

**AP-053**

**Abatement Plan Work Plan**

**DATE:**

**Jan 29, 2010**

# NEW MEXICO SALT WATER DISPOSAL COMPANY, INC.

400 N. Pennsylvania Ave.  
Suite 1000  
P.O. Box 1518 (88202)  
Roswell, NM 88201  
575/625-0277 Telephone  
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January 29, 2010

Mr. Glenn von Gonten, Acting Environmental Bureau Chief  
Oil Conservation Division  
1220 South St. Francis Drive  
Santa Fe, NM 87505

RE: Stage 1 Abatement Plan Work-plan (AP053)  
Response to Wayne Price October 9, 2008 Letter and Stage 1 Report

Dear Mr. von Gonten:

Subsequent to receiving the October 9, 2008 letter from then Environmental Bureau Chief Wayne Price, New Mexico Salt Water Disposal Company ("NMSWDCo") has evaluated that letter in light of the data known at that time and has performed further site investigation activities at our Station 11 tank battery located in Lea County, New Mexico, specifically within Unit D of Section 21, Township 10 South and Range 34 East. See 10/09/08 Wayne Price letter, attached hereto as Exhibit ("Ex.") A.

Based on NMSWDo's initial and supplemental site assessment activities, we now request that you conclude that (i) we have adequately assessed the site and (ii) there are no reasons to perform any additional site investigation nor are there any reasons to conduct remediation other than NMSWDo's proposed redevelopment of the bermed area to contain 150% of tank volumes and install a surface liner with a 40 mil impervious material.

We will respond to the letter of October 9, 2008 in a point-by-point manner as follows:

## **STAGE 1 ABATEMENT PLAN REPORT DEFICIENCIES**

Point:

The first paragraph states "OCD is conditionally approving both reports because of several deficiencies noted below. The deficiencies do not impact the overall quality of the reports."

Response:

The wording as quoted above indicates to us that while specific methods utilized and data collected were questioned in other parts of the letter, the OCD doesn't disagree with the methodology utilized and the data collected by our environmental consulting firm, CMB Environmental & Geological Services, Inc. ("CMB"), and the data derived therefrom significantly enough to reject the CMB report.

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Point:

1. NMSWDCo installed 20 feet of screen in its three new monitoring wells (see p. 5). However, Section 3.3 (p.9) of the approved Stage 1 Abatement Plan Proposal specified 15 foot screens.

Response:

We believe that this point is not an issue nor is it a detriment to the quality of the data collected. In fact, it is our belief that the additional 5 feet of length in the screen exposes that much more of the formation directly to atmospheric pressure.

Point:

2. NMSWDCo advanced MW-1 from 63.5 feet BGS to 135 feet BGS using a mud rotary. This contingency was never discussed in the approved Stage 1 Abatement Plan Proposal and is usually not acceptable to OCD. However, because NMSWDCo advanced two other monitor wells, OCD is willing to accept the analytical results from MW-1. NMSWDCo is cautioned against using mud rotary methods in the future without first justifying to OCD first.

Response:

MW-1 was drilled with a hollow stem auger to 63.5 feet BGS whereupon water was encountered (the wellbore had been dry all the way down to that point, therefore, the water encountered was on the top of the clay barrier) and because of split spoon sampling methods, we were aware of the fact that we were going to penetrate a clay barrier, and not wanting to do so, we decided to run 6 inch PVC casing from surface to 65.0 feet BGS whereupon the 6 inch casing was cement grouted to surface. We resumed drilling using the mud rotary method through the 6 inch PVC casing. Knowing full well that our objective was 115 feet BGS and not wanting to have the potential of dragging contamination towards that aquifer, we prudently set casing. Procedurally, it is ineffective and impractical to use a hollow stem auger when the auger has to pass through casing after the auger has been drilling in a clay zone. The augers tear up the PVC. All mud and soil boring cuttings from the mud rotary were circulated in a steel pit, there was no surface contamination and the mud was drummed and was subsequently shipped to an approved dump site, Gandy Marley, Inc.

Point:

3. NMSWDCo committed to a more comprehensive monitoring list than it actually analyzed for. In its approved Stage 1 Abatement Plan Proposal, NMSWDCo committed to analyzing for "*general chemistry, including chlorides and total dissolved solids (TDS)...*" General chemistry parameters include all constituents specified at 40 CFR 136, not just chlorides and TDS.

Response:

As stated within the Section of the August 10, 2008 Stage 1 Abatement Plan report titled Appendix 6, under Hall Environmental Analysis Report 0707164, 7 water samples were analyzed, including monitor wells 1, 2 and 3, for TPH, Modified 8015, DRO-GRO, BTEX 8021B, Anions, dissolved metals, alkalinity, specific conductance, pH, and TDS. Also in the same report, see the 4<sup>th</sup> Table "Groundwater Sampling, July 9, 2007", containing the analytical results of the aforementioned lab analysis.

Point:

4. NMSWDCo refers to “*perched water*” several places in its report and appears to be under the assumption that “*perched water*” is not afforded the same protection as a regional aquifer. Perched water is ground water and is protected to the same degree as a more extensive regional aquifer.

Response:

NMSWDCo’s additional site assessment work demonstrates that the water inappropriately termed “perched water” in the CMB report is not sustainable and, therefore, there is not sufficient water to be put to a beneficial use. See attached *GEOLOGICAL AND HYDROGEOLOGICAL EVALUATION OF BORINGS AND MONITOR WELLS AT AND AROUND NEW MEXICO SALT WATER DISPOSAL CO., INC., STATION 11* Prepared by Kay Havenor, Ph.D. (“Havenor Report”), attached hereto as Ex. B, at ii-iii, Points IV, VIII, and XI, and 18-19.

Point:

5. NMSWDCo refers to “*perched produced water*” (see p. 6) encountered in MW-1 at a depth of 60.0-63.5 feet BGS. The chlorides concentration in this “*perched produced water*” was 21,000 mg/l. Previously, NMSWDCo had reported that the chlorides concentration in SB-4A at a depth of 29-31 feet BGS was 45,000 mg/l. The chlorides concentration in the produced water taken from its tank battery was 83,000 mg/l.

Response:

NMSWDCo is unclear as to this point. See Havenor Report, Ex. B, at 2.

Point:

6. NMSWDCo encountered saturated conditions at approximately 60 to 63.5 feet BGS in MW-1; however, the well bore was only left open for only 30 minutes. This is not an adequate amount of time to allow for fluid entry into the well bore. This same inappropriate procedure was followed at MW-2, MW-3, and RW-1 although the well bore was left open for 60 minutes at RW-1.

Response:

During the drilling the sampled soils from the soil borings (split spoon), particularly in the capillary fringe, were dry and did not have retained water. Clayey sandy soils tend to retain moisture. Experience has proven that when drilling and installing a monitor well, the soils above the saturated zone are damp and retain moisture from capillary forces. As an example, when we began drilling MW-1, at 60.0 feet BGS the soils were damp to the point of being almost saturated and at 61.0 feet BGS we had immediate fluid entry into the wellbore. While drilling SB-4A, we had saturated soils and immediate fluid entry at 29.0 feet BGS. While all other borings in the site investigation were being drilled, upon encountering the clay barrier at 29.0-31.0 feet BGS and from 60.0-65.0 feet BGS, the split spoon samples were dry and the borings were dry. We pulled the augers back 6 inches from total depth, after encountering the clay barriers, installed a Solinst Water Level Meter and waited for fluid entry. None was encountered. The Principal Investigator’s previous drilling experience of more than 500 monitor wells installed in New Mexico has shown that, in virtually all of those instances, there has been some fluid entry if a monitor well is to be installed and if there indeed was an aquifer penetrated by the soil boring. There is no documented procedure for the amount of time, correct or incorrect, to allow for fluid entry into a wellbore. Therefore, we continued drilling.

Point:

7. On page 11, NMSWDCo indicates that while bailing RW-1, the recovery rate was slow and attribute the water level to well completion procedures. OCD is skeptical of this interpretation. OCD notes that no water samples were collected or analyzed; therefore, there is no analytical data to support NMSWDCo's assertion. As discussed below, OCD will require NMSWDCo to analyze the water from 29-31 feet BGS perched zone.

Response:

RW-1 was dry; it did not encounter the water that SB-4A encountered at 29.0-31.0 feet BGS. During the installation of the sand filter pack, we had to add water to the hole to make sure that we had a good filter pack in the clay barrier. The well was bailed and was bailed dry. Fluid entry was minimal and the water recovered by bailing was the exact amount used to assist in the installation of the sand filter pack. Additionally, see Havenor Report, Ex. B, at ii, Point IV.

Point:

8. Beginning on page 13, NMSWDCo discusses the chloride concentrations in the soil samples and uses "mg/l" or PPM rather than "mg/kg". In all future reports, NMSWDCo should be careful to use the correct unit to avoid confusion.

Response:

Accepted.

Point:

9. In summary comment 1 (p.15), NMSWDCo that it has "*defined the vertical and horizontal extent of alleged chloride contamination.*" OCD disagrees; NMSWDCo has not depicted the vertical extent of soil or ground water contamination on its cross section nor has it provided a map depicting the horizontal extent of soil and ground contamination on a map.

Response:

The data collected from the drilling and sampling of the additional monitor wells advanced by NMSWDCo, after consultation with the OCD, completely define the vertical and horizontal extent of alleged chloride contamination. See Havenor Report, Ex. B.

Point:

10. In Summary Comment 1 (p. 15), NMSWDCo indicates that the hydraulic gradient is 0.66 ft/ft, which is obviously incorrect.

Response:

We concur with this point even though it amounts to nothing more than errata, as it can be corrected to feet per mile (ft/mile).

Point:

11. In Summary Comment 3 (p. 15), NMSWDCo again refers to "perched produced formation water" in MW-1. As noted above, OCD has determined that the perched ground water in MW-1 is fresh water which has been contaminated by produced water released from the produced water tank batteries. NMSWDCo chose not to adequately test the perched zone. As discussed below, OCD will require NMSWDCo to offset MW-1 and complete a monitor well in the perched zone.

Response:

See responses to Points 4 & 5, above. Also, see Havenor Report, Ex. B, at ii-iii, Points IV, VIII, and XI, and 18-19.

Point:

12. OCD accepts NMSWDCo's conclusion that the deeper, regional aquifer encountered at 100-105 feet BGS has not been contaminated by a release from Station

Response:

The OCD will surely understand that we are pleased to have their agreement that the fresh water in the deep regional aquifer has not been contaminated by releases from Station 11.

### **REPORT ON INFRASTRUCTURE AND OPERATING GUIDELINES DEFICIENCIES**

Point:

13. NMSWDCo must revise its proposed *Operational and Emergency Policy* by deleting items 4 and 5 of its *Operation Policy*. NMSWDCo is not a regulatory agency and has no authority over "adversarial tenants" or to "uphold the rights of the State of New Mexico". The State Land Office has authority over tenants on state land. NMSWDCo must submit a revised *Operational and Emergency Policy* within 10 days of its receipt of this Notice of Deficiency.

Response :

Please see the copy of NMSWDCo's timely response, attached hereto as Ex. C.

### **REQUIREMENT TO SUBMIT PHASE TWO OF STAGE 1 ABATEMENT PLAN**

Point:

OCD has determined that NMSWDCo failed to adequately test the ground water encountered at 29-31 feet BFGS in RW-1 and at 60-63.5 feet BGS in MW-1 and has determined the horizontal and vertical extent of soil and ground water contamination. NMSWDCo must submit a phase two work plan which documents the tasks that it will perform to determine the ground water quality in the perched zones in RW-1. The phase two work plan must also specify that the NMSWDCo will offset MW-1 and install a monitor well screened above 60-63.5 feet BGFS. NMSWDCo's phase two work plan must also specify that it will install a new monitor well on the north side of the bermed area to determine the extent of and water quality of the perched zone encountered in MW-1.

Response:

The OCD is aware that NMSWDCo drilled additional monitor wells after receipt of the October 9, 2008, letter from Mr. Price. Consequently, NMSWDCo has already completed the requested Phase Two work. See Havenor Report, Ex. B. Also see Exs. D through K attached hereto (addressing the three additional monitor wells and associated analyses).

## **REBUILDING OF PUMP STATION 11**

### Points:

NMSWDCo's Stage 1 investigation did not address the soil contamination beneath the bermed tank battery area. NMSWDCo has committed to rebuild Pump Station 11 in its letter of December 15, 2005. OCD has determined that it is extremely likely that the soil beneath the tank battery area is grossly contaminated by chlorides and that this contamination poses a very real threat to ground water as long as the source of contamination remains. Therefore, OCD is also requiring NMSWDCo to move its tank batteries from the present location to another location to be determined by NMSWDCo and the State Land Office. The new location should be constructed with a berm that will contain at least 150% of the combined volume of the tank batteries and be lined with an 40 mil plastic.

NMSWDCo has at least two options for source removal. First, it can conduct a soil boring investigation to determine the horizontal and vertical extent of the chlorides contamination and then propose how much of the contamination source should be removed. Second, it can presumptively remove all soil to a depth of 30 feet BGS and backfill, avoiding the cost of the soil investigation.

NMSWDCo should consider its options and include a source removal proposal to OCD when it submits its phase two Stage 1 work plan.

### Response:

Based on NMSWDCo's supplemental site assessment work, there is no basis for OCD to require excavation of contaminated soil. See Havenor Report, Ex. B, at 20. The results of the analysis and assessment of all of the soil borings and monitor wells do not support OCD's statement "Therefore, OCD is also requiring NMSWDCo to move its tank batteries from the present location to another location to be determined by NMSWDCo and the State Land Office." Instead, NMSWDCo proposes to do the following:

1. Continue to monitor the wells at the site by providing an annual sampling and analysis of any liquids recovered for a maximum term of three (3) years, copies provided to the OCD and the State Land Office ("SLO");
2. Construct, re-contour and improve the bermed area to contain 150% of the calculated combined fluid capacity of the tanks that are or will be located within the bermed area; and
3. Install a 40 mil liner clamped to the outside diameter of each of the tanks at ground level and extending out over an improved bermed area.

## **REQUIREMENT TO CLOSE PERMANENT PIT**

### Point:

NMSWDCo's report documents the presence of a permanent pit located on the south side of the tank batteries. NMSWDCo's must submit a separate work plan to close this permanent pit pursuant to 19.15.17.13 NMAC, with a contingency plan to investigate the extent of any soil or ground water contamination detected during closure.

Response:

The reference to a “permanent pit” was erroneous based on an incorrect survey. Please see the attached Ex. L, which contains a revised survey of the area (prior to the completion of the drilling of the last three monitor wells) and the Affidavit of Ronald J. Eidson correcting the errors in the originally submitted survey.

### **RESPONSE AND COMMENTS BY NMSWDCo**

The OCD, under AP053, will have in its files for reference the original submittals, the *ENVIRONMENTAL SITE ASSESSMENT*, dated April 1, 2004 and the *STAGE 1 ABATEMENT PLAN/MONITOR WELL INSTALLATION REPORT* dated August 10, 2007, both provided by CMB. In addition, this submittal is referencing the “Wayne Price October 9, 2008 Letter” (copy included and labeled Introductory Letter), our response to which is attached is labeled “Cover Letter”.

NMSWDCo has endeavored to comply with both the SLO’s desires and instructions and those of the OCD in its efforts to investigate the possible contamination resulting from multiple releases (estimated at a net amount of 136 Barrels) of produced water from its tank battery at its Station 11 since 1999. See Havenor Report, Ex. B, at 1. The reference material in the OCD files will provide the background to the previous statement. As a result of the October 9, 2008 Letter, NMSWDCo elected to continue with soil boring/monitor well installation to determine the horizontal and vertical extent of the alleged chloride contamination in lieu of the second option offered in the “Letter” of digging and hauling to a 30 foot depth. The proposal to increase the number of monitor wells was submitted to the OCD in a letter dated November 21, 2008 (Exhibit K). In that letter NMSWDCo proposed to drill 2 monitor wells with the possibility of drilling a third at the same time. The Company subsequently drilled three monitor wells.

The results of those monitor wells are encapsulated in this submittal. In addition, Kay Havenor, Ph.D. of GeoScience Technologies was contracted to evaluate the results of the most recent monitor wells in addition to all of the previously submitted reports, data and submittals to both the OCD and the SLO. Dr. Havenor’s evaluation is enclosed in its entirety, as Exhibit B.

As a result of the original submittals, the correspondence and conversations with both the OCD and SLO, the field notes of Clayton M. Barnhill, the laboratory analysis of the samplings, and the findings of Dr. Havenor, NMSWDCo submits this Stage 1 Report.

In conclusion, we reiterate our request that you conclude that (i) we have adequately assessed the site and (ii) based upon our assessment, there are no reasons to perform any further site investigation nor are there any reasons to conduct remediation other than the redevelopment of the bermed area to contain 150% of tank volumes and to include a surface liner with a 40 mil impervious material.

While this has been a significantly long process to arrive at this point, we acknowledge by our recommendations that we are further committed to complete certain tasks. We look forward to your response to this submittal.

Yours Sincerely,



Rory McMinn, Consultant to  
New Mexico Salt Water Disposal Company, Inc.

cc: Gino Romero, NM State Land Office  
Charles B. Read, New Mexico Salt Water Disposal Company, Inc.  
James B. Read, New Mexico Salt Water Disposal Company, Inc.  
Gary Larson, Hinkle, Hensley, Shanor and Martin, LLP  
Kay Havenor, Ph.D., GeoScience Technologies, Inc.  
Clayton M. Barnhill, CMB Geological and Environmental Services, Inc.



New Mexico Energy, Minerals and Natural Resources Department

**Bill Richardson**  
Governor

Joanna Prukop  
Cabinet Secretary  
Reese Fullerton  
Deputy Cabinet Secretary

Mark Fesmire  
Division Director  
Oil Conservation Division



October 9, 2008

Mr. Charles B. Read  
New Mexico Salt Water Disposal Company  
P.O. Box 1518  
Roswell, NM 88201

**RE: STAGE 1 ABATEMENT PLAN WORKPLAN (AP053)  
REPORT ON INFRASTRUCTURE AND OPERATING GUIDELINES**

Dear Mr. Read:

The Oil Conservation Division (OCD) has reviewed the Stage 1 Abatement Plan Report entitled "*State (sic) 1 Abatement Plan / Monitor Well Installation Report*", submitted on August 10, 2007, by CMB Environmental and Geological Services Inc. on behalf of the New Mexico Salt Water Disposal Company (NMSWDCo) and the *Report On Infrastructure and Operating Guidelines* submitted on December 16, 2006 in accordance with the stipulations specified in the Agreed Compliance Order 96, executed on January 12, 2006. OCD hereby conditionally approves the Stage 1 Report and the Infrastructure Report. OCD is conditionally approving both reports because of several deficiencies noted below. The deficiencies do not impact the overall quality of the reports. OCD is providing NMSWDCo with a list of deficiencies for future reference.

**STAGE 1 ABATEMENT PLAN REPORT DEFICIENCIES**

1. NMSWDCo installed 20 feet of screen in its three new monitoring wells (see p. 5). However, Section 3.3 (p. 9) of the approved Stage 1 Abatement Plan Proposal specified 15 foot screens.
2. NMSWDCo advanced MW-1 from 63.5 feet BGS to 135 feet BGS using a mud rotary. This contingency was never discussed in the approved Stage 1 Abatement Plan Proposal and is usually not acceptable to OCD. However, because NMSWDCo advanced two other monitor wells, OCD is willing to accept the analytical results from MW-1. NMSWDCo is cautioned against using mud rotary methods in the future without first justifying to OCD first.
3. NMSWDCo committed to a more comprehensive monitoring list that it actually analyzed for. In its approved Stage 1 Abatement Plan Proposal, NMSWDCo committed to analyzing for

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\* Santa Fe, New Mexico 87505

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"general chemistry, including chlorides and total dissolved solids (TDS)..." General chemistry parameters include all constituents specified at 40 CFR 136, not just chlorides and TDS.

4. NMSWDCo refers to "perched water" several places in its report and appears to be under the assumption that "perched water" is not afforded the same protection as a regional aquifer. Perched water is ground water and is protected to the same degree as a more extensive regional aquifer.

5. NMSWDCo refers to "perched produced water" (see p. 6) encountered in MW-1 at a depth of 60.0-63.5 feet BGS. The chlorides concentration in this "perched produced water" was 21,000 mg/l. Previously, NMSWDCo had reported that the chlorides concentration in SB-4A at a depth of 29-31 feet BGS was 45,000 mg/l. The chlorides concentration in the produced water taken from its tank battery was 83,000 mg/l.

Water wells in the same township encountered ground water from 7 to 55 feet BGS. OCD concludes that the "perched water" at both 29-31 feet BGS and 60.0-63.5 feet BGS was fresh, high quality Ogallala water and that at Station 11, two shallow perched zones have been contaminated by produced water, resulting in chlorides concentrations in the two perched zones that is intermediate between fresh water and produced water.

6. NMSWDCo encountered saturated conditions at approximately 60 to 63.5 feet BGS in MW-1; however, the well bore was only left open for only 30 minutes. This is not an adequate amount of time to allow for fluid entry into a well bore. This same inappropriate procedure was followed at MW-2, MW-3, and RW-1 although the well bore was left open for 60 minutes at RW-1.

7. On page 11, NMSWDCo indicates that while bailing RW-1, the recovery rate was slow and attribute the water level to well completion procedures. OCD is skeptical of this interpretation. OCD notes that no water samples were collected or analyzed; therefore, there is no analytical data to support NMSWDCo's assertion. As discussed below, OCD will require NMSWDCo to analyze the water from the 29-31 feet BGS perched zone.

8. Beginning on page 13, NMSWDCo discusses the chloride concentrations in the soil samples and uses "mg/l" or PPM rather than "mg/kg". In all future reports, NMSWDCo should be careful to use the correct unit to avoid confusion.

9. In Summary Comment 1 (p. 15), NMSWDCo that it has "defined the vertical and horizontal extent of alleged chloride contamination." OCD disagrees; NMSWDCo has not depicted the vertical extent of the soil or ground water contamination on its cross section nor has it provided a map depicting the horizontal extent of soil and ground contamination on a map.

10. In Summary Comment 1 (p. 15), NMSWDCo indicates that the hydraulic gradient is 0.66 ft/ft, which is obviously incorrect.

11. In Summary Comment 3 (p. 15), NMSWDCo again refers to "perched produced formation water" in MW-1. As noted above, OCD has determined that the perched ground water in MW-1 is fresh water which has been contaminated by produced water released from the produced water tank batteries. NMSWDCo chose to not adequately test the perched zone. As discussed below, OCD will require NMSWDCo to offset MW-1 and complete a monitor well in the perched zone.

12. OCD accepts NMSWDCo's conclusion that the deeper, regional aquifer encountered at 100-105 feet BGS has not been contaminated by a release from Station 11.

#### **REPORT ON INFRASTRUCTURE AND OPERATING GUIDELINES DEFICIENCIES**

13. NMSWDCo must revise its proposed *Operational and Emergency Policy* by deleting items 4 and 5 of its *Operation Policy*. NMSWDCo is not a regulatory agency and has no authority over "adversarial tenants" or to "uphold the rights of the State of New Mexico". The State Land Office has authority over tenants on state land. NMSWDCo must submit a revised *Operational and Emergency Policy* within 10 days of its receipt of this Notice of Deficiency.

#### **REQUIREMENT TO SUBMIT PHASE TWO OF STAGE 1 ABATEMENT PLAN**

OCD has determined that NMSWDCo failed to adequately test the ground water encountered at 29-31 feet BGS in RW-1 and at 60.0-63.5 feet BGS in MW-1 and has determined the horizontal and vertical extent of soil and ground water contamination. NMSWDCo must submit a phase two workplan which documents the tasks that it will perform to determine the ground water quality in the perched zones in RW-1. The phase two workplan must also specify that NMSWDCo will offset MW-1 and install a monitor well screened above 60.0-63.5 feet BGS. NMSWDCo's phase two workplan must also specify that it will install a new monitor well on the north side of the bermed area to determine the extent of and water quality of the perched zone encountered in MW-1.

#### **REBUILDING OF PUMP STATION 11**

NMSWDCo's Stage 1 investigation did not address the soil contamination beneath the bermed tank battery area. NMSWDCo has committed to rebuild Pump Station 11 in its letter of December 15, 2005. OCD has determined that it is extremely likely that the soil beneath the tank battery area is grossly contaminated by chlorides and that this contamination poses a very real threat to ground water as long as the source of the contamination remains. Therefore, OCD is also requiring NMSWDCo to move its tank batteries from the present location to another location to be determined by NMSWDCo and the State Land Office. The new location should be constructed with a berm that will contain at least 150% of the combined volume of the tank batteries and be lined with 40 mil plastic.

Mr. Charles Read  
October 9, 2008  
Page 4

NMSWDCo has at least two options for source removal. First, it can conduct a soil boring investigation to determine the horizontal and vertical extent of the chlorides contamination and then propose how much of the contamination source should be removed. Second, it can presumptively remove all soil to a depth of 30 feet BGS and backfill, avoiding the cost of the soil investigation.

NMSWDCo should consider its options and include a source removal proposal to OCD when it submits its phase two Stage 1 workplan.

#### **REQUIREMENT TO CLOSE PERMANENT PIT**

NMSWDCo's report documents the presence of a permanent pit located on the south side of the tank batteries. NMSWDCo's must submit a separate workplan to close this permanent pit pursuant to 19.15.17.13 NMAC, with a contingency plan to investigate the extent of any soil or ground water contamination detected during closure.

