID: 1012128-01AMSD		*MSD*				Batch ID: **R42506**		Analysis Date:		12/3/2010 2:10:10 PM	
Chloride	6.493	mg/L	0.50	5	1.438	101	78	107	0.430	20	
Sample ID: MB-b		*MBLK*				Batch ID: **R42506**		Analysis Date:		12/3/2010 4:13:42 PM	
Chloride	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID: **R42506**		Analysis Date:		12/4/2010 2:20:08 AM	
Chloride	ND	mg/L	0.50								
Sample ID: MB		*MBLK*				Batch ID: **R42614**		Analysis Date:		12/10/2010 11:23:56 AM	
Chloride	ND	mg/L	0.50								
Sulfate	ND	mg/L	0.50								
Sample ID: LCS-b		*LCS*				Batch ID: **R42506**		Analysis Date:		12/3/2010 4:24:56 PM	
Chloride	5.254	mg/L	0.50	5	0	105	90	110			
Sample ID: LCS		*LCS*				Batch ID: **R42506**		Analysis Date:		12/4/2010 2:31:22 AM	
Chloride	5.246	mg/L	0.50	5	0	105	90	110			
Sulfate	10.59	mg/L	0.50	10	0	106	90	110			
Sample ID: LCS		*LCS*				Batch ID: **R42614**		Analysis Date:		12/10/2010 11:41:20 AM	
Chloride	4.879	mg/L	0.50	5	0	97.6	90	110			
Sulfate	10.13	mg/L	0.50	10	0	101	90	110			
Sample ID: 1012128-01AMS		*MS*				Batch ID: **R42506**		Analysis Date:		12/3/2010 1:58:56 PM	
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 Date:		12/3/2010 6:18:00 PM	
Alkalinity, Total (As CaCO3)	728.3	mg/L Ca	20	80	672.3	70.0	32.8	119	0.534	7.36	
Sample ID: 1012096-01DMSD		*MSD*				Batch ID: **R42490**		Analysis Date:		12/3/2010 7:51:00 PM	
Alkalinity, Total (As CaCO3)	259.7	mg/L Ca	20	80	213.7	57.5	32.8	119	1.27	7.36	
Sample ID: MB-1		*MBLK*				Batch ID: **R42490**		Analysis Date:		12/3/2010 3:43:00 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: LCS-1		*LCS*				Batch ID: **R42490**		Analysis Date:		12/3/2010 3:48:00 PM	
Alkalinity, Total (As CaCO3)	80.24	mg/L Ca	20	80	0	100	96.5	104			
Sample ID: 1012042-04AMS		*MS*				Batch ID: **R42490**		Analysis Date:		12/3/2010 5:51:00 PM	
Alkalinity, Total (As CaCO3)	724.4	mg/L Ca	20	80	672.3	65.1	32.8	119			
Sample ID: 1012096-01DMS		*MS*				Batch ID: **R42490**		Analysis Date:		12/3/2010 7:39:00 PM	
Alkalinity, Total (As CaCO3)	263.0	mg/L Ca	20	80	213.7	61.6	32.8	119			

Qualifiers:

- 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

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	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SM2540C MOD: Total Dissolved Solids											
Sample ID: 1011A50-01BMSD		*MSD*				Batch ID:	**24725**	Analysis Date:		12/5/2010 1:21:00 PM	
Total Dissolved Solids	1292	mg/L	20.0	1000	272	102	80	120	0.310	20	
Sample ID: 1012093-04AMSD		*MSD*				Batch ID:	**24754**	Analysis Date:		12/7/2010 1:38:00 PM	
Total Dissolved Solids	3052	mg/L	40.0	2000	952	105	80	120	0.856	20	
Sample ID: MB-24725		*MBLK*				Batch ID:	**24725**	Analysis Date:		12/5/2010 1:21:00 PM	
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: MB-24754		*MBLK*				Batch ID:	**24754**	Analysis Date:		12/7/2010 1:38:00 PM	
Total Dissolved Solids	ND	mg/L	20.0								
Sample ID: LCS-24725		*LCS*				Batch ID:	**24725**	Analysis Date:		12/5/2010 1:21:00 PM	
Total Dissolved Solids	1036	mg/L	20.0	1000	16	102	80	120			
Sample ID: LCS-24754		*LCS*				Batch ID:	**24754**	Analysis Date:		12/7/2010 1:38:00 PM	
Total Dissolved Solids	1020	mg/L	20.0	1000	0	102	80	120			
Sample ID: 1011A50-01BMS		*MS*				Batch ID:	**24725**	Analysis Date:		12/5/2010 1:21:00 PM	
Total Dissolved Solids	1288	mg/L	20.0	1000	272	102	80	120			
Sample ID: 1012093-04AMS		*MS*				Batch ID:	**24754**	Analysis Date:		12/7/2010 1:38:00 PM	
Total Dissolved Solids	3026	mg/L	40.0	2000	952	104	80	120			