NMSWDCo should submit one paper copy with and an electronic copy on CD of all future workplans and/or reports. Please include "AP053" on all future correspondence. If you have any questions, please contact Glenn von Gonten of my staff at (505) 476-3488.

Sincerely,



Wayne Price  
Environmental Bureau Chief

WP/gvg

xc: OCD District I Office, Hobbs  
Thaddeus Kostrubala, State Land Office  
Rory McMinn, Sage Service Group

**GEOLOGICAL AND HYDROGEOLOGICAL EVALUATION OF  
BORINGS AND MONITOR WELLS AT AND AROUND NEW MEXICO  
SALT WATER DISPOSAL CO., INC., STATION 11  
Section 21, Township 10 South, Range 34 East  
Lea County, New Mexico  
New Mexico Oil Conservation Division AP053**

Prepared by:

Kay Havenor, Ph.D.

Registered Geologist # 30348, Arizona  
Professional Geologist # 5806, Texas  
Certified Professional Geologist # 673, AIPG

GeoScience Technologies  
Deborah Havenor, Owner and Business Manager  
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Roswell, New Mexico 88203  
(575) 622-0283

July 31, 2009

Prepared for:

New Mexico Salt Water Disposal Co., Inc.  
Roswell, New Mexico

## Executive Summary

- I. As the result of New Mexico Salt Water Disposal Co., Inc., (NMSWDC) produced water releases at its Station 11 tank battery, Unit D of Sec. 21, T10S-R34E, Lea Co., New Mexico State Land Office (SLO) directed soil borings be made to determine the extent of the contamination, if any, resulting from the releases. See page 1.
- II. Four soil borings, SB-1, 2, 3, and 4, from 11 ft to 16 ft were made and found no water, but soil chlorides analyzed in the laboratory exceeded 250 ppm (mg/kg) and the SLO initiated requirements for additional deeper borings. See page 1.
- III. Four deeper soil borings, SB-1A, 2A, 3A, and 4A were drilled to 36 ft with SB-4A stopping at 31 ft due to penetrating 0.18 ft (2.16 in) of produced water saturated silty clay. See p. 2.
- IV. Recovery well RW-1 was drilled a few feet from SB-4A and encountered no water after sitting for one hour. After one week, only enough water was recovered for an analysis sample. A year later less than one liter of water was recovered. The term aquifer is defined at length and the conclusion is that this is not in an aquifer. See p. 3.
- V. Monitor wells MW-1, MW-2, and MW-3 were drilled to 135 ft, 139 ft, and 135 ft. MW-2 and MW-3 had no shows of water until penetrating the water table of the Cretaceous sandstone aquifer at 117± ft. MW-1 had a small accumulation of produced water at 61 ft to 63 ft in basal Ogallala sand on top of the disconformity at the top of the Cretaceous shale aquiclude. Water in the Cretaceous sandstone is below 117 ft in the USGS aquifer unit designated as Cretaceous System (210CRCS). See p. 5.
- VI. Three more monitor wells found small accumulations of produced water seen at 61 ft in MW-1. MW-4, MW-5, and MW-6 were drilled to 65 ft, 30.5 ft, and 65 ft, respectively. MW-5 encountered a show of produced water 0.9 ft (10.8 in) thick across the base of a sand and the top of a fat clay at 30 ft TD. MW-4 had 3.27 ft of produced water at 60.49 ft (basal) Ogallala sand to 63.49 ft in the Cretaceous shale at 63 ft. MW-6 similarly had 3.36 ft of water from 59.87 ft in lower Ogallala sand and Cretaceous shale to 63 ft. See page 5.
- VIII. The produced waters found in RW-1 and MW-5 are very small accumulations in restricted areas, trapped on and in the top of a clay barrier. Produced water found in MW-1, MW-4, and MW-6 at approximately 60 ft is captured in and on the top of the Cretaceous shale, an aquiclude. The quantities are small as evidenced by their thickness,

lack of response to bailing and recharge, and their absence in MW-2 and MW-3. The produced water occurs in zones that are otherwise void of fluid. None of the zones are in paths of recharge to the Cretaceous sandstone aquifer. Individually and collectively they form no threat to the Cretaceous sandstone aquifer. No potable or protectable water supplies are present in the area above the isolated Cretaceous aquifer.

- IX. Concerns as to contamination of windmill wells are not valid. The Lucky windmill is contaminated with nitrates from livestock watering at the well. Nitrates are not found in oil/gas produced waters. Nitrates found in MW-6 had to be present in the zone prior to the accumulation of produced water at the 60 ft zone from spill(s) at Station 11. The leakage direction from the Lucky windmill to the MW-6 area is confirmed because of the absence of bromide in the Lucky water analysis, plus the nitrates occurring in MW-6.
- X. The compilation of a geological profile of the shallow subsurface demonstrates that very small volumes of produced water are trapped on and in the upper surface of either the 30 ft deep fat clay in the Ogallala Formation, or the 60 ft deep disconformable Cretaceous shale. The data also shows the respective clays/shale are significant aquicludes that protect the fresh water of the deeper Cretaceous sandstone aquifer.
- XI. This study concludes that the produced water releases at Station 11 have not contaminated or endangered any groundwater under or immediately adjacent to Station 11. There is no protectable water in the greater Station 11 area above the underlying Cretaceous sandstone aquifer.
- XII. The Cretaceous sandstone aquifer and its water are safe and highly protected by at least one overlying, thick, contiguous Cretaceous shale aquiclude. The water in the Cretaceous sandstone aquifer is of generally good quality. No evidence can be found that places the Cretaceous aquifer water at risk, save the nitrates emanating from Lucky windmill.
- XIII. More than adequate monitoring capability at Station 11 is present to insure these conclusions remain correct. The recommendation of this report is that monitoring continue for a reasonable time. No further testing is required. The meager amounts of produced water found should be left undisturbed for natural attenuation. They pose no threat of vertical or horizontal migration.

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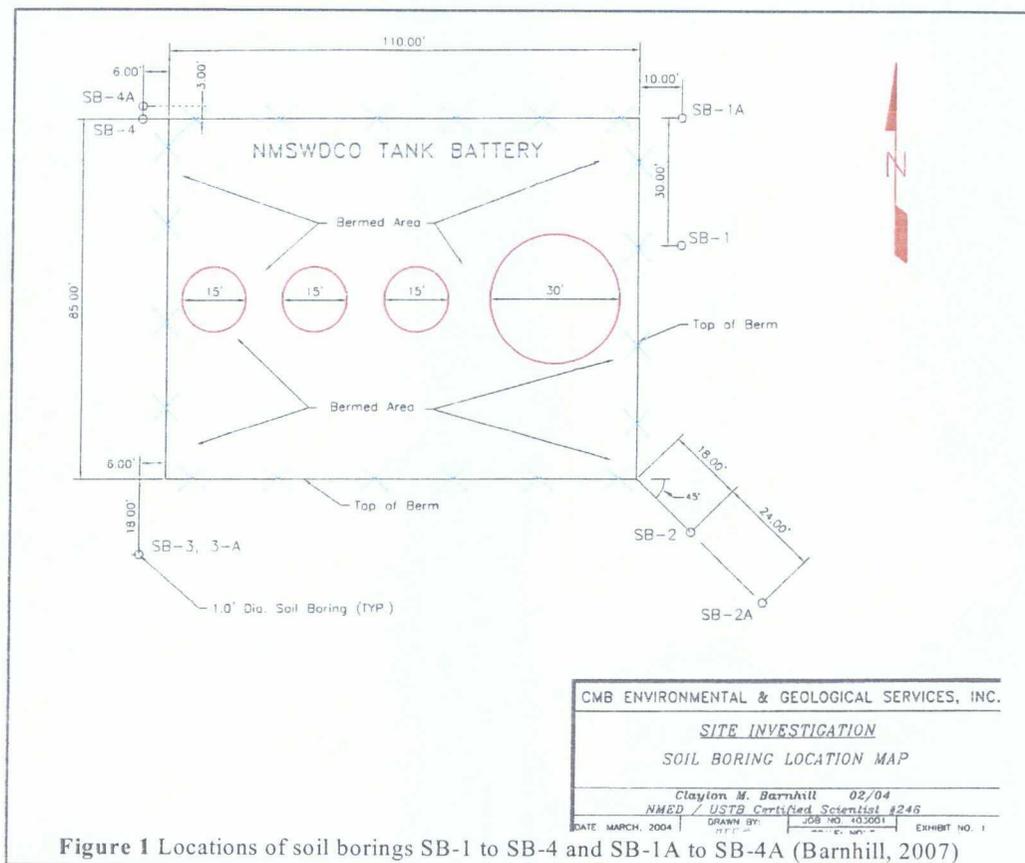
## Introduction

NMSWD's Station 11 is located in New Mexico Oil Conservation Division (OCD) Unit D of Sec. 21, T10S-R34E, Lea Co., New Mexico.

Since 1999, NMSWD has experienced produced water releases totaling approximately 1,700 bbls, of which about 92% was recovered. The unrecovered water amounts to approximately 136 bbls. In 2003, NMSWD was required by the SLO to make soil borings to preliminarily evaluate possible contamination as a result of the releases.

Initially, four shallow borings were scheduled with locations approximately at the corners of the E-W orientated Station 11 tank battery, Figure 1, p. 1. SB-1, SB-2, and SB-3 were 11 ft deep. SB-4 was drilled to 16 ft. No BTEX or TPH was detected. No water was detected. Soil chlorides were laboratory measured and found to be above 250 ppm (mg/l).

The SLO required addition soil borings (Figure 1, p. 1) be made because the *soil* chlorides were greater than 250 ppm (mg/kg) (the EPA ppm maximum recommendation for drinking water).



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## Secondary Soil Borings

Soil borings SB-1A, SB-2A, and SB-3A were drilled to depths of 36 ft without encountering water. SB-4A drilled a clayey sand from 19 ft to 27 ft, followed by a tighter fat clay from 27 ft to TD 31 ft. Water was found within the silty fat clay at 30.82 to 31 ft that field tested 45,000 mg/l chloride, but had no hydrocarbon odor or staining. The thickness of this water zone was only 0.18 ft (2.2 inches).

### Discussion of SB-4A water zone characterization

Barnhill (2004, p. 14) in reporting the drilling of SB-4A described the thin water zone saying, "A perched aquifer was found in soil boring 4A perched on top of the clay zone at 31' feet (sic) below ground surface." After examination of the drilling data, log descriptions and chemical analyses, along with numerous conversations with Mr. Barnhill, two facts emerge. First, a corrected and more appropriate description of the SB-4A water zone would have been, "A very thin water saturated zone was found within a tight silty fat clay drilled from 27 to 31 ft BGS." Those depths are from the penetration rate and descriptions of the split spoon samples of drilling the interval from 27 to 31 ft. The correctly reported show of produced water was 2.2 inches thick and almost 4 ft beneath the top of, and within, the clayey interval. Second, unfortunately, the graphically plotted sample log is not quite as detailed as are the on-site in-drilling handwritten descriptions. The graphic log simply is too small to accommodate the lithology change at 27 ft to 31 ft. The level of the water show interval displayed on the graphic log is correct. The field notes do correspond to Barnhill's (2004, p. 14) textual discussion. The graphic log places the water show in clayey sand whereas the on-site drilling log indicates the interval 27 to 31 ft was fat clay with brown inorganic silts. The plotted sample log notes soil chlorides from 29-31 ft at 3900 ppm. The field notes show the H<sub>2</sub>O chlorides at 8220 ppm and VOC's at 8260 ppm. VOC's had been non-detect in all the other wells.

Unfortunately, the reader tends to focus on the graphical depictions of test holes and bypass the more tedious examination of handwritten field notes. In the case of SB-4A the difference, although small, is significant. The implications of the presence of water, albeit 2.2 inches, in the bottom of a sand is substantially different than when within a silty fat clay. Clays have very significant porosity, very low horizontal permeability, but virtually no vertical permeability. Water in a sand is visualized to have the capacity to move horizontally and vertically. The water in a clay is, for all practical purposes, immobile.

The water zone in SB-4A was not bailer tested during drilling. The show of water was correctly handled on-site by Barnhill's not penetrating deeper and potentially opening a conduit to any water that might be deeper. Bailer testing was performed after the development of a twin recovery well, RW-4, as discussed later.

## Connotation of "Aquifer"

The unintended application of the word "aquifer," in its technical sense, combined with the insufficient graphical representation of the water show having occurred in a sand instead of a clay may have allowed a misreading of the geological implications of groundwater at and around Station 11. That raised concern as to potential contamination of much deeper, quasi-potable (livestock) water suspected to underlie the immediate area. The OCD's initially conservative approach was to the presence of water with high chloride concentrations in the immediate vicinity of Station 11 and potentially above a regionally recognized aquifer.

The conclusion in Mr. Price's letter (AP053, 2008, p. 4) in item 12, that "the deeper, regional aquifer encountered at 100-105 feet BGS has not been contaminated by a release from Station 11" implies a shallow aquifer to be locally present. However, the OCD's concern also appears to have been to the protection of *any* water in a recognized aquifer, and the "perched aquifer" fell into that broad grouping. A brief discussion of the hydrogeological and scientific understanding of the word "aquifer" seems in order.

The lay meaning of "aquifer," from Webster (1980), is simply a "water bearing stratum of permeable rock, sand, or gravel." In the scientific realm, Todd (1980, p. 25) states, "An *aquifer* may be defined as a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs." A highly respected and accepted authority on groundwater, Driscoll (1986), describes an aquifer (p. 19) thus: "An aquifer is a water-bearing reservoir capable of yielding enough water to satisfy a particular demand." On the more contemporaneous side, Wikipedia (2009) states, "An aquifer is an underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, silt, or clay) from which groundwater can be usefully extracted using a water well." The OCD definition is: "Aquifer" means a geological formation, group of formations or a part of a formation that is capable of yielding a significant amount of water to a well or spring (NMAC 19.15.2.7.A.(13)).

### **Discussion of recovery well RW-1**

Based on Barnhill's (2004) report of 2.2 inches of water in clay in SB-4A, a recovery well, RW-1, was drilled a few feet away from the SB-4A boring, on the northwest corner of Station 11 as shown in Figure.2, p. 4. RW-1 was drilled on June 13, 2007 and the well was developed (completed) on June 21, 2007. Barnhill (2007, p. 11) reports that during drilling to TD 33 feet no water was encountered. The SB-4A wet zone, only a few feet away, was not present. Upon completion of drilling, the well was rested for 60 minutes to allow water entry. No water entry occurred. During development of the recovery well, one week later, a water sample was recovered, but the well "quickly bailed down and had slow recovery . . ." (Barnhill, 2007, p. 11).

# New Mexico Salt Water Disposal Co., Inc.

Station #11, Unit D Sec. 21, T10S - R34E

Lea County, New Mexico

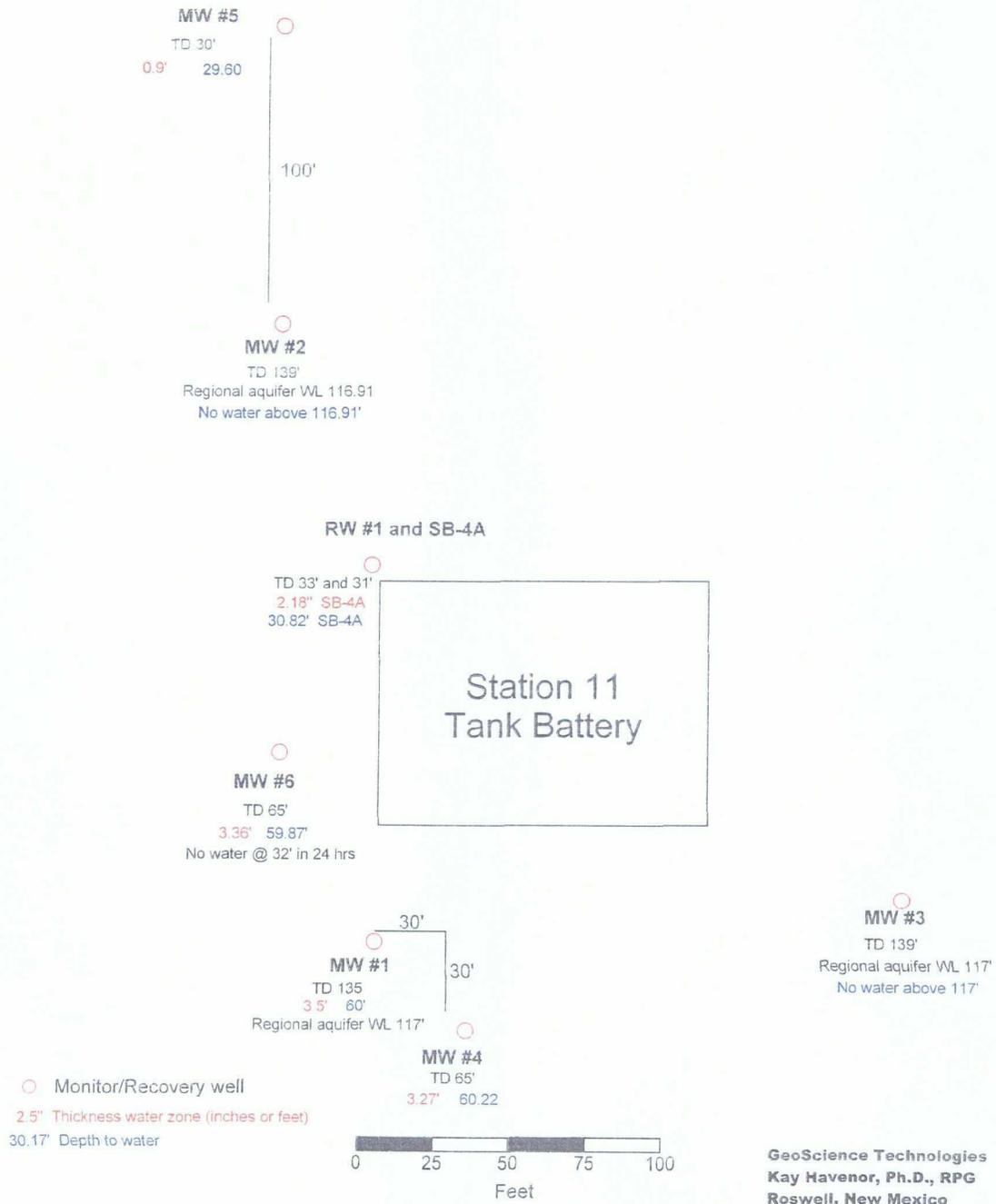


Figure 2 Monitor well locations, depth to water and water zone thickness

The very small amount of water recovered and the nature of the poor recovery initially led Barnhill to consider the fluid was derived from construction. The well was left to recover and was completely secured. On July 10, 2007 the well was bailed dry after yielding a total of eight (8) gallons of water. After 45 minutes the well had not recovered any water.

After receiving the laboratory analysis of the RW-1 captured water, Barnhill (personal communication) reconsidered and concluded that the original sample was from produced water. Approximately one year later the well was unlocked and bailer tested for water by Mr. Barnhill accompanied by Mr. Rory McMinn. Less than a full liter of water was obtained for analysis, reportedly with considerable difficulty. The hole, for practical purposes, was virtually empty. That information is completely consistent with the lithologic description of the produced water zone in SB-4A, detailed above. It is also apparent this zone is not an aquifer.

### **Monitor Well Development**

Monitor well development began on June 12, 2007 with the drilling of MW-1, MW-2, and MW-4. The details of drilling and construction are in Barnhill's (2007) comprehensive report.

#### **Monitor Wells - First Phase**

MW-1 is located toward the southwest corner of Station 11, as shown on Figure 2, p. 4. No water was observed at the 30 ft depth interval of SB-4A. When the driller pulled the center rod at 63 ft, after having drilled sand from 41 ft, he noticed clay. Upon going back in the hole there was 2 ft of water on top of a 40 ft thick, very-tight Cretaceous shale. The Cretaceous local aquifer, discussed below, was found beneath the shale in the lower part of a sandstone at 117.23 ft. TD was 135 ft.

MW-2 is located north of the northwest corner of Station 11. The hole was dry in drilling to below 120 ft. A log notation indicated that no water came into the hole. Drilling was temporarily suspended at 124 ft due to lightning. After resumption of drilling shale (fat clay) was penetrated from 133 to 135 ft. The well was completed at 139 ft (rathole) because of heaving sand from 129 - 133 ft. The well was set to 135 ft. Top of water was called at 117 ft, with water level at 116.91 ft, upon completion in the Cretaceous local aquifer.

MW-3 is located southeast of Station 11. After drilling the sand from 49 ft to 64 ft (through the interval with water in MW-1 and MW-4) with no show of water, drilling was shut-down for night. The next morning the hole was dry. Drilling was advanced to 119 ft where the hole was dry. Additional drilling with meager to no sample returns went to 139 ft. The water level on completion was at 119 ft in the Cretaceous local aquifer. Based upon meager samples, the TD of the well appears to have been at the top of the Triassic Dockum Formation.

An annotated cross-section including MW-1, MW-2, and MW-3 from Barnhill (2007) is shown below as Figure 3, p. 7, and is helpful in following these discussions.

### **Monitor Wells - Second Phase**

The second phase of monitor well construction was precipitated, in part, by the occurrence of 2 ft of water on top of the Cretaceous shale in MW-1 at 61 ft to 63 ft. The drilling of this second phase began April 14, 2009 under the direction and supervision of Mr. Barnhill.

MW-4 was drilled to south of Station 11 to TD 65'. No water was encountered in the interval observed in SB-4A. A test in the clay at 30.30 ft showed the hole was dry. Produced water was found from 60.22' to 63.49' ( 3.27 ft thick) in sand overlying the disconformity on top of the Cretaceous shale (fat clay) and into the top of the shale. Lab chlorides in the water sample were 33,000 mg/l. The borehole log for MW-4 is shown in Figure 4, p. 8.

MW-5 was drilled 100 ft north of MW-2 as shown in Figure 2, p. 4. The well encountered 0.9 ft of water interval from 29.6 ft to 30.5 ft. Drilling was not taken deeper to prevent potential communication with deeper zones. Lab chlorides on the water sample were 28,000 mg/l. The borehole log for MW-5 is shown in Figure 5, p. 9.

MW-6 was drilled west of Station 11 (see Figure 2, p. 4) to a depth of 67 ft. Drilling was halted for 24 hours to test for water from 30 ft to 32 ft. Water observed at this depth in MW-5 was not found in this well. Water was encountered at 59.87 ft in sand overlying Cretaceous shale and its disconformity at 63 ft.. TD was at 65 ft in Cretaceous shale. The top of the water was reported at 59.87 ft. Lab chlorides on the water sample were 20,000 mg/l. The borehole log for MW-6 is shown in Figure 6, p. 10.

Monitor wells MW-1, MW-2, and MW-3, as shown by Barnhill (2007) in cross-section, Figure 3, p. 7, provide important hydrogeological information relating to this immediate area as regards structural attitude, sedimentary depositional environment, and the Cretaceous local aquifer water table. These wells penetrate the Cretaceous shale that forms the aquiclude above the water-bearing sandstone beneath.

New Mexico Salt Water Disposal Company

Station # 11

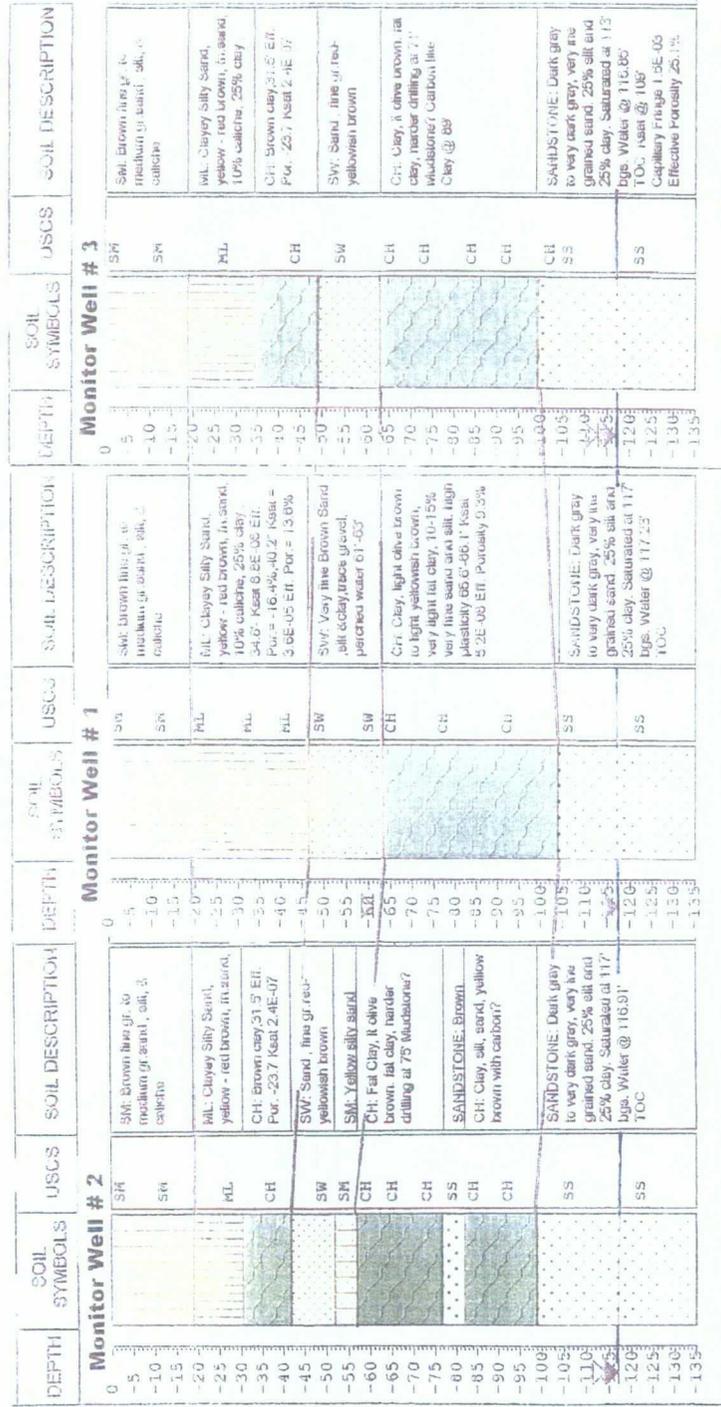
Section 21, Township 10 South, Range 34 East, N.M. P. M.

Lea County, New Mexico

Cross Section Of Soil Borings / Monitor Wells 1, 2, & 3

A'

A



Scale: 1" inch = 30' feet (Vertical and Horizontal)

Clayton M. Barnhill, PG

CMB Environmental & Geological Services Inc.

July 2007

Figure 3 Cross-Section MW-2, MW-1, MW-3 (Barnhill, 2007)

# FIELD BOREHOLE LOG

BOREHOLE NO.: MW-4  
TOTAL DEPTH: 65'

**CMB Environmental & Geological Services, Inc.**  
PO Box 2304 Roswell, NM 88202-2304  
[cmbenviro@dgn.com](mailto:cmbenviro@dgn.com)  
(505) 622-2012 Fax (505) 625-0538

PROJECT INFORMATION	DRILLING INFORMATION
PROJECT: NMSWD MW Drilling	DRILLING CO.: Peterson Drilling Co.
SITE LOCATION: Lea County, NM	DRILLER: Charles Johnson
JOB NO.:	RIG TYPE: IR TH-60
LOGGED BY: C.M. Barmhill, PG	METHOD OF DRILLING: Air Rotary
PROJECT MANAGER: Rory McMan	SAMPLING METHODS: Split Spoon
DATES DRILLED: 04-14-09	HAMMER WT./DROP: N/A
NOTES: Split Spoon Pushed by TH-60 Drilling Rig.	Water level during drilling: [Symbol] Page 1 of 1 Water level in completed well: [Symbol]

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. # / feet	Rec. / feet	PPM TPH / CL	BORING COMPLETION	WELL DESCRIPTION
0	SH		SM Tan Brown 2.5 YR8/2 fine gr. to medium gr sand, silt, & caliche	0.5'		MD / 12		Cement / Grout
-5	SH			0.5'		MD / 43		
-10	SM		Swy Brown med gr sand, well sorted 2.5 YR 6/4	1.0'		MD / 400		
-15	SC		SC Clayey Silty Sand, CR0			13 / 960		Benatonic
-20	CL		CL Brown Fat Clay, ETEX, Chloride from surface to			59 / 1300		
-25	ML		ML Clayey Silty Sand, yellow-red brown, fine sand, 25% clay	1.0'		MD / 1100		TD 65' Cement Grout 0' - .5', Benatonic .5' - 42' 20/40 Sand 45' 65' 0.010 810c Screen 45' - 65'
-30	SM		SW Very fine Brown Sand 7/5 YR 6/6 silt & clay trace gravel, perched water 60.22' BWS 63.49' from TOC Completed Well			MD / 1400		
-35	SM							
-40	CH		CH Clay, light olive brown to light yellowish brown,					
-45								
-50								
-55								
-60								
-65								
-70								

Figure 4 Borehole log MW-4 (Barmhill, 2009)

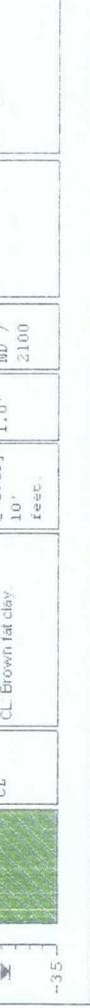
**CMB Environmental & Geological Services, Inc.**  
**FIELD BOREHOLE LOG**  
 BOREHOLE NO.: MW-5  
 TOTAL DEPTH: 30'

**PO Box 2304 Roswell, NM 88202-2304**  
**cmbenviro@dfn.com**  
**(505) 622-2012 Fax (505) 625-0518**

**PROJECT INFORMATION**  
 PROJECT: NMSWD MW Drilling  
 DRILLING CO.: Peterson Drilling  
 SITE LOCATION: Lea County, NM  
 DRILLER: Charles Johnson  
 JOB NO.:  
 RIG TYPE: IR TH-00  
 LOGGED BY: CMBarnhill, PG  
 METHOD OF DRILLING: Air Rotary  
 PROJECT MANAGER: Rory McManu  
 SAMPLING METHODS: Split Spoon  
 DATES DRILLED: 4/1/09  
 HAMMER W/T / DROP: N/A

**NOTES:** Split Spoon Pushed by TH-60 Drilling Rig  
 ☒ Water level during drilling  
 ☒ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. /feet	PPM TPH/CL	BORING COMPLETION	WELL DESCRIPTION
0								
-5	SM		SM Tan, 2.5 YR 8/2 fine grained sand / calcite / silt mixture.	Split Spoon Soil Samples analyzed for TPH Mod	0.5'	MD / 11		Cement / Grout
-10								
-15	SM		SMY Brown fn, gr, well sorted sand 2.5 YR 6/4	SOILS CRO /DRO, ETEX, Chloride from surface	0.5'	MD / 1600		Bentonite
-20								
-25	SC		SC Brown clayey sand 2.5 YR 6/4 Perched water @ 29-60 feet BGS during drilling. Measured from TOC @ 31.57' completed	to Total Depth of Boring @ every 10' feet.	1.0'	MD / 2000		TD 30' Cement Grout 0' - 2' Bentonite 2' - 16' 20' 40' Sand 16' - 30' C.O.10 Slot Screen 20' - 30'
-30	CL		CL Brown lat clay.		1.0'	MD / 2100		
-35								



**Figure 5 Borehole log MW-5 (Barnhill, 2009)**

**CMB Environmental & Geological Services, Inc.**  
**FIELD BOREHOLE LOG**  
 BOREHOLE NO: MW-6  
 TOTAL DEPTH: 65'

PO Box 2304 Roswell, NM 88202-2304  
 cmbenviro@dfn.com  
 (505) 622-2012 Fax (505) 625-0538

**PROJECT INFORMATION**  
 PROJECT: NMSWD MW Drilling  
 DRILLING CO.: Peterson Drilling Co.  
 SITE LOCATION: Lea County, NM  
 DRILLER: Charles Johnson  
 JOB NO.:  
 LOGGED BY: CM Barnhill, P.E.  
 RIG TYPE: IR TH-60  
 METHOD OF DRILLING: Air Rotary  
 PROJECT MANAGER: Rory McManu  
 SAMPLING METHODS: Split Spoon  
 DATES DRILLED: 04/14/09  
 HAMMER WVT/DROP: N/A

**DRILLING INFORMATION**  
 Water level during drilling  
 Water level in completed well  
 Page 1 of 1

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet	PPM TPH/CL	BORING COMPLETION	WELL DESCRIPTION
0								
-5	SH	SH	SM Tan Brown 2.5 YR8/2 fine gr. to medium gr sand, silt, & calciche	Split Spoon	0.5'	MD / 22		
-10	SH	SH		Soil Samples analyzed for TPH	0.5'	MD / 20		
-15	SM	SM	SW Brown med. gr sand,	Mod	1.0'	63 / 630		
-20	SM	SM	SC Clayey Silty Sand, yellow - brown, in sand,	8015				
-25	SM	SM		/DRO, CRU				
-30	SC	SC						
-35	CL	CL	CL Brown Fat Clay, No Perched water at 32' Set temp monitor well at 30' BGS and left open, 24 hr.,					
-40	ML	ML		Chloride from surface to				
-45	ML	ML		Total				
-50	SW	SW	SW Very fine Brown Sand 7/5 YR6/6, silt & clay trace gravel, perched water 59.87' BGS; 63.23' from TOC Completed Well	Depth of Boring @ every 10' feet.				
-55	SW	SW						
-60	SW	SW						
-65	CH	CH	CH Clay, light olive brown to light yellowish brown,					
-70								

Figure 6 Monitor well MW-6 (Barnhill, 2009)

## Geology Revealed by First and Second Phase Borings

Monitor well elevations, Figure 7, p. 12, illustrate the Station 11 area is close to 4,218 ft MSL. MW-1 is mounded 3-feet higher than the surrounding wells and is less than 10 ft south of the intersection of a N-S road into an E-W road. The contouring ignores the roads and the likely man-made mound related to the construction immediately north of the well. The regional ground surface in Section 21 is known to slope east at 25 feet per mile, approximately  $1/4^\circ$ . Station 11 is essentially a flat area. The USGS topographic quadrangle map shown in Barnhill (2004) marks the elevation of the southwest corner of Station 11 tank battery to be 4217 ft MSL.

Two horizons provide excellent structural reference for all three first phase wells. The uppermost horizon is at the base of the Quaternary sand, silt, caliche horizon to about 19 ft as highlighted by Barnhill (2007), shown here in Figure 3, p. 7. This marker is the top of a beveled Ogallala Formation overlain by Quaternary sediment. The marker is essentially flat. The lowermost marker is the groundwater table for the local area's groundwater in Cretaceous age sediments. Figure 3 demonstrates the Cretaceous water table as essentially flat. The water levels on July 7, 2007 were: MW-2 = 116.91 ft, MW-1 = 117.23 ft, and MW-3 = 116.85 ft, a maximum variation of only 0.28 ft (3.36 in). Figure 3 shows the ground's surface, the eroded surface of the Ogallala Formation, the lowermost bed of Cretaceous sandstone, and the water table in each of the wells, all of which are quasi-parallel with only a 0.38 ft gradient from MW-2 to MW-1

Beneath the clayey, brown sand, silty unit and brown clay unit of the Ogallala Formation (at 42 ft in MW-2) is the first sand in which produced water occurs, but only in MW-1. Both MW-2 and MW-3 are dry in that interval. This sand is the same zone in which produced water also has been found in MW-4, and MW-6, p. 8 and 10, respectively. In all three of these wells (MW-1, MW-4, and MW-6) produced water is only in the most basal part of the Ogallala sand that is disconformable on top of Cretaceous shale. These three wells are located to the west and southwest of Station 11 tank (Figure 2, p. 4). Figure 3, p. 7, illustrates that the depths of this sand in MW-1 and MW-3 are essentially the same, but MW-2, located on the northwest corner of Station 11 tank battery, is structurally higher.

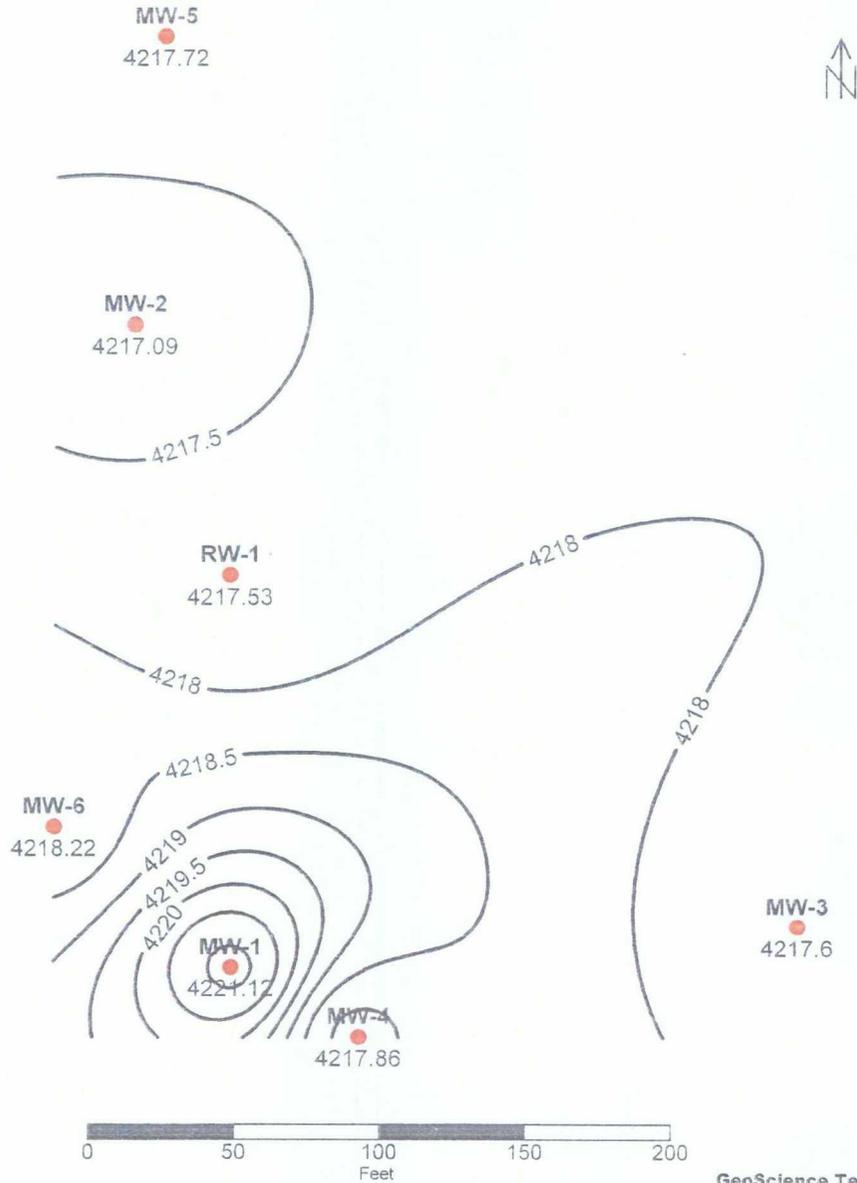
The sand at 42 ft in MW-2 was not penetrated in MW-5, located 100 ft north, because it stopped at TD 30 ft. The top of the MW-2's clay at 30 ft overlays sand (42 ft to 57 ft). The clay is also present in MW-5 at 30 ft and is the bed that traps and holds the very thin occurrence of produced water shown at 29.60 ft on the borehole log, Figure 5, p. 9. The water zone in MW-5 extends into the clay layer to 30.5 ft, a water column thickness of 0.9 ft. Lab chlorides on the water measured 28,000 mg/l.

# New Mexico Salt Water Disposal Co., Inc.

Station #11, Unit D Sec. 21, T10S - R34E

Lea County, New Mexico

## Monitor - Recovery Well GL Elevations



Elevation data 7/2/09 from  
John West Surveying Company  
North American Datum 1983

GeoScience Technologies  
Kay Havenor, Ph.D., RPG  
Roswell, New Mexico  
July 17, 2007

**Figure 7** Topographic contour map from well elevations. Surface modifications not shown.

The 40 ft thick shale beneath the Ogallala and the Cenozoic-Paleozoic disconformity is on top, the aquiclude, of the water bearing sandstone in MW-1, MW-2, and MW-3, as shown above in Figure 3, p. 7. MW-4 and MW-6 were only drilled to 65 ft, but both have the same shale underlying their trapped water zone in the 60 ft range. It is a reasonable geological projection that the shale zone is present with consistent thicknesses in MW-4, MW-6, and beneath Station 11 as evidenced by its presence in MW-2 and MW-3.

### **Shallow Stratigraphy and Structure of the Study Area**

Fluids must move through soil, sediment and rock to penetrate into the subsurface. The fate of the fluid's movement is dependent upon many factors including the mass/volume of the fluid, time, and *most* importantly, the formations through which they must move.

Within the immediate study area the surface is covered with 15 ft to 19 ft of Quaternary alluvium, mostly in the form of fine blow sand and caliche. The underlying Tertiary Ogallala Formation extends from about 19 ft to a depth ranging from 57 ft in MW-2 to a maximum 63 ft depth in the remaining wells. The Ogallala aquifer is not present in this greater study area as mapped by Ash, 1963. The Ogallala Formation is present, but all fresh water in the greater part of T10S-R34E is derived from the Ash's (1963) Cretaceous unit mapped with the symbol Kc1. The Cretaceous unit is an erosional remnant upon which Ogallala was later deposited.

A disconformity is present and identified as such from a split-spoon samples in MW-4 across 63 ft. The zone has excellent correlativity to all the sands found in that interval in the other wells. The disconformity is the Cretaceous-Ogallala contact and is a time break of some 42 million years. A significant change of lithology is apparent below the formation contact.

Figure 3, p. 7, shows that MW-1 is located in a structurally lower position than the tops of the correlative sands in MW-2 and MW-4, especially at the base of MW-1's Cretaceous shale at 104 ft.. The slight structural depression developed as a slight reduction in the thickness of the Cretaceous sand beneath the shale at 104 ft in MW-1. This slightly lower structural position in MW-1 reflects upward into the overlying Ogallala. It forms the sag, or sump, into which 3.5 ft of produced water accumulated in the basal Ogallala sand in MW-1. This is significant because it shows 1) the upper Cretaceous shale is a strong aquiclude preventing downward movement of produced water from Station 11, and 2) the trapped water at this horizon is isolated to a small area around the southwest corner of Station 11. This additionally shows the volume of water in the sump is relatively small. The contaminated thickness in the lower Ogallala thins slightly from MW-1 to both MW-4 on the south and MW-6 on the north (Figure 2, p. 4). The produced water is absent in both MW-3, approximately 165 ft west, and MW-2, approximately 140 ft north.

The log plot of MW-1 in Figure 3, p. 7, appears to be anomalous immediately above the 46 ft top of sand. In the adjoining wells, MW-2 and MW-3, the sand at 46 ft is overlain by a brown clay. Comparison of the graphic plot of that interval with the on-site data recorded during drilling discloses that a sandy, silty brown clay is actually present from 39 ft to 46 ft. The unit is not as strong in clay as the correlative zones in all the other wells, but it is present. It also provides a possible conduit to allow produced water from the surface to reach the 60 ft interval in MW-1.

### **Drilling Testing Information**

Soil boring and monitor well development details aid the understanding of the data being reviewed. MW-1 was at 63 ft on June 12, 2007 when the driller noted clay on the bit when he tripped out of the hole. Upon returning to bottom there was 2 ft of water which they sampled. The hole was drilled to 65 ft in fat clay and millimeter thin stringers of sandstone and mudstone. It is important to note that the recorded 2 ft were not logged as sand and clay, but as sandstone and mudstone. At temporary TD of 65' the drilling was suspended by the contractor and was shut-down for five days. Recovery well RW-1 was completed before resuming drilling in MW-1. The lithology encountered at 63 to 65 ft in MW-1 was reconfirmed with slightly more detailed sample descriptions and finished drilling to TD at 135 ft.

Monitor wells MW-2 and MW-3 were drilled into the Cretaceous sandstone aquifer with no observed water zones above the basal sandstone. Both were completed in the Cretaceous sandstone.

Five monitor wells, MW-1, MW-2, MW-3, MW-4, and MW-6, penetrated the local Ogallala Formation into the top few feet of the Cretaceous shale. The first three listed penetrated the 40 ft thick upper shale unit of the Cretaceous in which the hydraulic conductivity is very low,  $K_{sat} = 5.2^{-8}$ . MW-5 was drilled into the Ogallala Formation, TD 30 ft, where it encountered 0.9 ft of water in the Cretaceous shale (fat clay) beneath a clayey Ogallala sand.

Three monitor wells were drilled beneath the Cretaceous shale into the lower part of the underlying Cretaceous sandstone. This sandstone has a measured water level 14 ft to 17 ft below the base of the overlying shale aquiclude. MW-2 encountered heaving sediment in the basal part of the sandstone layer at about 133 ft. The formation was drilled from 133 ft to 135 ft, and then ratholed to 139 ft, into what may be the top of the Triassic Dockum Formation.

The Cretaceous water in MW-2 is effectively confined by the overlying shale, but is not artesian because the sandstone is not water filled and therefore has no driving hydraulic head. The Cretaceous waters do not have high chlorides content, but range from 538 to 648 mg/l in MW-1, MW-2, and MW-3. The chloride levels are all above EPA MCL levels of 250 mg/l.

## Area Windmills

Two windmills tap the Cretaceous sandstone aquifer in the local area. The Lucky windmill in Section 20 is 1-mile southwest of Station 11 and the Sand windmill is 1.3 miles north in Section 9. The chlorides in the two wells were 638 and 548 mg/l respectively. The Lucky windmill wells and one additional unsampled well located in the NW/4 of Section 27, about 1.75 miles southeast of Station 11, are classified in the USGS groundwater data base as producing from the Cretaceous System (210CRCS). The Sand well is not in the USGS well records.

The productive capacity of the Lucky and Sand windmills was described by Barnhill (personal communication) as extremely weak when sampled in May 2009. When asked to explain, Mr. Barnhill reflected that it was about enough water to allow the cows to get a drink, illustrating a finger size stream from the windmill at Lucky well and from the solar powered electric pump at Sand well.

Bailing from the bottom of the Cretaceous sandstone aquifer in the Station 11 MW-3 completed well yielded approximately 15 gallons of fresh water from 117 ft. The well completion field notes indicated "slow recovery!" That suggests the visual pumping discharge described by Mr. Barnhill at the Lucky and Sand windmill wells was reasonable.

### **Windmill Contamination**

USGS water levels have been reported in the "Cretaceous System local aquifer" Lucky and the ranch well southeast in Section 27. Total depths of the ranch well and Lucky well are not reported in the USGS files. The OSE records suggest the Lucky well is at least 101 ft deep. The last reported water level in the Lucky windmill well was 1981 at a depth of 34.11 ft. The water analysis of water taken from the Sandy windmill is geochemically inconsistent with the Lucky windmill data. No information is available on the Sandy windmill as to depth or water level. The Sandy well has therefore been disregarded in this analysis. Cretaceous water analyses from the Station 11 monitor wells MW-1, MW-2 and MW-3 were reported by Barnhill (2007) and are geochemically consistent with the water from Lucky windmill, except for nitrate levels. No Ogallala aquifer is reported in the sections surrounding Station 11, or in most of this township, by Ash (1963).

The water level in the Lucky windmill is at a height approximately the same as the top of the first significant fat clay encountered about 30 ft in all the Station 11 monitor wells, except possibly MW-1. The 34 ft deep water level in the Lucky windmill was not observed in the Station 11 wells, except for MW-5. The difference undoubtedly has to do with the professional installation of the monitor wells, their casing, screening, and grouting to prevent water zone mixing. That cannot be assumed for the windmill well. The Lucky's well depth, at a minimum, puts the hole

into the Cretaceous local aquifer, as the water chemistry very clearly confirms.

The Station 11 well lithology logs, water levels and analyses shows the aquifer beneath Station 11 is not artesian. The water level is about 15 ft beneath the top of the sandstone host. Lack of evidence otherwise requires we assume the Lucky windmill is similar. There is also evidence, discussed below, that some communication exists between MW-6 and the Lucky well at the 60 ft level. That communication presents conditions that must be met in MW-6, namely that the incoming volume must be extremely small to match the amount of water accurately measured in MW-6. It would further require that water being pumped from the Lucky borehole would stand and maintain a water level around 34 ft over many years. USGS water level records from 1970 to 1981 show water levels from 37.01 ft to 34.11..

To evaluate the local rancher's expressed concern that produced water releases from Station 11 have contaminated the Lucky stock water supply, a sample of water from the Lucky windmill was taken at the same time as from MW-4, MW-5, MW-6. Samples from MW-1, MW-2, and MW-3 had previously been collected and analyzed. Those analyses permit comparisons of bromide and nitrate to evaluate possible migration of contamination from Station 11 to the Lucky area one-mile southwest.

Bromide and nitrates are each normally less than 10 mg/l in groundwater, except in special circumstances not known to be present in this region. Nitrate in fresh water is characteristically indicative of septic systems, livestock feeding, and commercial farming, none of which exist in the Station 11 or Lucky windmill area, except livestock watering at the latter. Bromide is generally in oil/gas related produced water in high quantities. Livestock presence is not physically excluded from the Station 11 area except from the fenced tank battery.

Unfortunately, the laboratory failed to analyze nitrates in the MW-5 sample submitted, but it was analyzed in the Lucky windmill well plus MW-4 and MW-6. EPA limits (MCL) for nitrate as N in public drinking water is 10 mg/l. The EPA has no MCL for bromide, but it is considered as dangerous over 10 mg/l. Table 1 shows the concentrations found in the Lucky windmill, MW-4, MW-5, and MW-6.

**Table 1** Bromide and nitrate-N concentrations in Lucky windmill and monitor wells.

Compound in mg/l	Lucky	MW-4	MW-5	MW-6
Nitrate as N	15.9	<2.50	NA	49.4
Bromide	<2.50	940	512	609

The hydrogeochemical argument is relatively simple. Nitrate is not found in oil/gas produced water. Bromide is uncommon in fresh waters. Nitrate source is present in the Lucky windmill at contamination levels. Professional well construction of the Station 11 monitor wells is specifically engineered to prevent subsurface water contamination via the well bore except from a specific horizon. Common construction of ranch water wells, including many domestic wells, does not have the grouting and/or isolation to prevent contamination via the open borehole.