Qualifiers:

- 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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name SMA-FARM | Date Received: 12/1/2010

Work Order Number 1012042 | Received by: KMS

Checklist completed by: Signature Kari Anne Stasiewicz Date 12/1/10 | Sample ID labels checked by: AG Initials

Matrix: | Carrier name: Client drop-off

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 ✔		
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			
Sufficient sample volume for indicated test?	Yes ✔	No			
All samples received within holding time?	Yes ✔	No		Number of preserved bottles checked for pH:	
Water - VOA vials have zero headspace?	No VOA vials submitted ✔	Yes	No		
Water - Preservation labels on bottle and cap match?	Yes ✔	No	N/A		
Water - pH acceptable upon receipt?	Yes ✔	No	N/A	2 8 <2 >12 unless noted below.	
Container/Temp Blank temperature?	9.3°	<6° C Acceptable If given sufficient time to cool.			

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding:

Comments:

Corrective Action

Chain-of-Custody Record

Client: Souder Miller & Associates

Mailing Address: 2101 San Juan Blvd
Farmington NM 87401

Phone #: 505-325-7535

email or Fax#:

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name:
CPS-1989 Enterprise

Project #:
5119748

Project Manager:
D. Diss

Sampler: D. Diss
On Ice: ☐ Yes ☐ No
Sample Temperature: 1.3°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1012042
11/30/10	1501	H2O	MW-3	6/55 Amber Plastic	Iced, HCl HNO3	
11/30/10	1505	H2O	Duplicate	Amber 6/Glass 1/Plastic	Iced HCl HNO3	
12/1/10	0835	H2O	MW-2	Amber Plastic	Iced, HCl & HNO3	
12/1/10	0935	H2O	MW-1	Amber plastic	Iced HCl HNO3	

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	X + APT Water				Air Bubbles (Y or N)
											X				
											X				
											X				
											X				

Date:	Time:	Relinquished by:	Received by:	Date	Time
12/1/10	1059	Dave Diss	Jon Sevin	12/01/10	1130
12/01/10	1435	Jon Sevin HBS.		12/1/10	1435

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.

APPENDIX D

NMBMMR TABLE 6

NMBMMR Table-6 (*New Mexico Bureau of Mines and Mineral Resources - Hydrogeology and Water Resources of San Juan, Basin 1983*)

LOCAL IDENTIFIER	DATE OF SAMPLE	GEOLOGIC UNIT	SPECIFIC CONDUCTANCE (MICROMHOS) (00095)	pH (UNITS) (00400)	HARDNESS (MG/L AS CACO3) (00900)	HARDNESS, NONCARBONATE (MG/L CACO3) (00902)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM + POTASSIUM DISSOLVED (MG/L AS NA) (00933)	BICARBONATE (MG/L AS HCO3) (00440)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
29N.12W.29.	59-04-30	110AVMB	-	-	1300	1000	330.0	110.0	-	-	280	**1300.0**	64.0	-	2210
29N.12W.34.421	68-04-17	110AVMB	2950	7.6	1600	1400	540.0	58.0	-	160.0	220	**1600.0**	70.0	14.0	2520
29N.12W.35.342	68-04-18	110AVMB	4620	7.3	1600	1000	550.0	61.0	-	620.0	750	**2100.0**	90.0	12.0	3850
29N.12W.35.342A	68-04-18	110AVMB	2140	7.9	650	440	200.0	34.0	-	260.0	260	**900.0**	42.0	13.0	1590
29N.12W.35.3434	68-04-09	110AVMB	2230	7.8	1200	1100	380.0	54.0	-	130.0	100	**1300.0**	16.0	22.0	1930
29N.12W.36.144	68-04-18	110AVMB	5620	6.6	1800	1200	340.0	230.0	-	850.0	710	**2700.0**	180.0	11.0	4660
29N.12W.36.311	68-04-18	110AVMB	1410	8.5	66	0	22.0	2.7	320.0	-	420	**270.0**	50.0	10.0	909
29N.12W.36.311A	68-04-18	110AVMB	10500	6.8	2000	1900	350.0	270.0	2300.0	-	52	**6700.0**	100.0	9.9	9800

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