The Lucky well analysis shows it has 15.9 mg/l nitrate-N in its well water produced from the Cretaceous groundwater aquifer. MW-4 has below measurable nitrate in water taken from the lower Ogallala at TD 65 ft. MW-6 shows 49.4 mg/l nitrate-N from the bottom of the 65 ft grouted and surface isolated well. The Lucky windmill well is the only potential source of nitrate and it is assumed to be the up-gradient well. The higher level of nitrate in MW-6 can be directly related to concentration caused by H<sub>2</sub>O adsorption and the resulting concentration of nitrates as very small volumes of water have moved from Lucky to the MW-6 site for decades. The volumes constitute seepage rather than flow. The Lucky windmill is one-mile southwest of Station 11.

The Lucky windmill has below detectable bromide whereas MW-4, and MW-6 have 940 mg/l and 609 mg/l respectively. The high oil/gas produced water concentrations of bromide are not seen in the Lucky windmill. The hydrogeochemistry demonstrates that water movement, albeit small, is from Lucky windmill to the MW-6 site. Were there any water from Station 11 moving into the Lucky windmill there would be unquestionably high concentrations of bromide as well as highly elevated chlorides and sodium. Water from Lucky windmill is and has moved into the MW-6 site through the sand along the top of the Cretaceous unconformity at 63 ft. No bromides, and no high sodium-chlorides (elevated above that seen in the Cretaceous sandstone) demonstrates that water is not moving from the Station 11 area to the Lucky windmill. An additional consideration to these indicated movements is that of time. With no driving flow of water, and the observed minuscule, isolated volumes, the rate of movement of either fresh or produced water through the Ogallala sandy horizons present in this environment would be truly of geological proportions.

The initial round of soil borings (SB-1, SB-2, SB-3), at the corners of Station 11, found no shallow indications of water, but did record *soil* chlorides above 250 mg/kg (ppm). As has been noted, the 250 ppm value is the EPA's MCL limits in water for safe consumption by humans. New Mexico has no health or environmental standards for soil chlorides. If soil chloride standards were set at 250 mg/kg there would be large areas, especially in southern New Mexico, where soils in their native/natural state would be in extreme violation.

Septic systems are an excellent example of using soils as filters to purify waste water. The filtering and ion exchange processes essentially adsorb ions and/or particles as well as exchange

ions such as Na/K, but generally excepting nitrates. However, there no known water/rock (mineral) interaction that will remove chloride from groundwater.

The chloride content of the 61 - 63.5 ft produced water in MW-1 was 21,000 mg/l whereas the underlying regional aquifer water was 550 mg/l. The separation of the two zones is effected by the 40 ft+ Cretaceous shale (fat clay horizon) above the Cretaceous aquifer sand. The water samples from the Cretaceous aquifer in MW-2, and MW-3, plus the more distant Lucky windmill, individually and collectively confirm that the Cretaceous shale has effectively prevented any downward migration into the Cretaceous aquifer from the thin, dispersed and areally isolated produced water shows at Station 11. Unfortunately, the Cretaceous sandstone aquifer beneath Lucky windmill has nitrate contamination.

### Conclusions

Four shallow borings, SB-1, 2, 3, and 4, were drilled to a maximum depth of 16 ft. No water, BTEX or TPH was detected, but laboratory analyses found soil chlorides to be above 250 ppm (mg/l). Although 250 mg/l chloride is an EPA MCL for drinking water, New Mexico has no standard for *soil* chloride concentrations.

Because of the >250 mg/l chlorides in soil samples, the SLO required additional soil borings. Four new borings were drilled close to the original soil borings near the corners of Station 11. SB-1A, SB-2A and SB-3A were drilled to 36 ft into a clay layer without encountering any water. SB-4A was drilled at the northwest corner of Station 11 to a TD of 31 ft in clay. Water was noted in the clay from 30.82 ft to 31 ft, a thickness of 2.16 inches. Chloride content of the water was 45,000 mg/l.

The SB-4A water zone in clay was inappropriately referred to by Barnhill (2004) as a "perched aquifer." This writer, following geological concepts, disagrees with the SB-4A zone being classified as an aquifer. It should more appropriately have been described as "A very thin water saturated zone was found within a tight silty fat clay drilled from 27 to 31 ft BGS." Less than 2.2 inches of water in a fat clay does not constitute an aquifer or groundwater protected by the OCD's abatement regulations.

Three monitor wells plus a recovery well immediately next to SB-4A were ordered by the OCD. MW-1, MW-2, and MW-3 were drilled at locations shown on Figure 2, p. 4. Two monitor wells were drilled to TD 135 ft. MW-3 was drilled to TD 139 ft. Water levels were found in all three wells at about 117 ft in Cretaceous sandstone. No contamination was found in the Cretaceous aquifer water. The USGS classifies other wells in this aquifer in the immediate area as Cretaceous local aquifer (Cretaceous System (210CRCS)) (Ash, 1963).

fresh water supplies. The most important hydrogeological conclusion concerning the greater Station 11 area is that there is no protectable groundwater above the aquiclude isolated Cretaceous aquifer.

The previous corrections of the mechanical problems that caused produced water releases at Station 11 are to be further enhanced by NMSWDC's installation of a liner and berms with larger capacity that will hold 150% of the capacity of the storage tanks. Additionally, the verification of no effect, or potential affect(s), on any fresh water supply demonstrates that natural attenuation processes have/will insure that no imminent nor future threat is present due to the Station 11 releases. Monitoring could continue for a reasonable time to insure the minuscule water volumes observed remain harmless. There is no threat of potable water being impaired. It is recommended that no further action be required by the SLO or OCD at Station 11.

## References Cited

AP053, 2008, Stage 1 Abatement Plan Workplan, OCD ltr to NMSWDC, Oct. 9, 2008, pp. 5

Ash, Sidney R., 1963, Ground-water conditions in northern Lea County, New Mexico, USGS Hydrologic Investigations, Atlas HA-62.

Barnhill, Clayton M., 2004, Environmental Site Assessment, prepared for New Mexico Salt Water Disposal Company, Inc., Station #11, Unit Letter D, Section 21 Township 10 South Range 34 East Lea County, New Mexico, 29 pp, with appendices.

Barnhill, Clayton M., 2007, Stage 1 Abatement Plan / Monitor Well Installation Report, New Mexico Salt Water Disposal Company, Inc., Disposal Station #11, Section 21 T. 10 S., R.34 E., NMPM, Lea County, New Mexico, (apo53), 16 pp, with documentation and appendices.

Driscoll, Fletcher G., 1986, Groundwater and Wells, 2<sup>nd</sup> Ed., Johnson Filtration Systems, St. Paul, MN, 1,089 pp.

NMAC 19.15.2.7.A.(13) <http://www.emnrd.state.nm.us/ocd/documents/20091-1CurrentRules.pdf>

Todd, David K., 1980, Groundwater Hydrology, 2<sup>nd</sup> Ed., John Wiley & Sons, New York, 535 p.

Webster's New Collegiate Dictionary, 1980, principal copyright 1973, G. & C. Merriam Company, Springfield, MA

Wikipedia, July 4, 2009, <http://en.wikipedia.org/wiki/Aquifer>

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Arizona Geological Society

New Mexico Geological Society

Sigma Xi

### Publications in geology

Foster, R. W., Hawks, W. L., Parkhill, T. A., Smith, C. T., and Havenor, K. C., 1968. Mineral Resource Evaluation of State Lands in East-Central New Mexico: New Mexico Bureau of Mines and Mineral Resources, pp. 71 p., 5 tables, 26 figs.

Havenor, K. C., 1958. Pennsylvanian Framework of Sedimentation in Arizona Pennsylvanian framework of sedimentation in Arizona, MSc.:Tucson, Arizona, University of Arizona, p. 73.

-----, 1964. Oil and gas tests in Lincoln County, New Mexico, *in* 15th Annual Field Conference Guidebook: Socorro, New Mexico, New Mexico Geological Society, pp. 155-58.

-----, 1968. Structure, Stratigraphy, and Hydrogeology of the Northern Roswell Artesian Basin, Chaves County, New Mexico, Circular 93: Socorro, New Mexico, New Mexico Institute Mining and Technology, 30.

-----, 1996. The hydrogeologic framework of the Roswell groundwater basin, Chaves, Eddy, Lincoln, and Otero Counties, New Mexico, Ph. D. Diss.: Geoscience, University of Arizona, p. 274, University of Arizona; University Microfilms, An Arbor, Michigan.

-----, 1998. Hydrogeochemical investigation of the major aquifers in the northern portion of the Roswell groundwater basin, Chaves and northern Eddy Counties, New Mexico: Roswell, New Mexico, County Manager, Chaves County, Roswell, New Mexico.

-----, 2001. Hydrogeochemical distinction, differentiation and mapping of multiple aquifers in the Roswell groundwater basin of southeastern New Mexico, Geological Society of America, 2001 Rocky Mountain-Southeast Section Annual Meeting, April 29-May2, 2001, Albuquerque, NM, Abstracts with Programs - Geological Society of America, *in* Kay

Article 08: Boulder, CO, Geological Society of America (GSA).

- , 2002a. The geological framework of the Pecos Valley and the evolution of the Roswell Groundwater Basin in Chaves and Northern Eddy Counties, New Mexico, *in* Transactions Southwest Section AAPG Convention, 6-8/June, Ruidoso, New Mexico: Roswell, New Mexico, Roswell Geological Society, pp. 170-89.
- , 2002b. Phase II Hydrogeological Investigation of the Major Aquifers in the Northern Portion of the Roswell Groundwater Basin, Chaves and Northern Eddy Counties, New Mexico, Chaves County Commissioners, Technical report for P-99-10: Chaves County, New Mexico, 604 p.
- , 2004. Groundwater Mapping Using Hydrogeochemistry, *in* Greg Bushner, ed., Water Resources Investigations II: Tucson, AZ, Arizona Hydrological Society, 17 Sept.
- Kottowski, F. E., and Havenor, K. C., 1962. Pennsylvanian rocks of the Mogollon Rim, Arizona, *in* 13th Field Conference: New Mexico Geological Society, pp. 77-83.
- Roswell Geological Society, 1977. The Oil and Gas Fields of Southeastern New Mexico, A symposium, Havenor, K. C., ed.: Roswell, NM, Roswell Geological Society, 185 p.

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GeoScience Technologies is owned and operated by Deborah Havenor. Kay Havenor is the geoscientist.

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### **Expert Witness Summary**

Qualified as an expert witness in various areas, including geoscience, hydrogeology, hydrology, paleoclimatology, hydrogeochemistry, groundwater, oil and natural gas, and economics thereof in hearings/trials before:

New Mexico Oil Conservation Commission  
New Mexico State Engineer  
US District Court, Albuquerque, New Mexico  
Fifth Judicial District Court of New Mexico  
Twelfth Judicial District Court of New Mexico



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October 15, 2008

NMEMNRD, OCD  
Attention: Wayne Price, Environmental Bureau Chief  
1220 South St. Francis Drive  
Wendell Chino Building  
Santa Fe, NM 87505

RE: AP053  
New Mexico Salt Water Disposal Company, Inc.

Dear Mr. Price:

On behalf of my client, New Mexico Salt Water Disposal Company, Inc. (NMSWDCo), I am writing in response to your Item 13 within the October 9, 2008 letter from you to Charles B. Read, President of NMSWDCo.

The attached Operational and Emergency Policy-Revised has incorporated your instructions and the references made in your Item 13 have been deleted from the Revised Policy. Please update your files with this current submittal.

While we would like to be able to provide you with a target date for our response to the balance of the items and statements made by you in the same October 9, 2008 letter previously referenced, we can only tell you that at this time we are endeavoring to persevere in formulating that response. We will respond as quickly as we are able.

Yours Sincerely,

A handwritten signature in black ink, appearing to read "Rory McMinn", is written over the typed name.

Rory McMinn  
Sage Service Group, LLC as consultant to and for:  
New Mexico Salt Water Disposal Company, Inc.

cc: NMSWDCo OCD files  
Charles B. Read  
Gary Larson, Hinkle Law Firm  
Taddeus Kostrubala, SLO Environmental Engineer

# NEW MEXICO SALT WATER DISPOSAL COMPANY, INC.

400 N. Pennsylvania Ave.  
Suite 1000  
P.O. Box 1518 (88202)  
Roswell, NM 88201  
575/625-0277 Telephone  
575/622-8643 Fax

## OPERATIONAL AND EMERGENCY POLICY-REVISED

### Operational Policy

- 1.) Maintain 24/7 policy on operating and maintaining system.
- 2.) Work within the guidelines of OCD and State Land Office for operating a system of this type.
- 3.) Operate under a policy to strive to be 100% environmentally safe.

### Emergency Procedures

- 1.) Follow the OCD and State Guidelines for operating and reporting for a system of this caliber.
- 2.) Follow the attached spill/leak policy as set out in our company.
- 3.) "Be prepared" to be 100% emergency and environmentally safe.
- 4.) Have emergency alert equipment, so we can respond prior to any potential threat to our system which does not comply with our policy or the State of New Mexico guidelines.
- 5.) Change our attitude and corporate culture to reflect the personal responsibility to abide by the enforcement regulation and environmental responsibility to leave a clean and safe environment for future generation. (This would include especially being subject to the attached Spill/Leak policy. (See Attachment)).

# Work Order Receipt

## TRACE ANALYSIS, INC.

6701 Abernethy Avenue, Suite B	Lubbock, Texas 79424	800•378•1296	806•794•1296	FAX 806•794•1298
200 East Sunset Road, Suite E	El Paso, Texas 79922	898•588•3443	915•585•3443	FAX 915•585•4944
5002 Gagin Street, Suite A1	Midland, Texas 79703		432•689•6301	FAX 432•689•6313
6015 Harle Parkway, Suite 110	Ft. Worth, Texas 76132		817•301•5260	
E-Mail: lab@traceanalysis.com				

# Work Order Receipt

**Order**

Work Order	8110902
	
Receive Date	at
Requestor	Rory McMinn - New Mexico Salt Water Disposal Co.
Invoicing	Accounts Payable - New Mexico Salt Water Disposal Co.-Acct.
Purchase Order	N/A
Project	GW Sampling Project Location = NM-SWD Station #11, Lea Co., NM Project Name = GW Sampling Project Number = NMSWD Station #11
Comment	N/A

**Samples**

Sample	Field Code	Priority	Matrix	Collect Date	Collect Time	Quantity
178801	NMSWD Station #11 MW-3	Three Day	water	2008-11-06	11:41	1
178802	NMSWD Station #11 MW-1	Three Day	water	2008-11-06	12:55	1
178803	NMSWD Station #11 MW-2	Three Day	water	2008-11-06	13:45	1
178804	NMSWD Station #11 RW-1	Three Day	water	2008-11-06	14:15	1

Sample	Test	Method	Prep	Priority	Expected Date
178801	Ag, Total	E 200.7	N/A	Three Day	2008-11-09
	Alkalinity	SM 2320B	N/A	Three Day	2008-11-09
	As, Total	E 200.7	N/A	Three Day	2008-11-09
	Ba, Total	E 200.7	N/A	Three Day	2008-11-09
	Ca, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Cd, Total	E 200.7	N/A	Three Day	2008-11-09
	Chloride (IC)	E 300.0	N/A	Three Day	2008-11-09
	Conductivity	E 120.1	N/A	Three Day	2008-11-09
	Cr, Total	E 200.7	N/A	Three Day	2008-11-09

## Work Order Receipt

Sample	Test	Method	Prep	Priority	Expected Date
178802	Hg, Total	E 245.2	N/A	Three Day	2008-11-09
	K, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Mg, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Na, Dissolved	E 200.7	S 3005A	Three Day	2008-11-09
	Pb, Total	E 200.7	N/A	Three Day	2008-11-09
	Semivolatiles	E 625	N/A	Three Day	2008-11-09
	Se, Total	E 200.7	N/A	Three Day	2008-11-09
	Si, Total	E 200.7	N/A	Three Day	2008-11-09
	SO4 (IC)	E 300.0	N/A	Three Day	2008-11-09
	TDS	SM 2540C	N/A	Three Day	2008-11-11
	TSS	SM 2540D	N/A	Three Day	2008-11-09
	Volatiles	E 624	N/A	Three Day	2008-11-09
	Ag, Total	E 200.7	N/A	Three Day	2008-11-09
	Alkalinity	SM 2320B	N/A	Three Day	2008-11-09
	As, Total	E 200.7	N/A	Three Day	2008-11-09
	Ba, Total	E 200.7	N/A	Three Day	2008-11-09
	Ca, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Cd, Total	E 200.7	N/A	Three Day	2008-11-09
	Chloride (IC)	E 300.0	N/A	Three Day	2008-11-09
	Conductivity	E 120.1	N/A	Three Day	2008-11-09
	Cr, Total	E 200.7	N/A	Three Day	2008-11-09
	Hg, Total	E 245.2	N/A	Three Day	2008-11-09
	K, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Mg, Dissolved	E 200.7	N/A	Three Day	2008-11-09
Na, Dissolved	E 200.7	N/A	Three Day	2008-11-09	
Pb, Total	E 200.7	N/A	Three Day	2008-11-09	
Semivolatiles	E 625	N/A	Three Day	2008-11-09	
Se, Total	E 200.7	N/A	Three Day	2008-11-09	
Si, Total	E 200.7	N/A	Three Day	2008-11-09	
SO4 (IC)	E 300.0	N/A	Three Day	2008-11-09	
TDS	SM 2540C	N/A	Three Day	2008-11-11	
TSS	SM 2540D	N/A	Three Day	2008-11-09	
Volatiles	E 624	N/A	Three Day	2008-11-09	
178803	Ag, Total	E 200.7	N/A	Three Day	2008-11-09
	Alkalinity	SM 2320B	N/A	Three Day	2008-11-09
	As, Total	E 200.7	N/A	Three Day	2008-11-09
	Ba, Total	E 200.7	N/A	Three Day	2008-11-09
	Ca, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Cd, Total	E 200.7	N/A	Three Day	2008-11-09
	Chloride (IC)	E 300.0	N/A	Three Day	2008-11-09
	Conductivity	E 120.1	N/A	Three Day	2008-11-09
	Cr, Total	E 200.7	N/A	Three Day	2008-11-09
	Hg, Total	E 245.2	N/A	Three Day	2008-11-09
	K, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Mg, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Na, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Pb, Total	E 200.7	N/A	Three Day	2008-11-09
	Semivolatiles	E 625	N/A	Three Day	2008-11-09

## Work Order Receipt

Sample	Test	Method	Prep	Priority	Expected Date
178804	Se, Total	E 200.7	N/A	Three Day	2008-11-09
	Si, Total	E 200.7	N/A	Three Day	2008-11-09
	SO4 (IC)	E 300.0	N/A	Three Day	2008-11-09
	TDS	SM 2540C	N/A	Three Day	2008-11-11
	TSS	SM 2540D	N/A	Three Day	2008-11-09
	Volatiles	E 624	N/A	Three Day	2008-11-09
	Ag, Total	E 200.7	N/A	Three Day	2008-11-09
	Alkalinity	SM 2320B	N/A	Three Day	2008-11-09
	As, Total	E 200.7	N/A	Three Day	2008-11-09
	Ba, Total	E 200.7	N/A	Three Day	2008-11-09
	Ca, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Cd, Total	E 200.7	N/A	Three Day	2008-11-09
	Chloride (IC)	E 300.0	N/A	Three Day	2008-11-09
	Conductivity	E 120.1	N/A	Three Day	2008-11-09
	Cr, Total	E 200.7	N/A	Three Day	2008-11-09
	Hg, Total	E 245.2	N/A	Three Day	2008-11-09
	K, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Mg, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Na, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Pb, Total	E 200.7	N/A	Three Day	2008-11-09
	Semivolatiles	E 625	N/A	Three Day	2008-11-09
	Se, Total	E 200.7	N/A	Three Day	2008-11-09
	Si, Total	E 200.7	N/A	Three Day	2008-11-09
	SO4 (IC)	E 300.0	N/A	Three Day	2008-11-09
	TDS	SM 2540C	N/A	Three Day	2008-11-11
	TSS	SM 2540D	N/A	Three Day	2008-11-09
	Volatiles	E 624	N/A	Three Day	2008-11-09



# Work Order Receipt

## TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite B	Lubbock, Texas 79424	800•378•1296	806•794•1296	FAX 806•794•1296
200 East Sunset Road, Suite E	El Paso, Texas 79902	808•585•3443	915•585•3443	FAX 915•585•4844
5902 Garin Street, Suite A1	Midland, Texas 79703		432•689•6301	FAX 432•689•6313
6015 Harris Parkway, Suite 110	Ft. Worth, Texas 76132		817•201•5250	
E-Mail: lab@traceanalysis.com				

# Work Order Receipt

### Order

Work Order	8110901
	
Receive Date	at
Requestor	Rory McMinn - New Mexico Salt Water Disposal Co.
Invoicing	Accounts Payable - New Mexico Salt Water Disposal Co.-Acct.
Purchase Order	N/A
Project	Kizer Project Project Location = Lea Co., NM Project Name = Kizer Project Project Number = NMSWD Kizer Project
Comment	N/A

### Samples

Sample	Field Code	Priority	Matrix	Collect Date	Collect Time	Quantity
178800	Kizer Project	Three Day	water	2008-11-06	15:00	1

Sample	Test	Method	Prep	Priority	Expected Date
178800	Ag, Total	E 200.7	N/A	Three Day	2008-11-09
	Alkalinity	SM 2320B	N/A	Three Day	2008-11-09
	As, Total	E 200.7	N/A	Three Day	2008-11-09
	Ba, Total	E 200.7	N/A	Three Day	2008-11-09
	Ca, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Cd, Total	E 200.7	N/A	Three Day	2008-11-09
	Chloride (IC)	E 300.0	N/A	Three Day	2008-11-09
	Conductivity	E 120.1	N/A	Three Day	2008-11-09
	Cr, Total	E 200.7	N/A	Three Day	2008-11-09
	Hg, Total	E 245.2	N/A	Three Day	2008-11-09
	K, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Mg, Dissolved	E 200.7	N/A	Three Day	2008-11-09

## Work Order Receipt

Sample	Test	Method	Prep	Priority	Expected Date
	Na, Dissolved	E 200.7	N/A	Three Day	2008-11-09
	Pb, Total	E 200.7	N/A	Three Day	2008-11-09
	pH	SM 4500-H+	N/A	Three Day	2008-11-09
	Semivolatiles	E 625	N/A	Three Day	2008-11-09
	Se, Total	E 200.7	N/A	Three Day	2008-11-09
	Si, Total	E 200.7	N/A	Three Day	2008-11-09
	SO4 (IC)	E 300.0	N/A	Three Day	2008-11-09
	TDS	SM 2540C	N/A	Three Day	2008-11-09
	TSS	SM 2540D	N/A	Three Day	2008-11-09
	Volatiles	E 624	N/A	Three Day	2008-11-09

8110901

# TraceAnalysis, Inc.

email: lab@traceanalysis.com

6701 Aberdeen Avenue, Suite 9  
Lubbock, Texas 79424  
Tel (806) 794-1296  
Fax (806) 794-1298  
1 (800) 378-1296

200 East Sunset Rd., Suite E  
El Paso, Texas 79922  
Tel (915) 585-3443  
Fax (915) 585-4944  
1 (888) 588-3443

8808 Camp Bowie Blvd. West, Suite 180  
Ft. Worth, Texas 76116  
Tel (817) 201-5260  
Fax (817) 560-4336

Company Name: New Mexico Salt Water Disposal Co. Phone #: 575-622-8800  
 Address: PO Box 1213 Roswell NM 88201 (Street, City, Zip) Fax #: 505-622-8805  
 Contact Person: Darryl McManis E-mail: Darryl.McManis@swd.com  
 Invoice to: PO Box 1518 Roswell NM 88202 (If different from above) Project Name: Kizer Project  
 Project #: NMSWD Kizer Project Sampler Signature: [Signature]  
 Project Location (including state): Lea Co. NM

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX			PRESERVATIVE METHOD					SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	ICE	NONE	DATE
17800	Kizer Project 6			X				X	X	X	X	X	11/06/08	1500
	Temp Blank													

## ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B / 602 / 8260B / 624	
BTEX 8021B / 602 / 8260B / 624	
TPH 418.1 / TX1005 / TX1005 Ex(C)39	
TPH 8015 GRO / DRO / TVHC	
PAH 8270C / 625	
Total Metals Ag As Ba Cd Cr Pb Se Hg 8010B/200.7	X
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
TCLP Volatiles	
TCLP Semi Volatiles	
TCLP Pesticides	
RCI	
GC/MS Vol. 8260B / 624	XX
GC/MS Semi. Vol. 8270C / 625	XX
PCB's 8082 / 608	
Pesticides 8081A / 608	
BOD, SS, PH	X
Moisture Content	
Na, Si, Ca, Mg, K, SO <sub>4</sub>	X
Cl, F, Fe, COND.	X
Turn Around Time if different from standard	3 DAY RUSH

Relinquished by: <u>[Signature]</u> Company: <u>CMW</u> Date: <u>11/07/08</u> Time: <u>0800</u>	Received by: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11-6-08</u> Time: <u>9:30</u> Temp: <u>5.9</u>
Relinquished by: <u>[Signature]</u> Company: <u>CMW</u> Date: <u>11/07/08</u> Time: <u>0800</u>	Received by: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11-6-08</u> Time: <u>9:30</u> Temp: <u>5.9</u>
Relinquished by: <u>[Signature]</u> Company: <u>CMW</u> Date: <u>11/07/08</u> Time: <u>0800</u>	Received by: <u>[Signature]</u> Company: <u>TA</u> Date: <u>11-6-08</u> Time: <u>9:30</u> Temp: <u>5.9</u>

**LAB USE ONLY**

Intact  / N

Headspace Y  / N

Log-in Review EE/AM

REMARKS: Sample Bottles: 3x 41ml Vials/Bev 1x 500 ml/pl H<sub>2</sub>O, 1x 1 Liter Nine

Dry Weight Basis Required

TRPP Report Required

Check if Special Reporting Limits Are Needed

Number Glass



6701 Aberdeen Avenue, Suite G Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298  
 200 East Sunset Road, Suite E El Paso, Texas 79922 909•589•2443 915•585•3443 FAX 915•585•4944  
 5002 Basin Street, Suite A1 Midland, Texas 79703 432•634•6301 FAX 432•634•6313  
 6015 Harris Parkway, Suite 110 Ft. Worth, Texas 76132 817•201•5280  
 E-Mail: lab@traceanalysis.com

### Certifications

WBENC: 237019 HUB: 1752439743100-86536 DBE: VN 20657  
 NCTRCA WFVB38444Y0909

### NELAP Certifications

Lubbock: T104704219-08-TX El Paso: T104704221-08-TX Midland: T104704392-08-TX  
 LELAP-02003 LELAP-02002  
 Kansas E-10317

## Analytical and Quality Control Report

Rory McMinn  
 New Mexico Salt Water Disposal Co.  
 P.O. box 1213  
 Roswell, NM, 88202

Report Date: November 14, 2008

Work Order: 8110902



Project Location: NM-SWD Station #11, Lea Co., NM  
 Project Name: GW Sampling  
 Project Number: NMSWD Station #11

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
178801	NMSWD Station #11 MW-3	water	2008-11-06	11:41	2008-11-08
178802	NMSWD Station #11 MW-1	water	2008-11-06	12:55	2008-11-08
178803	NMSWD Station #11 MW-2	water	2008-11-06	13:45	2008-11-08
178804	NMSWD Station #11 RW-1	water	2008-11-06	14:15	2008-11-08

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 71 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

*Blair Leftwich*

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Dr. Blair Leftwich, Director

**Standard Flags**

**B** - The sample contains less than ten times the concentration found in the method blank.

## Case Narrative

Samples for project GW Sampling were received by TraceAnalysis, Inc. on 2008-11-08 and assigned to work order 8110902. Samples for work order 8110902 were received intact without headspace and at a temperature of 5.9 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
Ag, Total	E 200.7
Alkalinity	SM 2320B
As, Total	E 200.7
Ba, Total	E 200.7
Ca, Dissolved	E 200.7
Cd, Total	E 200.7
Chloride (IC)	E 300.0
Conductivity	E 120.1
Cr, Total	E 200.7
Hg, Total	E 245.2
K, Dissolved	E 200.7
Mg, Dissolved	E 200.7
Na, Dissolved	E 200.7
Pb, Total	E 200.7
pH	SM 4500-H+
Semivolatiles	E 625
Se, Total	E 200.7
Si, Total	E 200.7
SO4 (IC)	E 300.0
TDS	SM 2540C
TSS	SM 2540D
Volatiles	E 624

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 8110902 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

## Analytical Report

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Alkalinity  
QC Batch: 54146  
Prep Batch: 46320  
Analytical Method: SM 2320B  
Date Analyzed: 2008-11-10  
Sample Preparation: 2008-11-10  
Prep Method: N/A  
Analyzed By: RG  
Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		218	mg/L as CaCo3	1	4.00
Total Alkalinity		218	mg/L as CaCo3	1	4.00

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Ca, Dissolved  
QC Batch: 54204  
Prep Batch: 46313  
Analytical Method: E 200.7  
Date Analyzed: 2008-11-13  
Sample Preparation: 2008-11-11  
Prep Method: N/A  
Analyzed By: TP  
Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		65.3	mg/L	1	1.00

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Chloride (IC)  
QC Batch: 54171  
Prep Batch: 46350  
Analytical Method: E 300.0  
Date Analyzed: 2008-11-12  
Sample Preparation: 2008-11-11  
Prep Method: N/A  
Analyzed By: RD  
Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		234	mg/L	50	3.00

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Conductivity  
QC Batch: 54245  
Prep Batch: 46408  
Analytical Method: E 120.1  
Date Analyzed: 2008-11-14  
Sample Preparation: 2008-11-11  
Prep Method: N/A  
Analyzed By: RD  
Prepared By: RD

Report Date: November 14, 2008  
NMSWD Station #11

Work Order: 8110902  
GW Sampling

Page Number: 5 of 71  
NM-SWD Station #11, Lea Co., NM

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1530	uMHOS/cm	1	0.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: K, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		10.6	mg/L	1	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Mg, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		13.3	mg/L	1	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Na, Dissolved      Analytical Method: E 200.7      Prep Method: S 3005A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		332	mg/L	5	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: pH      Analytical Method: SM 4500-H+      Prep Method: N/A  
QC Batch: 54283      Date Analyzed: 2008-11-14      Analyzed By: RG  
Prep Batch: 46439      Sample Preparation: 2008-11-14      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.91	s.u.	1	0.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
 Analysis: Semivolatiles Analytical Method: E 625 Prep Method: N/A  
 QC Batch: 54206 Date Analyzed: 2008-11-12 Analyzed By: DS  
 Prep Batch: 46379 Sample Preparation: 2008-11-10 Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00458	mg/L	0.917	0.00500
N-Nitrosodimethylamine		<0.00458	mg/L	0.917	0.00500
2-Picoline		<0.00458	mg/L	0.917	0.00500
Methyl methanesulfonate		<0.00458	mg/L	0.917	0.00500
Ethyl methanesulfonate		<0.00458	mg/L	0.917	0.00500
Phenol		<0.00458	mg/L	0.917	0.00500
Aniline		<0.00458	mg/L	0.917	0.00500
bis(2-chloroethyl)ether		<0.00458	mg/L	0.917	0.00500
2-Chlorophenol		<0.00458	mg/L	0.917	0.00500
1,3-Dichlorobenzene (meta)		<0.00458	mg/L	0.917	0.00500
1,4-Dichlorobenzene (para)		<0.00458	mg/L	0.917	0.00500
Benzyl alcohol		<0.00458	mg/L	0.917	0.00500
1,2-Dichlorobenzene (ortho)		<0.00458	mg/L	0.917	0.00500
2-Methylphenol		<0.00458	mg/L	0.917	0.00500
bis(2-chloroisopropyl)ether		<0.00458	mg/L	0.917	0.00500
4-Methylphenol / 3-Methylphenol		<0.00458	mg/L	0.917	0.00500
N-Nitrosodi-n-propylamine		<0.00458	mg/L	0.917	0.00500
Hexachloroethane		<0.00458	mg/L	0.917	0.00500
Acetophenone		<0.00458	mg/L	0.917	0.00500
Nitrobenzene		<0.00458	mg/L	0.917	0.00500
N-Nitrosopiperidine		<0.00458	mg/L	0.917	0.00500
Isophorone		<0.00458	mg/L	0.917	0.00500
2-Nitrophenol		<0.00458	mg/L	0.917	0.00500
2,4-Dimethylphenol		<0.00458	mg/L	0.917	0.00500
bis(2-chloroethoxy)methane		<0.00458	mg/L	0.917	0.00500
2,4-Dichlorophenol		<0.00458	mg/L	0.917	0.00500
1,2,4-Trichlorobenzene		<0.00458	mg/L	0.917	0.00500
Benzoic acid		<0.00458	mg/L	0.917	0.00500
Naphthalene		<0.00458	mg/L	0.917	0.00500
a,a-Dimethylphenethylamine		<0.00458	mg/L	0.917	0.00500
4-Chloroaniline		<0.00458	mg/L	0.917	0.00500
2,6-Dichlorophenol		<0.00917	mg/L	0.917	0.0100
Hexachlorobutadiene		<0.00458	mg/L	0.917	0.00500

continued . . .

sample 178801 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
N-Nitroso-di-n-butylamine		<0.00458	mg/L	0.917	0.00500
4-Chloro-3-methylphenol		<0.00458	mg/L	0.917	0.00500
2-Methylnaphthalene		<0.00458	mg/L	0.917	0.00500
1-Methylnaphthalene		<0.00458	mg/L	0.917	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00458	mg/L	0.917	0.00500
Hexachlorocyclopentadiene		<0.00458	mg/L	0.917	0.00500
2,4,6-Trichlorophenol		<0.00917	mg/L	0.917	0.0100
2,4,5-Trichlorophenol		<0.00458	mg/L	0.917	0.00500
2-Chloronaphthalene		<0.00458	mg/L	0.917	0.00500
1-Chloronaphthalene		<0.00458	mg/L	0.917	0.00500
2-Nitroaniline		<0.00458	mg/L	0.917	0.00500
Dimethylphthalate		<0.00458	mg/L	0.917	0.00500
Acenaphthylene		<0.00458	mg/L	0.917	0.00500
2,6-Dinitrotoluene		<0.00458	mg/L	0.917	0.00500
3-Nitroaniline		<0.00458	mg/L	0.917	0.00500
Acenaphthene		<0.00458	mg/L	0.917	0.00500
2,4-Dinitrophenol		<0.00458	mg/L	0.917	0.00500
Dibenzofuran		<0.00458	mg/L	0.917	0.00500
Pentachlorobenzene		<0.00458	mg/L	0.917	0.00500
4-Nitrophenol		<0.0229	mg/L	0.917	0.0250
2,4-Dinitrotoluene		<0.00458	mg/L	0.917	0.00500
1-Naphthylamine		<0.00458	mg/L	0.917	0.00500
2,3,4,6-Tetrachlorophenol		<0.00917	mg/L	0.917	0.0100
2-Naphthylamine		<0.00458	mg/L	0.917	0.00500
Fluorene		<0.00458	mg/L	0.917	0.00500
4-Chlorophenyl-phenylether		<0.00458	mg/L	0.917	0.00500
Diethylphthalate		<0.00458	mg/L	0.917	0.00500
4-Nitroaniline		<0.00458	mg/L	0.917	0.00500
Diphenylhydrazine		<0.00458	mg/L	0.917	0.00500
4,6-Dinitro-2-methylphenol		<0.00458	mg/L	0.917	0.00500
Diphenylamine		<0.00458	mg/L	0.917	0.00500
4-Bromophenyl-phenylether		<0.00458	mg/L	0.917	0.00500
Phenacetin		<0.00458	mg/L	0.917	0.00500
Hexachlorobenzene		<0.00458	mg/L	0.917	0.00500
4-Aminobiphenyl		<0.00458	mg/L	0.917	0.00500
Pentachlorophenol		<0.00917	mg/L	0.917	0.0100
Anthracene		<0.00458	mg/L	0.917	0.00500
Pentachloronitrobenzene		<0.00458	mg/L	0.917	0.00500
Pronamide		<0.00458	mg/L	0.917	0.00500
Phenanthrene		<0.00458	mg/L	0.917	0.00500
Di-n-butylphthalate		<0.00458	mg/L	0.917	0.00500
Fluoranthene		<0.00458	mg/L	0.917	0.00500
Benzidine		<0.0229	mg/L	0.917	0.0250

continued ...

sample 178801 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Pyrene		<0.00458	mg/L	0.917	0.00500
p-Dimethylaminoazobenzene		<0.00458	mg/L	0.917	0.00500
Butylbenzylphthalate		<0.00458	mg/L	0.917	0.00500
Benzo(a)anthracene		<0.00458	mg/L	0.917	0.00500
3,3-Dichlorobenzidine		<0.00458	mg/L	0.917	0.00500
Chrysene		<0.00458	mg/L	0.917	0.00500
bis(2-ethylhexyl)phthalate		<0.00458	mg/L	0.917	0.00500
Di-n-octylphthalate		<0.00458	mg/L	0.917	0.00500
Benzo(b)fluoranthene		<0.00458	mg/L	0.917	0.00500
Benzo(k)fluoranthene		<0.00458	mg/L	0.917	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00458	mg/L	0.917	0.00500
Benzo(a)pyrene		<0.00458	mg/L	0.917	0.00500
3-Methylcholanthrene		<0.00458	mg/L	0.917	0.00500
Dibenzo(a,j)acridine		<0.00458	mg/L	0.917	0.00500
Indeno(1,2,3-cd)pyrene		<0.00458	mg/L	0.917	0.00500
Dibenzo(a,h)anthracene		<0.00458	mg/L	0.917	0.00500
Benzo(g,h,i)perylene		<0.00458	mg/L	0.917	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0161	mg/L	0.917	0.0800	20	10 - 62.8
Phenol-d5		0.0125	mg/L	0.917	0.0800	16	10 - 41.3
Nitrobenzene-d5		0.0436	mg/L	0.917	0.0800	54	25.4 - 115
2-Fluorobiphenyl		0.0442	mg/L	0.917	0.0800	55	18.7 - 125
2,4,6-Tribromophenol		0.0409	mg/L	0.917	0.0800	51	15.5 - 107
Terphenyl-d14		0.0616	mg/L	0.917	0.0800	77	23.4 - 151

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
 Analysis: Si, Total      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54203      Date Analyzed: 2008-11-13      Analyzed By: RR  
 Prep Batch: 46344      Sample Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		<0.0500	mg/L	1	0.0500

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: SO4 (IC)                      Analytical Method: E 300.0                      Prep Method: N/A  
QC Batch: 54171                      Date Analyzed: 2008-11-12                      Analyzed By: RD  
Prep Batch: 46350                      Sample Preparation: 2008-11-11                      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		446	mg/L	50	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: TDS                      Analytical Method: SM 2540C                      Prep Method: N/A  
QC Batch: 54184                      Date Analyzed: 2008-11-12                      Analyzed By: RD  
Prep Batch: 46362                      Sample Preparation: 2008-11-11                      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		1122	mg/L	2	10.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Total 8 Metals                      Analytical Method: E 245.2                      Prep Method: N/A  
QC Batch: 54162                      Date Analyzed: 2008-11-11                      Analyzed By: TP  
Prep Batch: 46332                      Sample Preparation: 2008-11-11                      Prepared By: TP  
Laboratory: Lubbock  
Analysis: Total 8 Metals                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54203                      Date Analyzed: 2008-11-13                      Analyzed By: RR  
Prep Batch: 46344                      Sample Preparation: 2008-11-12                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<0.0100	mg/L	1	0.0100
Total Barium		0.0890	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200
Total Chromium		0.0150	mg/L	1	0.00500
Total Mercury		<0.000200	mg/L	1	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock	Analytical Method: SM 2540D	Prep Method: N/A
Analysis: TSS	Date Analyzed: 2008-11-13	Analyzed By: RG
QC Batch: 54274	Sample Preparation: 2008-11-12	Prepared By: RG
Prep Batch: 46431		

Parameter	Flag	RL Result	Units	Dilution	RL
Total Suspended Solids		546	mg/L	1	1.00

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock	Analytical Method: E 624	Prep Method: N/A
Analysis: Volatiles	Date Analyzed: 2008-11-10	Analyzed By: KB
QC Batch: 54142	Sample Preparation: 2008-11-10	Prepared By: KB
Prep Batch: 46318		

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00

*continued ...*

sample 178801 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.1	µg/L	1	50.0	104	86.7 - 111
Toluene-d8		51.6	µg/L	1	50.0	103	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.8	µg/L	1	50.0	98	72.4 - 112.2

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
 Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A  
 QC Batch: 54146 Date Analyzed: 2008-11-10 Analyzed By: RG  
 Prep Batch: 46320 Sample Preparation: 2008-11-10 Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		188	mg/L as CaCo3	1	4.00
Total Alkalinity		188	mg/L as CaCo3	1	4.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
 Analysis: Ca, Dissolved Analytical Method: E 200.7 Prep Method: N/A  
 QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
 Prep Batch: 46313 Sample Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		64.4	mg/L	1	1.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
 Analysis: Chloride (IC) Analytical Method: E 300.0 Prep Method: N/A  
 QC Batch: 54171 Date Analyzed: 2008-11-12 Analyzed By: RD  
 Prep Batch: 46350 Sample Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		325	mg/L	50	3.00

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**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: Conductivity                      Analytical Method: E 120.1                      Prep Method: N/A  
QC Batch: 54245                              Date Analyzed: 2008-11-14                      Analyzed By: RD  
Prep Batch: 46408                              Sample Preparation: 2008-11-11                      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1590	uMHOS/cm	1	0.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: K, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		9.47	mg/L	1	1.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: Mg, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		16.3	mg/L	1	1.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: Na, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		334	mg/L	5	1.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock	Analytical Method: SM 4500-H+	Prep Method: N/A
Analysis: pH	Date Analyzed: 2008-11-14	Analyzed By: RG
QC Batch: 54283	Sample Preparation: 2008-11-14	Prepared By: RG
Prep Batch: 46439		

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.89	s.u.	1	0.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock	Analytical Method: E 625	Prep Method: N/A
Analysis: Semivolatiles	Date Analyzed: 2008-11-12	Analyzed By: DS
QC Batch: 54206	Sample Preparation: 2008-11-10	Prepared By: DS
Prep Batch: 46379		

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00465	mg/L	0.93	0.00500
N-Nitrosodimethylamine		<0.00465	mg/L	0.93	0.00500
2-Picoline		<0.00465	mg/L	0.93	0.00500
Methyl methanesulfonate		<0.00465	mg/L	0.93	0.00500
Ethyl methanesulfonate		<0.00465	mg/L	0.93	0.00500
Phenol		<0.00465	mg/L	0.93	0.00500
Aniline		<0.00465	mg/L	0.93	0.00500
bis(2-chloroethyl)ether		<0.00465	mg/L	0.93	0.00500
2-Chlorophenol		<0.00465	mg/L	0.93	0.00500
1,3-Dichlorobenzene (meta)		<0.00465	mg/L	0.93	0.00500
1,4-Dichlorobenzene (para)		<0.00465	mg/L	0.93	0.00500
Benzyl alcohol		<0.00465	mg/L	0.93	0.00500
1,2-Dichlorobenzene (ortho)		<0.00465	mg/L	0.93	0.00500
2-Methylphenol		<0.00465	mg/L	0.93	0.00500
bis(2-chloroisopropyl)ether		<0.00465	mg/L	0.93	0.00500
4-Methylphenol / 3-Methylphenol		<0.00465	mg/L	0.93	0.00500
N-Nitrosodi-n-propylamine		<0.00465	mg/L	0.93	0.00500
Hexachloroethane		<0.00465	mg/L	0.93	0.00500
Acetophenone		<0.00465	mg/L	0.93	0.00500
Nitrobenzene		<0.00465	mg/L	0.93	0.00500
N-Nitrosopiperidine		<0.00465	mg/L	0.93	0.00500
Isophorone		<0.00465	mg/L	0.93	0.00500
2-Nitrophenol		<0.00465	mg/L	0.93	0.00500
2,4-Dimethylphenol		<0.00465	mg/L	0.93	0.00500
bis(2-chloroethoxy)methane		<0.00465	mg/L	0.93	0.00500
2,4-Dichlorophenol		<0.00465	mg/L	0.93	0.00500

*continued ...*

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
1,2,4-Trichlorobenzene		<0.00465	mg/L	0.93	0.00500
Benzoic acid		<0.00465	mg/L	0.93	0.00500
Naphthalene		<0.00465	mg/L	0.93	0.00500
a,a-Dimethylphenethylamine		<0.00465	mg/L	0.93	0.00500
4-Chloroaniline		<0.00465	mg/L	0.93	0.00500
2,6-Dichlorophenol		<0.00930	mg/L	0.93	0.0100
Hexachlorobutadiene		<0.00465	mg/L	0.93	0.00500
N-Nitroso-di-n-butylamine		<0.00465	mg/L	0.93	0.00500
4-Chloro-3-methylphenol		<0.00465	mg/L	0.93	0.00500
2-Methylnaphthalene		<0.00465	mg/L	0.93	0.00500
1-Methylnaphthalene		<0.00465	mg/L	0.93	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00465	mg/L	0.93	0.00500
Hexachlorocyclopentadiene		<0.00465	mg/L	0.93	0.00500
2,4,6-Trichlorophenol		<0.00930	mg/L	0.93	0.0100
2,4,5-Trichlorophenol		<0.00465	mg/L	0.93	0.00500
2-Chloronaphthalene		<0.00465	mg/L	0.93	0.00500
1-Chloronaphthalene		<0.00465	mg/L	0.93	0.00500
2-Nitroaniline		<0.00465	mg/L	0.93	0.00500
Dimethylphthalate		<0.00465	mg/L	0.93	0.00500
Acenaphthylene		<0.00465	mg/L	0.93	0.00500
2,6-Dinitrotoluene		<0.00465	mg/L	0.93	0.00500
3-Nitroaniline		<0.00465	mg/L	0.93	0.00500
Acenaphthene		<0.00465	mg/L	0.93	0.00500
2,4-Dinitrophenol		<0.00465	mg/L	0.93	0.00500
Dibenzofuran		<0.00465	mg/L	0.93	0.00500
Pentachlorobenzene		<0.00465	mg/L	0.93	0.00500
4-Nitrophenol		<0.0232	mg/L	0.93	0.0250
2,4-Dinitrotoluene		<0.00465	mg/L	0.93	0.00500
1-Naphthylamine		<0.00465	mg/L	0.93	0.00500
2,3,4,6-Tetrachlorophenol		<0.00930	mg/L	0.93	0.0100
2-Naphthylamine		<0.00465	mg/L	0.93	0.00500
Fluorene		<0.00465	mg/L	0.93	0.00500
4-Chlorophenyl-phenylether		<0.00465	mg/L	0.93	0.00500
Diethylphthalate		<0.00465	mg/L	0.93	0.00500
4-Nitroaniline		<0.00465	mg/L	0.93	0.00500
Diphenylhydrazine		<0.00465	mg/L	0.93	0.00500
4,6-Dinitro-2-methylphenol		<0.00465	mg/L	0.93	0.00500
Diphenylamine		<0.00465	mg/L	0.93	0.00500
4-Bromophenyl-phenylether		<0.00465	mg/L	0.93	0.00500
Phenacetin		<0.00465	mg/L	0.93	0.00500
Hexachlorobenzene		<0.00465	mg/L	0.93	0.00500
4-Aminobiphenyl		<0.00465	mg/L	0.93	0.00500
Pentachlorophenol		<0.00930	mg/L	0.93	0.0100

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Anthracene		<0.00465	mg/L	0.93	0.00500
Pentachloronitrobenzene		<0.00465	mg/L	0.93	0.00500
Pronamide		<0.00465	mg/L	0.93	0.00500
Phenanthrene		<0.00465	mg/L	0.93	0.00500
Di-n-butylphthalate		<0.00465	mg/L	0.93	0.00500
Fluoranthene		<0.00465	mg/L	0.93	0.00500
Benzidine		<0.0232	mg/L	0.93	0.0250
Pyrene		<0.00465	mg/L	0.93	0.00500
p-Dimethylaminoazobenzene		<0.00465	mg/L	0.93	0.00500
Butylbenzylphthalate		<0.00465	mg/L	0.93	0.00500
Benzo(a)anthracene		<0.00465	mg/L	0.93	0.00500
3,3-Dichlorobenzidine		<0.00465	mg/L	0.93	0.00500
Chrysene		<0.00465	mg/L	0.93	0.00500
bis(2-ethylhexyl)phthalate		<0.00465	mg/L	0.93	0.00500
Di-n-octylphthalate		<0.00465	mg/L	0.93	0.00500
Benzo(b)fluoranthene		<0.00465	mg/L	0.93	0.00500
Benzo(k)fluoranthene		<0.00465	mg/L	0.93	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00465	mg/L	0.93	0.00500
Benzo(a)pyrene		<0.00465	mg/L	0.93	0.00500
3-Methylcholanthrene		<0.00465	mg/L	0.93	0.00500
Dibenzo(a,j)acridine		<0.00465	mg/L	0.93	0.00500
Indeno(1,2,3-cd)pyrene		<0.00465	mg/L	0.93	0.00500
Dibenzo(a,h)anthracene		<0.00465	mg/L	0.93	0.00500
Benzo(g,h,i)perylene		<0.00465	mg/L	0.93	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0229	mg/L	0.93	0.0800	29	10 - 62.8
Phenol-d5		0.0174	mg/L	0.93	0.0800	22	10 - 41.3
Nitrobenzene-d5		0.0568	mg/L	0.93	0.0800	71	25.4 - 115
2-Fluorobiphenyl		0.0591	mg/L	0.93	0.0800	74	18.7 - 125
2,4,6-Tribromophenol		0.0465	mg/L	0.93	0.0800	58	15.5 - 107
Terphenyl-d14		0.0635	mg/L	0.93	0.0800	79	23.4 - 151

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: Si, Total  
 QC Batch: 54203  
 Prep Batch: 46344

Analytical Method: E 200.7  
 Date Analyzed: 2008-11-13  
 Sample Preparation: 2008-11-12

Prep Method: N/A  
 Analyzed By: RR  
 Prepared By: KV

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Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		<0.0500	mg/L	1	0.0500

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A  
QC Batch: 54171 Date Analyzed: 2008-11-12 Analyzed By: RD  
Prep Batch: 46350 Sample Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		385	mg/L	50	1.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A  
QC Batch: 54184 Date Analyzed: 2008-11-12 Analyzed By: RD  
Prep Batch: 46362 Sample Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		1154	mg/L	2	10.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Total 8 Metals Analytical Method: E 245.2 Prep Method: N/A  
QC Batch: 54162 Date Analyzed: 2008-11-11 Analyzed By: TP  
Prep Batch: 46332 Sample Preparation: 2008-11-11 Prepared By: TP  
Laboratory: Lubbock  
Analysis: Total 8 Metals Analytical Method: E 200.7 Prep Method: N/A  
QC Batch: 54203 Date Analyzed: 2008-11-13 Analyzed By: RR  
Prep Batch: 46344 Sample Preparation: 2008-11-12 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<0.0100	mg/L	1	0.0100
Total Barium		0.0400	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Total Chromium		<0.00500	mg/L	1	0.00500
Total Mercury		<0.000200	mg/L	1	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: TSS Analytical Method: SM 2540D Prep Method: N/A  
 QC Batch: 54274 Date Analyzed: 2008-11-13 Analyzed By: RG  
 Prep Batch: 46431 Sample Preparation: 2008-11-12 Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Total Suspended Solids		414	mg/L	1	1.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: Volatiles Analytical Method: E 624 Prep Method: N/A  
 QC Batch: 54142 Date Analyzed: 2008-11-10 Analyzed By: KB  
 Prep Batch: 46318 Sample Preparation: 2008-11-10 Prepared By: KB

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.4	µg/L	1	50.0	105	86.7 - 111
Toluene-d8		51.6	µg/L	1	50.0	103	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.3	µg/L	1	50.0	97	72.4 - 112.2

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: Alkalinity      Analytical Method: SM 2320B      Prep Method: N/A  
 QC Batch: 54146      Date Analyzed: 2008-11-10      Analyzed By: RG  
 Prep Batch: 46320      Sample Preparation: 2008-11-10      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		208	mg/L as CaCo3	1	4.00
Total Alkalinity		208	mg/L as CaCo3	1	4.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: Ca, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
 Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		54.5	mg/L	1	1.00

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**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Chloride (IC)                      Analytical Method: E 300.0                      Prep Method: N/A  
QC Batch: 54171                              Date Analyzed: 2008-11-12                      Analyzed By: RD  
Prep Batch: 46350                              Sample Preparation: 2008-11-11                      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		241	mg/L	50	3.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Conductivity                      Analytical Method: E 120.1                      Prep Method: N/A  
QC Batch: 54245                              Date Analyzed: 2008-11-14                      Analyzed By: RD  
Prep Batch: 46408                              Sample Preparation: 2008-11-11                      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1350	uMHOS/cm	1	0.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: K, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		9.14	mg/L	1	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Mg, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		10.2	mg/L	1	1.00

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**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Na, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		309	mg/L	5	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: pH      Analytical Method: SM 4500-H+      Prep Method: N/A  
QC Batch: 54283      Date Analyzed: 2008-11-14      Analyzed By: RG  
Prep Batch: 46439      Sample Preparation: 2008-11-14      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.68	s.u.	1	0.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Semivolatiles      Analytical Method: E 625      Prep Method: N/A  
QC Batch: 54206      Date Analyzed: 2008-11-12      Analyzed By: DS  
Prep Batch: 46379      Sample Preparation: 2008-11-10      Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00468	mg/L	0.935	0.00500
N-Nitrosodimethylamine		<0.00468	mg/L	0.935	0.00500
2-Picoline		<0.00468	mg/L	0.935	0.00500
Methyl methanesulfonate		<0.00468	mg/L	0.935	0.00500
Ethyl methanesulfonate		<0.00468	mg/L	0.935	0.00500
Phenol		<0.00468	mg/L	0.935	0.00500
Aniline		<0.00468	mg/L	0.935	0.00500
bis(2-chloroethyl)ether		<0.00468	mg/L	0.935	0.00500
2-Chlorophenol		<0.00468	mg/L	0.935	0.00500
1,3-Dichlorobenzene (meta)		<0.00468	mg/L	0.935	0.00500
1,4-Dichlorobenzene (para)		<0.00468	mg/L	0.935	0.00500
Benzyl alcohol		<0.00468	mg/L	0.935	0.00500
1,2-Dichlorobenzene (ortho)		<0.00468	mg/L	0.935	0.00500
2-Methylphenol		<0.00468	mg/L	0.935	0.00500

*continued ...*

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
bis(2-chloroisopropyl)ether		<0.00468	mg/L	0.935	0.00500
4-Methylphenol / 3-Methylphenol		<0.00468	mg/L	0.935	0.00500
N-Nitrosodi-n-propylamine		<0.00468	mg/L	0.935	0.00500
Hexachloroethane		<0.00468	mg/L	0.935	0.00500
Acetophenone		<0.00468	mg/L	0.935	0.00500
Nitrobenzene		<0.00468	mg/L	0.935	0.00500
N-Nitrosopiperidine		<0.00468	mg/L	0.935	0.00500
Isophorone		<0.00468	mg/L	0.935	0.00500
2-Nitrophenol		<0.00468	mg/L	0.935	0.00500
2,4-Dimethylphenol		<0.00468	mg/L	0.935	0.00500
bis(2-chloroethoxy)methane		<0.00468	mg/L	0.935	0.00500
2,4-Dichlorophenol		<0.00468	mg/L	0.935	0.00500
1,2,4-Trichlorobenzene		<0.00468	mg/L	0.935	0.00500
Benzoic acid		<0.00468	mg/L	0.935	0.00500
Naphthalene		<0.00468	mg/L	0.935	0.00500
a,a-Dimethylphenethylamine		<0.00468	mg/L	0.935	0.00500
4-Chloroaniline		<0.00468	mg/L	0.935	0.00500
2,6-Dichlorophenol		<0.00935	mg/L	0.935	0.0100
Hexachlorobutadiene		<0.00468	mg/L	0.935	0.00500
N-Nitroso-di-n-butylamine		<0.00468	mg/L	0.935	0.00500
4-Chloro-3-methylphenol		<0.00468	mg/L	0.935	0.00500
2-Methylnaphthalene		<0.00468	mg/L	0.935	0.00500
1-Methylnaphthalene		<0.00468	mg/L	0.935	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00468	mg/L	0.935	0.00500
Hexachlorocyclopentadiene		<0.00468	mg/L	0.935	0.00500
2,4,6-Trichlorophenol		<0.00935	mg/L	0.935	0.0100
2,4,5-Trichlorophenol		<0.00468	mg/L	0.935	0.00500
2-Chloronaphthalene		<0.00468	mg/L	0.935	0.00500
1-Chloronaphthalene		<0.00468	mg/L	0.935	0.00500
2-Nitroaniline		<0.00468	mg/L	0.935	0.00500
Dimethylphthalate		<0.00468	mg/L	0.935	0.00500
Acenaphthylene		<0.00468	mg/L	0.935	0.00500
2,6-Dinitrotoluene		<0.00468	mg/L	0.935	0.00500
3-Nitroaniline		<0.00468	mg/L	0.935	0.00500
Acenaphthene		<0.00468	mg/L	0.935	0.00500
2,4-Dinitrophenol		<0.00468	mg/L	0.935	0.00500
Dibenzofuran		<0.00468	mg/L	0.935	0.00500
Pentachlorobenzene		<0.00468	mg/L	0.935	0.00500
4-Nitrophenol		<0.0234	mg/L	0.935	0.0250
2,4-Dinitrotoluene		<0.00468	mg/L	0.935	0.00500
1-Naphthylamine		<0.00468	mg/L	0.935	0.00500
2,3,4,6-Tetrachlorophenol		<0.00935	mg/L	0.935	0.0100
2-Naphthylamine		<0.00468	mg/L	0.935	0.00500

continued ...

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Fluorene		<0.00468	mg/L	0.935	0.00500
4-Chlorophenyl-phenylether		<0.00468	mg/L	0.935	0.00500
Diethylphthalate		<0.00468	mg/L	0.935	0.00500
4-Nitroaniline		<0.00468	mg/L	0.935	0.00500
Diphenylhydrazine		<0.00468	mg/L	0.935	0.00500
4,6-Dinitro-2-methylphenol		<0.00468	mg/L	0.935	0.00500
Diphenylamine		<0.00468	mg/L	0.935	0.00500
4-Bromophenyl-phenylether		<0.00468	mg/L	0.935	0.00500
Phenacetin		<0.00468	mg/L	0.935	0.00500
Hexachlorobenzene		<0.00468	mg/L	0.935	0.00500
4-Aminobiphenyl		<0.00468	mg/L	0.935	0.00500
Pentachlorophenol		<0.00935	mg/L	0.935	0.0100
Anthracene		<0.00468	mg/L	0.935	0.00500
Pentachloronitrobenzene		<0.00468	mg/L	0.935	0.00500
Pronamide		<0.00468	mg/L	0.935	0.00500
Phenanthrene		<0.00468	mg/L	0.935	0.00500
Di-n-butylphthalate		<0.00468	mg/L	0.935	0.00500
Fluoranthene		<0.00468	mg/L	0.935	0.00500
Benzidine		<0.0234	mg/L	0.935	0.0250
Pyrene		<0.00468	mg/L	0.935	0.00500
p-Dimethylaminoazobenzene		<0.00468	mg/L	0.935	0.00500
Butylbenzylphthalate		<0.00468	mg/L	0.935	0.00500
Benzo(a)anthracene		<0.00468	mg/L	0.935	0.00500
3,3-Dichlorobenzidine		<0.00468	mg/L	0.935	0.00500
Chrysene		<0.00468	mg/L	0.935	0.00500
bis(2-ethylhexyl)phthalate		<0.00468	mg/L	0.935	0.00500
Di-n-octylphthalate		<0.00468	mg/L	0.935	0.00500
Benzo(b)fluoranthene		<0.00468	mg/L	0.935	0.00500
Benzo(k)fluoranthene		<0.00468	mg/L	0.935	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00468	mg/L	0.935	0.00500
Benzo(a)pyrene		<0.00468	mg/L	0.935	0.00500
3-Methylcholanthrene		<0.00468	mg/L	0.935	0.00500
Dibenzo(a,j)acridine		<0.00468	mg/L	0.935	0.00500
Indeno(1,2,3-cd)pyrene		<0.00468	mg/L	0.935	0.00500
Dibenzo(a,h)anthracene		<0.00468	mg/L	0.935	0.00500
Benzo(g,h,i)perylene		<0.00468	mg/L	0.935	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol	1	0.00110	mg/L	0.935	0.0800	1	10 - 62.8
Phenol-d5	2	0.00230	mg/L	0.935	0.0800	3	10 - 41.3

continued ...

<sup>1</sup>8270 Only - Two acidic surrogates are out of control limits. The other acidic surrogate shows extraction was performed properly.

<sup>2</sup>8270 Only - Two acidic surrogates are out of control limits. The other acidic surrogate shows extraction was performed properly.

sample continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5	3	0.00690	mg/L	0.935	0.0800	9	25.4 - 115
2-Fluorobiphenyl		0.0208	mg/L	0.935	0.0800	26	18.7 - 125
2,4,6-Tribromophenol		0.0380	mg/L	0.935	0.0800	48	15.5 - 107
Terphenyl-d14		0.0664	mg/L	0.935	0.0800	83	23.4 - 151

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: Si, Total      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54203      Date Analyzed: 2008-11-13      Analyzed By: RR  
 Prep Batch: 46344      Sample Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		104	mg/L	10	0.0500

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: SO4 (IC)      Analytical Method: E 300.0      Prep Method: N/A  
 QC Batch: 54171      Date Analyzed: 2008-11-12      Analyzed By: RD  
 Prep Batch: 46350      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		358	mg/L	50	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: TDS      Analytical Method: SM 2540C      Prep Method: N/A  
 QC Batch: 54184      Date Analyzed: 2008-11-12      Analyzed By: RD  
 Prep Batch: 46362      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		1018	mg/L	2	10.00

<sup>3</sup>8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

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Sample: 178803 - NMSWD Station #11 MW-2

Laboratory: Lubbock	Analytical Method: E 245.2	Prep Method: N/A
Analysis: Total 8 Metals	Date Analyzed: 2008-11-11	Analyzed By: TP
QC Batch: 54162	Sample Preparation: 2008-11-11	Prepared By: TP
Prep Batch: 46332		
Laboratory: Lubbock	Analytical Method: E 200.7	Prep Method: N/A
Analysis: Total 8 Metals	Date Analyzed: 2008-11-13	Analyzed By: RR
QC Batch: 54203	Sample Preparation: 2008-11-12	Prepared By: KV
Prep Batch: 46344		

Parameter	Flag	RL		Dilution	RL
		Result	Units		
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<b>0.0840</b>	mg/L	1	0.0100
Total Barium		<b>0.987</b>	mg/L	1	0.00500
Total Cadmium		<b>0.00300</b>	mg/L	1	0.00200
Total Chromium		<b>0.218</b>	mg/L	1	0.00500
Total Mercury		<0.000400	mg/L	2	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

Sample: 178803 - NMSWD Station #11 MW-2

Laboratory: Lubbock	Analytical Method: SM 2540D	Prep Method: N/A
Analysis: TSS	Date Analyzed: 2008-11-13	Analyzed By: RG
QC Batch: 54274	Sample Preparation: 2008-11-12	Prepared By: RG
Prep Batch: 46431		

Parameter	Flag	RL		Dilution	RL
		Result	Units		
Total Suspended Solids		<b>7140</b>	mg/L	1	1.00

Sample: 178803 - NMSWD Station #11 MW-2

Laboratory: Lubbock	Analytical Method: E 624	Prep Method: N/A
Analysis: Volatiles	Date Analyzed: 2008-11-10	Analyzed By: KB
QC Batch: 54142	Sample Preparation: 2008-11-10	Prepared By: KB
Prep Batch: 46318		

Parameter	Flag	RL		Dilution	RL
		Result	Units		
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00

continued ...

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00

continued ...

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.8	µg/L	1	50.0	108	86.7 - 111
Toluene-d8		52.2	µg/L	1	50.0	104	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.2	µg/L	1	50.0	96	72.4 - 112.2

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A  
 QC Batch: 54146 Date Analyzed: 2008-11-10 Analyzed By: RG  
 Prep Batch: 46320 Sample Preparation: 2008-11-10 Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	1	4.00

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Total Alkalinity		232	mg/L as CaCo3	1	4.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Ca, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		5810	mg/L	50	1.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 54251      Date Analyzed: 2008-11-14      Analyzed By: RD  
Prep Batch: 46409      Sample Preparation: 2008-11-12      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		51600	mg/L	5000	3.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Conductivity      Analytical Method: E 120.1      Prep Method: N/A  
QC Batch: 54245      Date Analyzed: 2008-11-14      Analyzed By: RD  
Prep Batch: 46408      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		81100	uMHOS/cm	1	0.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: K, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		157	mg/L	5	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Mg, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		719	mg/L	5	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Na, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		22200	mg/L	500	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: pH                                      Analytical Method: SM 4500-H+                      Prep Method: N/A  
QC Batch: 54283                              Date Analyzed: 2008-11-14                      Analyzed By: RG  
Prep Batch: 46439                              Sample Preparation: 2008-11-14                      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		6.17	s.u.	1	0.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: Semivolatiles  
 QC Batch: 54206  
 Prep Batch: 46379

Analytical Method: E 625  
 Date Analyzed: 2008-11-12  
 Sample Preparation: 2008-11-10

Prep Method: N/A  
 Analyzed By: DS  
 Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00461	mg/L	0.922	0.00500
N-Nitrosodimethylamine		<0.00461	mg/L	0.922	0.00500
2-Picoline		<0.00461	mg/L	0.922	0.00500
Methyl methanesulfonate		<0.00461	mg/L	0.922	0.00500
Ethyl methanesulfonate		<0.00461	mg/L	0.922	0.00500
Phenol		<0.00461	mg/L	0.922	0.00500
Aniline		<0.00461	mg/L	0.922	0.00500
bis(2-chloroethyl)ether		<0.00461	mg/L	0.922	0.00500
2-Chlorophenol		<0.00461	mg/L	0.922	0.00500
1,3-Dichlorobenzene (meta)		<0.00461	mg/L	0.922	0.00500
1,4-Dichlorobenzene (para)		<0.00461	mg/L	0.922	0.00500
Benzyl alcohol		<0.00461	mg/L	0.922	0.00500
1,2-Dichlorobenzene (ortho)		<0.00461	mg/L	0.922	0.00500
2-Methylphenol		<0.00461	mg/L	0.922	0.00500
bis(2-chloroisopropyl)ether		<0.00461	mg/L	0.922	0.00500
4-Methylphenol / 3-Methylphenol		<0.00461	mg/L	0.922	0.00500
N-Nitrosodi-n-propylamine		<0.00461	mg/L	0.922	0.00500
Hexachloroethane		<0.00461	mg/L	0.922	0.00500
Acetophenone		<0.00461	mg/L	0.922	0.00500
Nitrobenzene		<0.00461	mg/L	0.922	0.00500
N-Nitrosopiperidine		<0.00461	mg/L	0.922	0.00500
Isophorone		<0.00461	mg/L	0.922	0.00500
2-Nitrophenol		<0.00461	mg/L	0.922	0.00500
2,4-Dimethylphenol		<0.00461	mg/L	0.922	0.00500
bis(2-chloroethoxy)methane		<0.00461	mg/L	0.922	0.00500
2,4-Dichlorophenol		<0.00461	mg/L	0.922	0.00500
1,2,4-Trichlorobenzene		<0.00461	mg/L	0.922	0.00500
Benzoic acid		<0.00461	mg/L	0.922	0.00500
Naphthalene		<0.00461	mg/L	0.922	0.00500
a,a-Dimethylphenethylamine		<0.00461	mg/L	0.922	0.00500
4-Chloroaniline		<0.00461	mg/L	0.922	0.00500
2,6-Dichlorophenol		<0.00922	mg/L	0.922	0.0100
Hexachlorobutadiene		<0.00461	mg/L	0.922	0.00500
N-Nitroso-di-n-butylamine		<0.00461	mg/L	0.922	0.00500
4-Chloro-3-methylphenol		<0.00461	mg/L	0.922	0.00500
2-Methylnaphthalene		<0.00461	mg/L	0.922	0.00500
1-Methylnaphthalene		<0.00461	mg/L	0.922	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00461	mg/L	0.922	0.00500
Hexachlorocyclopentadiene		<0.00461	mg/L	0.922	0.00500

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
2,4,6-Trichlorophenol		<0.00922	mg/L	0.922	0.0100
2,4,5-Trichlorophenol		<0.00461	mg/L	0.922	0.00500
2-Chloronaphthalene		<0.00461	mg/L	0.922	0.00500
1-Chloronaphthalene		<0.00461	mg/L	0.922	0.00500
2-Nitroaniline		<0.00461	mg/L	0.922	0.00500
Dimethylphthalate		<0.00461	mg/L	0.922	0.00500
Acenaphthylene		<0.00461	mg/L	0.922	0.00500
2,6-Dinitrotoluene		<0.00461	mg/L	0.922	0.00500
3-Nitroaniline		<0.00461	mg/L	0.922	0.00500
Acenaphthene		<0.00461	mg/L	0.922	0.00500
2,4-Dinitrophenol		<0.00461	mg/L	0.922	0.00500
Dibenzofuran		<0.00461	mg/L	0.922	0.00500
Pentachlorobenzene		<0.00461	mg/L	0.922	0.00500
4-Nitrophenol		<0.0230	mg/L	0.922	0.0250
2,4-Dinitrotoluene		<0.00461	mg/L	0.922	0.00500
1-Naphthylamine		<0.00461	mg/L	0.922	0.00500
2,3,4,6-Tetrachlorophenol		<0.00922	mg/L	0.922	0.0100
2-Naphthylamine		<0.00461	mg/L	0.922	0.00500
Fluorene		<0.00461	mg/L	0.922	0.00500
4-Chlorophenyl-phenylether		<0.00461	mg/L	0.922	0.00500
Diethylphthalate		<0.00461	mg/L	0.922	0.00500
4-Nitroaniline		<0.00461	mg/L	0.922	0.00500
Diphenylhydrazine		<0.00461	mg/L	0.922	0.00500
4,6-Dinitro-2-methylphenol		<0.00461	mg/L	0.922	0.00500
Diphenylamine		<0.00461	mg/L	0.922	0.00500
4-Bromophenyl-phenylether		<0.00461	mg/L	0.922	0.00500
Phenacetin		<0.00461	mg/L	0.922	0.00500
Hexachlorobenzene		<0.00461	mg/L	0.922	0.00500
4-Aminobiphenyl		<0.00461	mg/L	0.922	0.00500
Pentachlorophenol		<0.00922	mg/L	0.922	0.0100
Anthracene		<0.00461	mg/L	0.922	0.00500
Pentachloronitrobenzene		<0.00461	mg/L	0.922	0.00500
Pronamide		<0.00461	mg/L	0.922	0.00500
Phenanthrene		<0.00461	mg/L	0.922	0.00500
Di-n-butylphthalate		<0.00461	mg/L	0.922	0.00500
Fluoranthene		<0.00461	mg/L	0.922	0.00500
Benzidine		<0.0230	mg/L	0.922	0.0250
Pyrene		<0.00461	mg/L	0.922	0.00500
p-Dimethylaminoazobenzene		<0.00461	mg/L	0.922	0.00500
Butylbenzylphthalate		<0.00461	mg/L	0.922	0.00500
Benzo(a)anthracene		<0.00461	mg/L	0.922	0.00500
3,3-Dichlorobenzidine		<0.00461	mg/L	0.922	0.00500
Chrysene		<0.00461	mg/L	0.922	0.00500

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
bis(2-ethylhexyl)phthalate		<0.00461	mg/L	0.922	0.00500
Di-n-octylphthalate		<0.00461	mg/L	0.922	0.00500
Benzo(b)fluoranthene		<0.00461	mg/L	0.922	0.00500
Benzo(k)fluoranthene		<0.00461	mg/L	0.922	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00461	mg/L	0.922	0.00500
Benzo(a)pyrene		<0.00461	mg/L	0.922	0.00500
3-Methylcholanthrene		<0.00461	mg/L	0.922	0.00500
Dibenzo(a,j)acridine		<0.00461	mg/L	0.922	0.00500
Indeno(1,2,3-cd)pyrene		<0.00461	mg/L	0.922	0.00500
Dibenzo(a,h)anthracene		<0.00461	mg/L	0.922	0.00500
Benzo(g,h,i)perylene		<0.00461	mg/L	0.922	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.00980	mg/L	0.922	0.0800	12	10 - 62.8
Phenol-d5		0.0111	mg/L	0.922	0.0800	14	10 - 41.3
Nitrobenzene-d5	4	0.0198	mg/L	0.922	0.0800	25	25.4 - 115
2-Fluorobiphenyl		0.0343	mg/L	0.922	0.0800	43	18.7 - 125
2,4,6-Tribromophenol		0.0516	mg/L	0.922	0.0800	64	15.5 - 107
Terphenyl-d14		0.0539	mg/L	0.922	0.0800	67	23.4 - 151

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: Si, Total Analytical Method: E 200.7 Prep Method: N/A  
 QC Batch: 54203 Date Analyzed: 2008-11-13 Analyzed By: RR  
 Prep Batch: 46344 Sample Preparation: 2008-11-12 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		41.7	mg/L	10	0.0500

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A  
 QC Batch: 54251 Date Analyzed: 2008-11-14 Analyzed By: RD  
 Prep Batch: 46409 Sample Preparation: 2008-11-12 Prepared By: RD

continued ...

<sup>4</sup>8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		<b>1270</b>	mg/L	50	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
 Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A  
 QC Batch: 54184 Date Analyzed: 2008-11-12 Analyzed By: RD  
 Prep Batch: 46362 Sample Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		<b>38100</b>	mg/L	50	10.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
 Analysis: Total 8 Metals Analytical Method: E 245.2 Prep Method: N/A  
 QC Batch: 54162 Date Analyzed: 2008-11-11 Analyzed By: TP  
 Prep Batch: 46332 Sample Preparation: 2008-11-11 Prepared By: TP  
 Laboratory: Lubbock  
 Analysis: Total 8 Metals Analytical Method: E 200.7 Prep Method: N/A  
 QC Batch: 54203 Date Analyzed: 2008-11-13 Analyzed By: RR  
 Prep Batch: 46344 Sample Preparation: 2008-11-12 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<0.0100	mg/L	1	0.0100
Total Barium		<b>0.247</b>	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200
Total Chromium		<b>0.0350</b>	mg/L	1	0.00500
Total Mercury		<b>0.000547</b>	mg/L	1	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock	Analytical Method: SM 2540D	Prep Method: N/A
Analysis: TSS	Date Analyzed: 2008-11-13	Analyzed By: RG
QC Batch: 54274	Sample Preparation: 2008-11-12	Prepared By: RG
Prep Batch: 46431		

Parameter	Flag	RL Result	Units	Dilution	RL
Total Suspended Solids		450	mg/L	1	1.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock	Analytical Method: E 624	Prep Method: N/A
Analysis: Volatiles	Date Analyzed: 2008-11-10	Analyzed By: KB
QC Batch: 54142	Sample Preparation: 2008-11-10	Prepared By: KB
Prep Batch: 46318		

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		13.5	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		55.1	µg/L	1	50.0	110	86.7 - 111
Toluene-d8		51.5	µg/L	1	50.0	103	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		44.7	µg/L	1	50.0	89	72.4 - 112.2

Method Blank (1)      QC Batch: 54142

QC Batch: 54142  
 Prep Batch: 46318

Date Analyzed: 2008-11-10  
 QC Preparation: 2008-11-10

Analyzed By: KB  
 Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
Bromochloromethane		<0.197	µg/L	1
Dichlorodifluoromethane		<0.672	µg/L	1
Chloromethane (methyl chloride)		<0.542	µg/L	1
Vinyl Chloride		<0.516	µg/L	1
Bromomethane (methyl bromide)		<0.446	µg/L	5
Chloroethane		<0.656	µg/L	1
Trichlorofluoromethane		<0.538	µg/L	1
Acetone		<1.10	µg/L	10
Iodomethane (methyl iodide)		<0.214	µg/L	5
Carbon Disulfide		<0.294	µg/L	1
Acrylonitrile		<0.442	µg/L	1
2-Butanone (MEK)		<0.420	µg/L	5
4-Methyl-2-pentanone (MIBK)		<0.407	µg/L	5
2-Hexanone		<0.486	µg/L	5
trans 1,4-Dichloro-2-butene		<0.463	µg/L	10
1,1-Dichloroethene		<0.237	µg/L	1
Methylene chloride		<0.312	µg/L	5
MTBE		<0.318	µg/L	1
trans-1,2-Dichloroethene		<0.217	µg/L	1
1,1-Dichloroethane		<0.202	µg/L	1
cis-1,2-Dichloroethene		<0.309	µg/L	1
2,2-Dichloropropane		<0.318	µg/L	1
1,2-Dichloroethane (EDC)		<0.292	µg/L	1
Chloroform		<0.234	µg/L	1
1,1,1-Trichloroethane		<0.257	µg/L	1
1,1-Dichloropropene		<0.286	µg/L	1
Benzene		<0.319	µg/L	1
Carbon Tetrachloride		<0.223	µg/L	1
1,2-Dichloropropane		<0.266	µg/L	1
Trichloroethene (TCE)		<0.235	µg/L	1
Dibromomethane (methylene bromide)		<0.341	µg/L	1
Bromodichloromethane		<0.291	µg/L	1
2-Chloroethyl vinyl ether		<0.293	µg/L	5

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
cis-1,3-Dichloropropene		<0.207	µg/L	1
trans-1,3-Dichloropropene		<0.293	µg/L	1
Toluene		<0.268	µg/L	1
1,1,2-Trichloroethane		<0.329	µg/L	1
1,3-Dichloropropane		<0.316	µg/L	1
Dibromochloromethane		<0.290	µg/L	1
1,2-Dibromoethane (EDB)		<0.229	µg/L	1
Tetrachloroethene (PCE)		<0.233	µg/L	1
Chlorobenzene		<0.276	µg/L	1
1,1,1,2-Tetrachloroethane		<0.226	µg/L	1
Ethylbenzene		<0.245	µg/L	1
m,p-Xylene		<0.517	µg/L	1
Bromoform		<0.175	µg/L	1
Styrene		<0.239	µg/L	1
o-Xylene		<0.247	µg/L	1
1,1,2,2-Tetrachloroethane		<0.223	µg/L	1
2-Chlorotoluene		<0.235	µg/L	1
1,2,3-Trichloropropane		<0.230	µg/L	1
Isopropylbenzene		<0.226	µg/L	1
Bromobenzene		<0.245	µg/L	1
n-Propylbenzene		<0.234	µg/L	1
1,3,5-Trimethylbenzene		<0.261	µg/L	1
tert-Butylbenzene		<0.281	µg/L	1
1,2,4-Trimethylbenzene		<0.285	µg/L	1
1,4-Dichlorobenzene (para)		<0.307	µg/L	1
sec-Butylbenzene		<0.312	µg/L	1
1,3-Dichlorobenzene (meta)		<0.284	µg/L	1
p-Isopropyltoluene		<0.244	µg/L	1
4-Chlorotoluene		<0.257	µg/L	1
1,2-Dichlorobenzene (ortho)		<0.294	µg/L	1
n-Butylbenzene		<0.339	µg/L	1
1,2-Dibromo-3-chloropropane		<0.780	µg/L	5
1,2,3-Trichlorobenzene		<0.736	µg/L	5
1,2,4-Trichlorobenzene		<0.432	µg/L	5
Naphthalene		<0.475	µg/L	5
Hexachlorobutadiene		<1.02	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.1	µg/L	1	50.0	108	86.7 - 111
Toluene-d8		52.2	µg/L	1	50.0	104	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.1	µg/L	1	50.0	96	72.4 - 112.2

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**Method Blank (1)**      QC Batch: 54146

QC Batch: 54146      Date Analyzed: 2008-11-10      Analyzed By: RG  
Prep Batch: 46320      QC Preparation: 2008-11-10      Prepared By: RG

Parameter	Flag	MDL Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

**Method Blank (1)**      QC Batch: 54162

QC Batch: 54162      Date Analyzed: 2008-11-11      Analyzed By: TP  
Prep Batch: 46332      QC Preparation: 2008-11-11      Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
Total Mercury		<0.0000251	mg/L	0.0002

**Method Blank (1)**      QC Batch: 54171

QC Batch: 54171      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46350      QC Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Chloride		<1.74	mg/L	3

**Method Blank (1)**      QC Batch: 54171

QC Batch: 54171      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46350      QC Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Sulfate		<0.344	mg/L	1

**Method Blank (1)**      QC Batch: 54184

QC Batch: 54184      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46362      QC Preparation: 2008-11-11      Prepared By: RD

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Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

Method Blank (1) QC Batch: 54203

QC Batch: 54203 Date Analyzed: 2008-11-13 Analyzed By: RR  
Prep Batch: 46344 QC Preparation: 2008-11-12 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silica		<0.0186	mg/L	0.05

Method Blank (1) QC Batch: 54203

QC Batch: 54203 Date Analyzed: 2008-11-13 Analyzed By: RR  
Prep Batch: 46344 QC Preparation: 2008-11-12 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silver		<0.000700	mg/L	0.005
Total Arsenic		<0.00850	mg/L	0.01
Total Barium		<0.00180	mg/L	0.005
Total Cadmium		<0.00110	mg/L	0.002
Total Chromium		<0.00201	mg/L	0.005
Total Lead		<0.00460	mg/L	0.005
Total Selenium		<0.0106	mg/L	0.02

Method Blank (1) QC Batch: 54204

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.175	mg/L	1

Method Blank (1) QC Batch: 54204

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Potassium		<0.327	mg/L	1

**Method Blank (1)**      QC Batch: 54204

QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
 Prep Batch: 46313      QC Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Magnesium		<0.148	mg/L	1

**Method Blank (1)**      QC Batch: 54204

QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
 Prep Batch: 46313      QC Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Sodium		<0.244	mg/L	1

**Method Blank (1)**      QC Batch: 54206

QC Batch: 54206      Date Analyzed: 2008-11-12      Analyzed By: DS  
 Prep Batch: 46379      QC Preparation: 2008-11-10      Prepared By: DS

Parameter	Flag	MDL Result	Units	RL
Pyridine		<0.00128	mg/L	0.005
N-Nitrosodimethylamine		<0.00192	mg/L	0.005
2-Picoline		<0.00132	mg/L	0.005
Methyl methanesulfonate		<0.00175	mg/L	0.005
Ethyl methanesulfonate		<0.00122	mg/L	0.005
Phenol		<0.00165	mg/L	0.005
Aniline		<0.00138	mg/L	0.005
bis(2-chloroethyl)ether		<0.00217	mg/L	0.005
2-Chlorophenol		<0.00150	mg/L	0.005
1,3-Dichlorobenzene (meta)		<0.00166	mg/L	0.005
1,4-Dichlorobenzene (para)		<0.00156	mg/L	0.005
Benzyl alcohol		0.00285	mg/L	0.005
1,2-Dichlorobenzene (ortho)		<0.00164	mg/L	0.005
2-Methylphenol		<0.00158	mg/L	0.005

*continued . . .*

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
bis(2-chloroisopropyl)ether		<0.000828	mg/L	0.005
4-Methylphenol / 3-Methylphenol		<0.00124	mg/L	0.005
N-Nitrosodi-n-propylamine		<0.00127	mg/L	0.005
Hexachloroethane		<0.00198	mg/L	0.005
Acetophenone		<0.00127	mg/L	0.005
Nitrobenzene		<0.00193	mg/L	0.005
N-Nitrosopiperidine		<0.00120	mg/L	0.005
Isophorone		<0.00194	mg/L	0.005
2-Nitrophenol		<0.00140	mg/L	0.005
2,4-Dimethylphenol		<0.00109	mg/L	0.005
bis(2-chloroethoxy)methane		<0.00124	mg/L	0.005
2,4-Dichlorophenol		<0.00134	mg/L	0.005
1,2,4-Trichlorobenzene		<0.00193	mg/L	0.005
Benzoic acid		<0.00304	mg/L	0.005
Naphthalene		<0.00165	mg/L	0.005
a,a-Dimethylphenethylamine		<0.000758	mg/L	0.005
4-Chloroaniline		<0.00115	mg/L	0.005
2,6-Dichlorophenol		<0.00120	mg/L	0.01
Hexachlorobutadiene		<0.00184	mg/L	0.005
N-Nitroso-di-n-butylamine		<0.00169	mg/L	0.005
4-Chloro-3-methylphenol		<0.00120	mg/L	0.005
2-Methylnaphthalene		<0.00145	mg/L	0.005
1-Methylnaphthalene		<0.00155	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.00205	mg/L	0.005
Hexachlorocyclopentadiene		<0.00385	mg/L	0.005
2,4,6-Trichlorophenol		<0.00152	mg/L	0.01
2,4,5-Trichlorophenol		<0.00320	mg/L	0.005
2-Chloronaphthalene		<0.00168	mg/L	0.005
1-Chloronaphthalene		<0.00181	mg/L	0.005
2-Nitroaniline		<0.00169	mg/L	0.005
Dimethylphthalate		<0.00178	mg/L	0.005
Acenaphthylene		<0.00136	mg/L	0.005
2,6-Dinitrotoluene		<0.00139	mg/L	0.005
3-Nitroaniline		<0.00124	mg/L	0.005
Acenaphthene		<0.00132	mg/L	0.005
2,4-Dinitrophenol		<0.00392	mg/L	0.005
Dibenzofuran		<0.00161	mg/L	0.005
Pentachlorobenzene		<0.00242	mg/L	0.005
4-Nitrophenol		<0.00127	mg/L	0.025
2,4-Dinitrotoluene		<0.00139	mg/L	0.005
1-Naphthylamine		<0.00128	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.00130	mg/L	0.01
2-Naphthylamine		<0.00154	mg/L	0.005
Fluorene		<0.00130	mg/L	0.005

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
4-Chlorophenyl-phenylether		<0.00173	mg/L	0.005
Diethylphthalate		<0.00161	mg/L	0.005
4-Nitroaniline		<0.00101	mg/L	0.005
Diphenylhydrazine		<0.00125	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.00135	mg/L	0.005
Diphenylamine		<0.00159	mg/L	0.005
4-Bromophenyl-phenylether		<0.00187	mg/L	0.005
Phenacetin		<0.00139	mg/L	0.005
Hexachlorobenzene		<0.00238	mg/L	0.005
4-Aminobiphenyl		<0.00134	mg/L	0.005
Pentachlorophenol		<0.000632	mg/L	0.01
Anthracene		<0.00152	mg/L	0.005
Pentachloronitrobenzene		<0.00307	mg/L	0.005
Pronamide		<0.00159	mg/L	0.005
Phenanthrene		<0.00144	mg/L	0.005
Di-n-butylphthalate		<0.00125	mg/L	0.005
Fluoranthene		<0.00159	mg/L	0.005
Benzidine		<0.000845	mg/L	0.025
Pyrene		<0.00135	mg/L	0.005
p-Dimethylaminoazobenzene		<0.000969	mg/L	0.005
Butylbenzylphthalate		<0.00110	mg/L	0.005
Benzo(a)anthracene		<0.00138	mg/L	0.005
3,3-Dichlorobenzidine		<0.00130	mg/L	0.005
Chrysene		<0.00146	mg/L	0.005
bis(2-ethylhexyl)phthalate		<0.00108	mg/L	0.005
Di-n-octylphthalate		<0.000892	mg/L	0.005
Benzo(b)fluoranthene		<0.00126	mg/L	0.005
Benzo(k)fluoranthene		<0.00149	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.00134	mg/L	0.005
Benzo(a)pyrene		<0.00155	mg/L	0.005
3-Methylcholanthrene		<0.00166	mg/L	0.005
Dibenzo(a,j)acridine		<0.00201	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.00195	mg/L	0.005
Dibenzo(a,h)anthracene		<0.00210	mg/L	0.005
Benzo(g,h,i)perylene		<0.00207	mg/L	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0254	mg/L	1	0.0800	32	10 - 62.8
Phenol-d5		0.0186	mg/L	1	0.0800	23	10 - 41.3
Nitrobenzene-d5		0.0528	mg/L	1	0.0800	66	25.4 - 115
2-Fluorobiphenyl		0.0449	mg/L	1	0.0800	56	18.7 - 125
2,4,6-Tribromophenol		0.0410	mg/L	1	0.0800	51	15.5 - 107
Terphenyl-d14		0.0618	mg/L	1	0.0800	77	23.4 - 151

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Method Blank (1) QC Batch: 54245

QC Batch: 54245 Date Analyzed: 2008-11-14 Analyzed By: RD  
Prep Batch: 46408 QC Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Specific Conductance		1.77	uMHOS/cm	

Method Blank (1) QC Batch: 54251

QC Batch: 54251 Date Analyzed: 2008-11-14 Analyzed By: RD  
Prep Batch: 46409 QC Preparation: 2008-11-12 Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Chloride		<1.74	mg/L	3

Method Blank (1) QC Batch: 54251

QC Batch: 54251 Date Analyzed: 2008-11-14 Analyzed By: RD  
Prep Batch: 46409 QC Preparation: 2008-11-12 Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Sulfate		<0.344	mg/L	1

Method Blank (1) QC Batch: 54274

QC Batch: 54274 Date Analyzed: 2008-11-13 Analyzed By: RG  
Prep Batch: 46431 QC Preparation: 2008-11-12 Prepared By: RG

Parameter	Flag	MDL Result	Units	RL
Total Suspended Solids		<1.00	mg/L	1

Duplicates (1) Duplicated Sample: 178804

QC Batch: 54146 Date Analyzed: 2008-11-10 Analyzed By: RG  
Prep Batch: 46320 QC Preparation: 2008-11-10 Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	244	232	mg/L as CaCo3	1	5	20
Total Alkalinity	244	232	mg/L as CaCo3	1	5	20

Duplicates (1) Duplicated Sample: 178903

QC Batch: 54184 Date Analyzed: 2008-11-12 Analyzed By: RD  
 Prep Batch: 46362 QC Preparation: 2008-11-11 Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	424.0	414.0	mg/L	1	2	10

Duplicates (1) Duplicated Sample: 178804

QC Batch: 54245 Date Analyzed: 2008-11-14 Analyzed By: RD  
 Prep Batch: 46408 QC Preparation: 2008-11-11 Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	81900	81100	uMHOS/cm	1	1	20

Duplicates (1) Duplicated Sample: 178804

QC Batch: 54274 Date Analyzed: 2008-11-13 Analyzed By: RG  
 Prep Batch: 46431 QC Preparation: 2008-11-12 Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Suspended Solids	468	450	mg/L	1	4	10

Duplicates (1) Duplicated Sample: 179314

QC Batch: 54283 Date Analyzed: 2008-11-14 Analyzed By: RG  
 Prep Batch: 46439 QC Preparation: 2008-11-14 Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	8.11	8.09	s.u.	1	0	20

Laboratory Control Spike (LCS-1)

QC Batch: 54142  
 Prep Batch: 46318

Date Analyzed: 2008-11-10  
 QC Preparation: 2008-11-10

Analyzed By: KB  
 Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane	51.5	µg/L	1	50.0	<0.197	103	88.6 - 114.8
Dichlorodifluoromethane	55.9	µg/L	1	50.0	<0.672	112	57 - 138.2
Chloromethane (methyl chloride)	50.8	µg/L	1	50.0	<0.542	102	67.3 - 125
Vinyl Chloride	52.9	µg/L	1	50.0	<0.516	106	72.1 - 126.6
Bromomethane (methyl bromide)	48.2	µg/L	1	50.0	<0.446	96	51.4 - 149
Chloroethane	46.1	µg/L	1	50.0	<0.656	92	62.4 - 134
Trichlorofluoromethane	48.2	µg/L	1	50.0	<0.538	96	69.8 - 137.8
Acetone	57.0	µg/L	1	50.0	<1.10	114	36.8 - 138.7
Iodomethane (methyl iodide)	53.4	µg/L	1	50.0	<0.214	107	84.8 - 123
Carbon Disulfide	52.5	µg/L	1	50.0	<0.294	105	77.3 - 125.6
Acrylonitrile	54.5	µg/L	1	50.0	<0.442	109	80.1 - 130
2-Butanone (MEK)	56.0	µg/L	1	50.0	<0.420	112	40.2 - 152
4-Methyl-2-pentanone (MIBK)	46.9	µg/L	1	50.0	<0.407	94	83.2 - 126.2
2-Hexanone	50.3	µg/L	1	50.0	<0.486	101	61.9 - 152.1
trans 1,4-Dichloro-2-butene	56.9	µg/L	1	50.0	<0.463	114	63.8 - 141.2
1,1-Dichloroethene	50.4	µg/L	1	50.0	<0.237	101	83.9 - 118
Methylene chloride	53.6	µg/L	1	50.0	<0.312	107	74.9 - 121.2
MTBE	48.7	µg/L	1	50.0	<0.318	97	80.3 - 126.4
trans-1,2-Dichloroethene	54.4	µg/L	1	50.0	<0.217	109	80 - 118.8
1,1-Dichloroethane	53.8	µg/L	1	50.0	<0.202	108	78.1 - 121.1
cis-1,2-Dichloroethene	54.3	µg/L	1	50.0	<0.309	109	84.4 - 120.2
2,2-Dichloropropane	51.7	µg/L	1	50.0	<0.318	103	40 - 148.2
1,2-Dichloroethane (EDC)	52.1	µg/L	1	50.0	<0.292	104	78 - 119.2
Chloroform	51.8	µg/L	1	50.0	<0.234	104	86 - 113.3
1,1,1-Trichloroethane	50.3	µg/L	1	50.0	<0.257	101	66.5 - 132.8
1,1-Dichloropropene	52.3	µg/L	1	50.0	<0.286	105	94.8 - 109.7
Benzene	53.0	µg/L	1	50.0	<0.319	106	88.6 - 114.8
Carbon Tetrachloride	48.8	µg/L	1	50.0	<0.223	98	81.9 - 120.5
1,2-Dichloropropane	53.0	µg/L	1	50.0	<0.266	106	90.9 - 113
Trichloroethene (TCE)	49.2	µg/L	1	50.0	<0.235	98	84.1 - 119.2
Dibromomethane (methylene bromide)	51.0	µg/L	1	50.0	<0.341	102	87.7 - 114.3
Bromodichloromethane	54.3	µg/L	1	50.0	<0.291	109	93.1 - 116.2
2-Chloroethyl vinyl ether	40.9	µg/L	1	50.0	<0.293	82	79.8 - 122
cis-1,3-Dichloropropene	49.8	µg/L	1	50.0	<0.207	100	88.7 - 119.8
trans-1,3-Dichloropropene	49.3	µg/L	1	50.0	<0.293	99	84.8 - 124.6
Toluene	51.6	µg/L	1	50.0	<0.268	103	88.1 - 115.3
1,1,2-Trichloroethane	51.4	µg/L	1	50.0	<0.329	103	89.9 - 111.2
1,3-Dichloropropane	52.3	µg/L	1	50.0	<0.316	105	86.9 - 115
Dibromochloromethane	46.3	µg/L	1	50.0	<0.290	93	89 - 122
1,2-Dibromoethane (EDB)	51.7	µg/L	1	50.0	<0.229	103	89.5 - 117

continued ...

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit
Tetrachloroethene (PCE)	38.2	µg/L	1	50.0	<0.233	76	37.6 - 143
Chlorobenzene	49.9	µg/L	1	50.0	<0.276	100	86.6 - 111.2
1,1,1,2-Tetrachloroethane	50.8	µg/L	1	50.0	<0.226	102	89.8 - 114
Ethylbenzene	52.8	µg/L	1	50.0	<0.245	106	87.4 - 117
m,p-Xylene	104	µg/L	1	100	<0.517	104	86.1 - 115
Bromoform	44.7	µg/L	1	50.0	<0.175	89	84.6 - 132.6
Styrene	48.2	µg/L	1	50.0	<0.239	96	88.3 - 125
o-Xylene	54.0	µg/L	1	50.0	<0.247	108	86.7 - 118.6
1,1,2,2-Tetrachloroethane	54.8	µg/L	1	50.0	<0.223	110	73.8 - 127
2-Chlorotoluene	50.5	µg/L	1	50.0	<0.235	101	84.3 - 117
1,2,3-Trichloropropane	55.6	µg/L	1	50.0	<0.230	111	83 - 117.8
Isopropylbenzene	52.4	µg/L	1	50.0	<0.226	105	86.2 - 119
Bromobenzene	51.6	µg/L	1	50.0	<0.245	103	84.2 - 115
n-Propylbenzene	49.9	µg/L	1	50.0	<0.234	100	80.7 - 120
1,3,5-Trimethylbenzene	50.8	µg/L	1	50.0	<0.261	102	85.4 - 115
tert-Butylbenzene	50.2	µg/L	1	50.0	<0.281	100	85.9 - 115.9
1,2,4-Trimethylbenzene	51.9	µg/L	1	50.0	<0.285	104	87.1 - 116
1,4-Dichlorobenzene (para)	48.8	µg/L	1	50.0	<0.307	98	87.2 - 109
sec-Butylbenzene	50.1	µg/L	1	50.0	<0.312	100	82.6 - 118.5
1,3-Dichlorobenzene (meta)	49.7	µg/L	1	50.0	<0.284	99	89.5 - 111.3
p-Isopropyltoluene	51.9	µg/L	1	50.0	<0.244	104	86.6 - 118.2
4-Chlorotoluene	51.4	µg/L	1	50.0	<0.257	103	87.2 - 114
1,2-Dichlorobenzene (ortho)	51.2	µg/L	1	50.0	<0.294	102	92.2 - 111.6
n-Butylbenzene	53.3	µg/L	1	50.0	<0.339	107	82.2 - 120.8
1,2-Dibromo-3-chloropropane	45.2	µg/L	1	50.0	<0.780	90	64.3 - 133
1,2,3-Trichlorobenzene	45.7	µg/L	1	50.0	<0.736	91	22.2 - 201.8
1,2,4-Trichlorobenzene	39.7	µg/L	1	50.0	<0.432	79	66 - 135.7
Naphthalene	42.3	µg/L	1	50.0	<0.475	85	51.8 - 168.3
Hexachlorobutadiene	49.5	µg/L	1	50.0	<1.02	99	70.4 - 130.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD		Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit	RPD	RPD Limit
	Result	Units							
Bromochloromethane	54.4	µg/L	1	50.0	<0.197	109	88.6 - 114.8	6	20
Dichlorodifluoromethane	52.2	µg/L	1	50.0	<0.672	104	57 - 138.2	7	20
Chloromethane (methyl chloride)	49.7	µg/L	1	50.0	<0.542	99	67.3 - 125	2	20
Vinyl Chloride	51.1	µg/L	1	50.0	<0.516	102	72.1 - 126.6	4	20
Bromomethane (methyl bromide)	48.3	µg/L	1	50.0	<0.446	97	51.4 - 149	0	20
Chloroethane	48.2	µg/L	1	50.0	<0.656	96	62.4 - 134	4	20
Trichlorofluoromethane	46.8	µg/L	1	50.0	<0.538	94	69.8 - 137.8	3	20
Acetone	64.9	µg/L	1	50.0	<1.10	130	36.8 - 138.7	13	20
Iodomethane (methyl iodide)	56.4	µg/L	1	50.0	<0.214	113	84.8 - 123	6	20
Carbon Disulfide	54.3	µg/L	1	50.0	<0.294	109	77.3 - 125.6	3	20
Acrylonitrile	56.2	µg/L	1	50.0	<0.442	112	80.1 - 130	3	20

continued ...

*control spikes continued . . .*

Param	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
	Result	Units							
2-Butanone (MEK)	57.6	µg/L	1	50.0	<0.420	115	40.2 - 152	3	20
4-Methyl-2-pentanone (MIBK)	49.0	µg/L	1	50.0	<0.407	98	83.2 - 126.2	4	20
2-Hexanone	52.2	µg/L	1	50.0	<0.486	104	61.9 - 152.1	4	20
trans 1,4-Dichloro-2-butene	58.3	µg/L	1	50.0	<0.463	117	63.8 - 141.2	2	20
1,1-Dichloroethene	51.5	µg/L	1	50.0	<0.237	103	83.9 - 118	2	20
Methylene chloride	54.9	µg/L	1	50.0	<0.312	110	74.9 - 121.2	2	20
MTBE	50.8	µg/L	1	50.0	<0.318	102	80.3 - 126.4	4	20
trans-1,2-Dichloroethene	55.7	µg/L	1	50.0	<0.217	111	80 - 118.8	2	20
1,1-Dichloroethane	55.0	µg/L	1	50.0	<0.202	110	78.1 - 121.1	2	20
cis-1,2-Dichloroethene	55.6	µg/L	1	50.0	<0.309	111	84.4 - 120.2	2	20
2,2-Dichloropropane	54.9	µg/L	1	50.0	<0.318	110	40 - 148.2	6	20
1,2-Dichloroethane (EDC)	52.8	µg/L	1	50.0	<0.292	106	78 - 119.2	1	20
Chloroform	52.8	µg/L	1	50.0	<0.234	106	86 - 113.3	2	20
1,1,1-Trichloroethane	53.1	µg/L	1	50.0	<0.257	106	66.5 - 132.8	5	20
1,1-Dichloropropene	53.8	µg/L	1	50.0	<0.286	108	94.8 - 109.7	3	20
Benzene	54.9	µg/L	1	50.0	<0.319	110	88.6 - 114.8	4	20
Carbon Tetrachloride	51.4	µg/L	1	50.0	<0.223	103	81.9 - 120.5	5	20
1,2-Dichloropropane	55.3	µg/L	1	50.0	<0.266	111	90.9 - 113	4	20
Trichloroethene (TCE)	51.5	µg/L	1	50.0	<0.235	103	84.1 - 119.2	5	20
Dibromomethane (methylene bromide)	53.9	µg/L	1	50.0	<0.341	108	87.7 - 114.3	6	20
Bromodichloromethane	56.8	µg/L	1	50.0	<0.291	114	93.1 - 116.2	4	20
2-Chloroethyl vinyl ether	43.1	µg/L	1	50.0	<0.293	86	79.8 - 122	5	20
cis-1,3-Dichloropropene	52.2	µg/L	1	50.0	<0.207	104	88.7 - 119.8	5	20
trans-1,3-Dichloropropene	51.0	µg/L	1	50.0	<0.293	102	84.8 - 124.6	3	20
Toluene	53.8	µg/L	1	50.0	<0.268	108	88.1 - 115.3	4	20
1,1,2-Trichloroethane	53.6	µg/L	1	50.0	<0.329	107	89.9 - 111.2	4	20
1,3-Dichloropropane	54.4	µg/L	1	50.0	<0.316	109	86.9 - 115	4	20
Dibromochloromethane	48.8	µg/L	1	50.0	<0.290	98	89 - 122	5	20
1,2-Dibromoethane (EDB)	55.4	µg/L	1	50.0	<0.229	111	89.5 - 117	7	20
Tetrachloroethene (PCE)	40.8	µg/L	1	50.0	<0.233	82	37.6 - 143	7	20
Chlorobenzene	52.1	µg/L	1	50.0	<0.276	104	86.6 - 111.2	4	20
1,1,1,2-Tetrachloroethane	53.6	µg/L	1	50.0	<0.226	107	89.8 - 114	5	20
Ethylbenzene	54.8	µg/L	1	50.0	<0.245	110	87.4 - 117	4	20
m,p-Xylene	109	µg/L	1	100	<0.517	109	86.1 - 115	5	20
Bromoform	47.1	µg/L	1	50.0	<0.175	94	84.6 - 132.6	5	20
Styrene	50.2	µg/L	1	50.0	<0.239	100	88.3 - 125	4	20
o-Xylene	56.1	µg/L	1	50.0	<0.247	112	86.7 - 118.6	4	20
1,1,2,2-Tetrachloroethane	57.1	µg/L	1	50.0	<0.223	114	73.8 - 127	4	20
2-Chlorotoluene	52.6	µg/L	1	50.0	<0.235	105	84.3 - 117	4	20
1,2,3-Trichloropropane	58.6	µg/L	1	50.0	<0.230	117	83 - 117.8	5	20
Isopropylbenzene	54.8	µg/L	1	50.0	<0.226	110	86.2 - 119	4	20
Bromobenzene	54.2	µg/L	1	50.0	<0.245	108	84.2 - 115	5	20
n-Propylbenzene	52.0	µg/L	1	50.0	<0.234	104	80.7 - 120	4	20
1,3,5-Trimethylbenzene	53.0	µg/L	1	50.0	<0.261	106	85.4 - 115	4	20

*continued . . .*

control spikes continued . . .

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit	RPD	RPD Limit
tert-Butylbenzene	52.9	µg/L	1	50.0	<0.281	106	85.9 - 115.9	5	20
1,2,4-Trimethylbenzene	54.5	µg/L	1	50.0	<0.285	109	87.1 - 116	5	20
1,4-Dichlorobenzene (para)	51.2	µg/L	1	50.0	<0.307	102	87.2 - 109	5	20
sec-Butylbenzene	52.3	µg/L	1	50.0	<0.312	105	82.6 - 118.5	4	20
1,3-Dichlorobenzene (meta)	52.0	µg/L	1	50.0	<0.284	104	89.5 - 111.3	4	20
p-Isopropyltoluene	54.3	µg/L	1	50.0	<0.244	109	86.6 - 118.2	4	20
4-Chlorotoluene	53.7	µg/L	1	50.0	<0.257	107	87.2 - 114	4	20
1,2-Dichlorobenzene (ortho)	53.9	µg/L	1	50.0	<0.294	108	92.2 - 111.6	5	20
n-Butylbenzene	54.8	µg/L	1	50.0	<0.339	110	82.2 - 120.8	3	20
1,2-Dibromo-3-chloropropane	47.7	µg/L	1	50.0	<0.780	95	64.3 - 133	5	20
1,2,3-Trichlorobenzene	50.0	µg/L	1	50.0	<0.736	100	22.2 - 201.8	9	20
1,2,4-Trichlorobenzene	42.5	µg/L	1	50.0	<0.432	85	66 - 135.7	7	20
Naphthalene	46.3	µg/L	1	50.0	<0.475	93	51.8 - 168.3	9	20
Hexachlorobutadiene	52.7	µg/L	1	50.0	<1.02	105	70.4 - 130.9	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	52.9	51.8	µg/L	1	50.0	106	104	85 - 110.6
Toluene-d8	51.0	50.0	µg/L	1	50.0	102	100	86.8 - 109.2
4-Bromofluorobenzene (4-BFB)	51.9	50.8	µg/L	1	50.0	104	102	84.4 - 113.2

Laboratory Control Spike (LCS-1)

QC Batch: 54162  
 Prep Batch: 46332

Date Analyzed: 2008-11-11  
 QC Preparation: 2008-11-11

Analyzed By: TP  
 Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.00104	mg/L	1	0.00100	<0.0000251	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.00104	mg/L	1	0.00100	<0.0000251	104	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spike (LCS-1)

QC Batch: 54171  
 Prep Batch: 46350

Date Analyzed: 2008-11-12  
 QC Preparation: 2008-11-11

Analyzed By: RD  
 Prepared By: RD



**Laboratory Control Spike (LCS-1)**

QC Batch: 54203  
 Prep Batch: 46344

Date Analyzed: 2008-11-13  
 QC Preparation: 2008-11-12

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.124	mg/L	1	0.125	<0.000700	99	85 - 115
Total Arsenic	0.505	mg/L	1	0.500	<0.00850	101	85 - 115
Total Barium	1.06	mg/L	1	1.00	<0.00180	106	85 - 115
Total Cadmium	0.260	mg/L	1	0.250	<0.00110	104	85 - 115
Total Chromium	0.0990	mg/L	1	0.100	<0.00201	99	85 - 115
Total Lead	0.502	mg/L	1	0.500	<0.00460	100	85 - 115
Total Selenium	0.462	mg/L	1	0.500	<0.0106	92	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.124	mg/L	1	0.125	<0.000700	99	85 - 115	0	20
Total Arsenic	0.498	mg/L	1	0.500	<0.00850	100	85 - 115	1	20
Total Barium	1.06	mg/L	1	1.00	<0.00180	106	85 - 115	0	20
Total Cadmium	0.260	mg/L	1	0.250	<0.00110	104	85 - 115	0	20
Total Chromium	0.100	mg/L	1	0.100	<0.00201	100	85 - 115	1	20
Total Lead	0.511	mg/L	1	0.500	<0.00460	102	85 - 115	2	20
Total Selenium	0.462	mg/L	1	0.500	<0.0106	92	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54204  
 Prep Batch: 46313

Date Analyzed: 2008-11-13  
 QC Preparation: 2008-11-11

Analyzed By: TP  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	53.6	mg/L	1	50.0	<0.175	107	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	52.2	mg/L	1	50.0	<0.175	104	85 - 115	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.



Laboratory Control Spike (LCS-1)

QC Batch: 54206  
 Prep Batch: 46379

Date Analyzed: 2008-11-12  
 QC Preparation: 2008-11-10

Analyzed By: DS  
 Prepared By: DS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Phenol	0.0201	mg/L	1	0.0800	<0.00165	25	10 - 37.6
2-Chlorophenol	0.0465	mg/L	1	0.0800	<0.00150	58	27.4 - 88.1
1,4-Dichlorobenzene (para)	0.0422	mg/L	1	0.0800	<0.00156	53	22.2 - 85.4
N-Nitrosodi-n-propylamine	0.0572	mg/L	1	0.0800	<0.00127	72	15.8 - 119
1,2,4-Trichlorobenzene	0.0410	mg/L	1	0.0800	<0.00193	51	25 - 99.5
Naphthalene	0.0452	mg/L	1	0.0800	<0.00165	56	24.8 - 93.1
4-Chloro-3-methylphenol	0.0512	mg/L	1	0.0800	<0.00120	64	28.4 - 110
Acenaphthylene	0.0544	mg/L	1	0.0800	<0.00136	68	33.3 - 110
Acenaphthene	0.0523	mg/L	1	0.0800	<0.00132	65	31.5 - 107
4-Nitrophenol	0.0143	mg/L	1	0.0800	<0.00127	18	10 - 48.8
2,4-Dinitrotoluene	0.0473	mg/L	1	0.0800	<0.00139	59	27.8 - 126
Fluorene	0.0509	mg/L	1	0.0800	<0.00130	64	25.5 - 124
Pentachlorophenol	0.0210	mg/L	1	0.0800	<0.000632	26	10 - 119
Anthracene	0.0524	mg/L	1	0.0800	<0.00152	66	39.5 - 119
Phenanthrene	0.0550	mg/L	1	0.0800	<0.00144	69	41 - 119
Fluoranthene	0.0587	mg/L	1	0.0800	<0.00159	73	35.7 - 143
Pyrene	0.0561	mg/L	1	0.0800	<0.00135	70	35.8 - 132
Benzo(a)anthracene	0.0556	mg/L	1	0.0800	<0.00138	70	40.1 - 128
Chrysene	0.0564	mg/L	1	0.0800	<0.00146	70	40.5 - 128
Benzo(b)fluoranthene	0.0530	mg/L	1	0.0800	<0.00126	66	32 - 134
Benzo(k)fluoranthene	0.0586	mg/L	1	0.0800	<0.00149	73	43.5 - 131
Benzo(a)pyrene	0.0630	mg/L	1	0.0800	<0.00155	79	43.5 - 140
Indeno(1,2,3-cd)pyrene	0.0671	mg/L	1	0.0800	<0.00195	84	39.7 - 159
Dibenzo(a,h)anthracene	0.0668	mg/L	1	0.0800	<0.0210	84	39.2 - 154
Benzo(g,h,i)perylene	0.0684	mg/L	1	0.0800	<0.00207	86	38 - 157

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Phenol	0.0208	mg/L	1	0.0800	<0.00165	26	10 - 37.6	3	20
2-Chlorophenol	0.0475	mg/L	1	0.0800	<0.00150	59	27.4 - 88.1	2	20
1,4-Dichlorobenzene (para)	0.0435	mg/L	1	0.0800	<0.00156	54	22.2 - 85.4	3	20
N-Nitrosodi-n-propylamine	0.0594	mg/L	1	0.0800	<0.00127	74	15.8 - 119	4	20
1,2,4-Trichlorobenzene	0.0419	mg/L	1	0.0800	<0.00193	52	25 - 99.5	2	20
Naphthalene	0.0457	mg/L	1	0.0800	<0.00165	57	24.8 - 93.1	1	20
4-Chloro-3-methylphenol	0.0523	mg/L	1	0.0800	<0.00120	65	28.4 - 110	2	20
Acenaphthylene	0.0561	mg/L	1	0.0800	<0.00136	70	33.3 - 110	3	20
Acenaphthene	0.0540	mg/L	1	0.0800	<0.00132	68	31.5 - 107	3	20
4-Nitrophenol	0.0133	mg/L	1	0.0800	<0.00127	17	10 - 48.8	7	20

continued ...

control spikes continued ...

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit	RPD	RPD Limit
2,4-Dinitrotoluene	0.0488	mg/L	1	0.0800	<0.00139	61	27.8 - 126	3	20
Fluorene	0.0528	mg/L	1	0.0800	<0.00130	66	25.5 - 124	4	20
Pentachlorophenol	0.0212	mg/L	1	0.0800	<0.000632	26	10 - 119	1	20
Anthracene	0.0532	mg/L	1	0.0800	<0.00152	66	39.5 - 119	2	20
Phenanthrene	0.0548	mg/L	1	0.0800	<0.00144	68	41 - 119	0	20
Fluoranthene	0.0588	mg/L	1	0.0800	<0.00159	74	35.7 - 143	0	20
Pyrene	0.0579	mg/L	1	0.0800	<0.00135	72	35.8 - 132	3	20
Benzo(a)anthracene	0.0553	mg/L	1	0.0800	<0.00138	69	40.1 - 128	0	20
Chrysene	0.0576	mg/L	1	0.0800	<0.00146	72	40.5 - 128	2	20
Benzo(b)fluoranthene	0.0534	mg/L	1	0.0800	<0.00126	67	32 - 134	1	20
Benzo(k)fluoranthene	0.0576	mg/L	1	0.0800	<0.00149	72	43.5 - 131	2	20
Benzo(a)pyrene	0.0602	mg/L	1	0.0800	<0.00155	75	43.5 - 140	4	20
Indeno(1,2,3-cd)pyrene	0.0641	mg/L	1	0.0800	<0.00195	80	39.7 - 159	5	20
Dibenzo(a,h)anthracene	0.0630	mg/L	1	0.0800	<0.0210	79	39.2 - 154	6	20
Benzo(g,h,i)perylene	0.0643	mg/L	1	0.0800	<0.00207	80	38 - 157	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
2-Fluorophenol	0.0294	0.0302	mg/L	1	0.0800	37	38	10 - 62.8
Phenol-d5	0.0213	0.0222	mg/L	1	0.0800	27	28	10 - 41.3
Nitrobenzene-d5	0.0531	0.0534	mg/L	1	0.0800	66	67	25.4 - 115
2-Fluorobiphenyl	0.0521	0.0530	mg/L	1	0.0800	65	66	18.7 - 125
2,4,6-Tribromophenol	0.0467	0.0486	mg/L	1	0.0800	58	61	15.5 - 107
Terphenyl-d14	0.0570	0.0574	mg/L	1	0.0800	71	72	23.4 - 151

Laboratory Control Spike (LCS-1)

QC Batch: 54251  
 Prep Batch: 46409

Date Analyzed: 2008-11-14  
 QC Preparation: 2008-11-12

Analyzed By: RD  
 Prepared By: RD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	9	13.0	mg/L	1	12.5	<1.74	104

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12.1	mg/L	1	12.5	<1.74	97	90 - 110	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>9</sup>Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •



matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloroethane	38.1	µg/L	1	50.0	<0.656	76	65.1 - 140
Trichlorofluoromethane	36.8	µg/L	1	50.0	<0.538	74	76.7 - 146.9
Acetone	27.4	µg/L	1	50.0	<1.10	55	10 - 152.1
Iodomethane (methyl iodide)	38.6	µg/L	1	50.0	<0.214	77	81.3 - 123.9
Carbon Disulfide	46.3	µg/L	1	50.0	<0.294	93	81.4 - 123.5
Acrylonitrile	53.2	µg/L	1	50.0	<0.442	106	87.3 - 131.1
2-Butanone (MEK)	44.5	µg/L	1	50.0	<0.420	89	48.6 - 140.8
4-Methyl-2-pentanone (MIBK)	60.2	µg/L	1	50.0	<0.407	120	87.2 - 130.3
2-Hexanone	58.7	µg/L	1	50.0	<0.486	117	50.2 - 170.3
trans 1,4-Dichloro-2-butene	48.7	µg/L	1	50.0	<0.463	97	65.4 - 129.5
1,1-Dichloroethene	41.5	µg/L	1	50.0	<0.237	83	80.6 - 122.4
Methylene chloride	59.3	µg/L	1	50.0	13.5	92	69.3 - 120.8
MTBE	27.9	µg/L	1	50.0	<0.318	56	83.9 - 128.7
trans-1,2-Dichloroethene	45.5	µg/L	1	50.0	<0.217	91	79.1 - 122.8
1,1-Dichloroethane	44.7	µg/L	1	50.0	<0.202	89	79.1 - 123.4
cis-1,2-Dichloroethene	45.6	µg/L	1	50.0	<0.309	91	80.9 - 126.8
2,2-Dichloropropane	26.3	µg/L	1	50.0	<0.318	53	10 - 142.9
1,2-Dichloroethane (EDC)	46.6	µg/L	1	50.0	<0.292	93	77.4 - 130.1
Chloroform	43.6	µg/L	1	50.0	<0.234	87	78 - 126
1,1,1-Trichloroethane	39.0	µg/L	1	50.0	<0.257	78	68.6 - 133.4
1,1-Dichloropropene	42.3	µg/L	1	50.0	<0.286	85	77.3 - 127.8
Benzene	45.1	µg/L	1	50.0	<0.319	90	69.8 - 128.2
Carbon Tetrachloride	37.1	µg/L	1	50.0	<0.223	74	76.3 - 127.1
1,2-Dichloropropane	45.1	µg/L	1	50.0	<0.266	90	79.4 - 127.2
Trichloroethene (TCE)	38.6	µg/L	1	50.0	<0.235	77	79.4 - 121
Dibromomethane (methylene bromide)	46.1	µg/L	1	50.0	<0.341	92	82.6 - 123
Bromodichloromethane	45.5	µg/L	1	50.0	<0.291	91	76.1 - 136.4
2-Chloroethyl vinyl ether	<0.293	µg/L	1	50.0	<0.293	0	10 - 191.4
cis-1,3-Dichloropropene	38.9	µg/L	1	50.0	<0.207	78	69.2 - 132.4
trans-1,3-Dichloropropene	39.9	µg/L	1	50.0	<0.293	80	72.3 - 132.4
Toluene	42.0	µg/L	1	50.0	<0.268	84	76.4 - 120
1,1,2-Trichloroethane	46.1	µg/L	1	50.0	<0.329	92	82.3 - 120
1,3-Dichloropropane	47.2	µg/L	1	50.0	<0.316	94	75 - 126.2
Dibromochloromethane	39.4	µg/L	1	50.0	<0.290	79	71.2 - 143.9
1,2-Dibromoethane (EDB)	47.8	µg/L	1	50.0	<0.229	96	83.4 - 122.5
Tetrachloroethene (PCE)	20.4	µg/L	1	50.0	<0.233	41	23.6 - 138
Chlorobenzene	40.2	µg/L	1	50.0	<0.276	80	74 - 119.3
1,1,1,2-Tetrachloroethane	41.1	µg/L	1	50.0	<0.226	82	80 - 123
Ethylbenzene	40.8	µg/L	1	50.0	<0.245	82	72.3 - 127

continued ...

<sup>11</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>12</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>13</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>14</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>15</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>16</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued . . .

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
m,p-Xylene	80.1	µg/L	1	100	<0.517	80	73.2 - 128
Bromoform	17 38.8	µg/L	1	50.0	<0.175	78	90.2 - 127.8
Styrene	18 1.07	µg/L	1	50.0	<0.239	2	53.8 - 145.5
o-Xylene	40.5	µg/L	1	50.0	<0.247	81	71.3 - 134.4
1,1,2,2-Tetrachloroethane	55.0	µg/L	1	50.0	<0.223	110	67 - 144
2-Chlorotoluene	39.2	µg/L	1	50.0	<0.235	78	62.7 - 128.9
1,2,3-Trichloropropane	56.2	µg/L	1	50.0	<0.230	112	68.5 - 122.8
Isopropylbenzene	38.9	µg/L	1	50.0	<0.226	78	61.8 - 133.9
Bromobenzene	44.5	µg/L	1	50.0	<0.245	89	67.2 - 123.6
n-Propylbenzene	36.5	µg/L	1	50.0	<0.234	73	61.6 - 128.2
1,3,5-Trimethylbenzene	36.4	µg/L	1	50.0	<0.261	73	66.4 - 125.8
tert-Butylbenzene	34.5	µg/L	1	50.0	<0.281	69	59.8 - 133
1,2,4-Trimethylbenzene	19 38.5	µg/L	1	50.0	<0.285	77	78.2 - 119.1
1,4-Dichlorobenzene (para)	37.4	µg/L	1	50.0	<0.307	75	68 - 118.4
sec-Butylbenzene	34.5	µg/L	1	50.0	<0.312	69	60.6 - 129.5
1,3-Dichlorobenzene (meta)	38.0	µg/L	1	50.0	<0.284	76	69.1 - 122
p-Isopropyltoluene	34.7	µg/L	1	50.0	<0.244	69	60.5 - 132
4-Chlorotoluene	40.0	µg/L	1	50.0	<0.257	80	65.3 - 127.7
1,2-Dichlorobenzene (ortho)	39.7	µg/L	1	50.0	<0.294	79	71.8 - 124.8
n-Butylbenzene	35.3	µg/L	1	50.0	<0.339	71	56.6 - 133.8
1,2-Dibromo-3-chloropropane	54.7	µg/L	1	50.0	<0.780	109	85.4 - 112.2
1,2,3-Trichlorobenzene	35.4	µg/L	1	50.0	<0.736	71	10 - 166.2
1,2,4-Trichlorobenzene	28.4	µg/L	1	50.0	<0.432	57	54.8 - 122.2
Naphthalene	45.6	µg/L	1	50.0	<0.475	91	24 - 169
Hexachlorobutadiene	33.3	µg/L	1	50.0	<1.02	67	35.6 - 136.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane	52.1	µg/L	1	50.0	<0.197	104	84.8 - 121.5	14	20
Dichlorodifluoromethane	20 49.6	µg/L	1	50.0	<0.672	99	57.4 - 145.5	25	20
Chloromethane (methyl chloride)	57.5	µg/L	1	50.0	<0.542	115	73.9 - 126	16	20
Vinyl Chloride	51.0	µg/L	1	50.0	<0.516	102	71 - 130.3	17	20
Bromomethane (methyl bromide)	38.8	µg/L	1	50.0	<0.446	78	64.4 - 138.5	12	20
Chloroethane	43.8	µg/L	1	50.0	<0.656	88	65.1 - 140	14	20
Trichlorofluoromethane	21 55.1	µg/L	1	50.0	<0.538	110	76.7 - 146.9	40	20
Acetone	22 37.2	µg/L	1	50.0	<1.10	74	10 - 152.1	30	20
Iodomethane (methyl iodide)	46.6	µg/L	1	50.0	<0.214	93	81.3 - 123.9	19	20
Carbon Disulfide	51.0	µg/L	1	50.0	<0.294	102	81.4 - 123.5	10	20

continued . . .

<sup>17</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>18</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>19</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>20</sup> MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>21</sup> MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>22</sup> MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

*matrix spikes continued ...*

Param	MSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	
	Result	Units						RPD	Limit
Acrylonitrile	61.6	µg/L	1	50.0	<0.442	123	87.3 - 131.1	15	20
2-Butanone (MEK)	54.4	µg/L	1	50.0	<0.420	109	48.6 - 140.8	20	20
4-Methyl-2-pentanone (MIBK)	69.2	µg/L	1	50.0	<0.407	138	87.2 - 130.3	14	20
2-Hexanone	70.8	µg/L	1	50.0	<0.486	142	50.2 - 170.3	19	20
trans 1,4-Dichloro-2-butene	60.6	µg/L	1	50.0	<0.463	121	65.4 - 129.5	22	20
1,1-Dichloroethene	46.3	µg/L	1	50.0	<0.237	93	80.6 - 122.4	11	20
Methylene chloride	66.7	µg/L	1	50.0	13.5	106	69.3 - 120.8	12	20
MTBE	32.7	µg/L	1	50.0	<0.318	65	83.9 - 128.7	16	20
trans-1,2-Dichloroethene	51.5	µg/L	1	50.0	<0.217	103	79.1 - 122.8	12	20
1,1-Dichloroethane	52.0	µg/L	1	50.0	<0.202	104	79.1 - 123.4	15	20
cis-1,2-Dichloroethene	53.0	µg/L	1	50.0	<0.309	106	80.9 - 126.8	15	20
2,2-Dichloropropane	29.6	µg/L	1	50.0	<0.318	59	10 - 142.9	12	20
1,2-Dichloroethane (EDC)	53.9	µg/L	1	50.0	<0.292	108	77.4 - 130.1	14	20
Chloroform	50.8	µg/L	1	50.0	<0.234	102	78 - 126	15	20
1,1,1-Trichloroethane	46.2	µg/L	1	50.0	<0.257	92	68.6 - 133.4	17	20
1,1-Dichloropropene	49.8	µg/L	1	50.0	<0.286	100	77.3 - 127.8	16	20
Benzene	52.3	µg/L	1	50.0	<0.319	105	69.8 - 128.2	15	20
Carbon Tetrachloride	44.1	µg/L	1	50.0	<0.223	88	76.3 - 127.1	17	20
1,2-Dichloropropane	53.5	µg/L	1	50.0	<0.266	107	79.4 - 127.2	17	20
Trichloroethene (TCE)	46.7	µg/L	1	50.0	<0.235	93	79.4 - 121	19	20
Dibromomethane (methylene bromide)	54.7	µg/L	1	50.0	<0.341	109	82.6 - 123	17	20
Bromodichloromethane	53.9	µg/L	1	50.0	<0.291	108	76.1 - 136.4	17	20
2-Chloroethyl vinyl ether	<0.293	µg/L	1	50.0	<0.293	0	10 - 191.4	0	20
cis-1,3-Dichloropropene	46.6	µg/L	1	50.0	<0.207	93	69.2 - 132.4	18	20
trans-1,3-Dichloropropene	47.6	µg/L	1	50.0	<0.293	95	72.3 - 132.4	18	20
Toluene	50.3	µg/L	1	50.0	<0.268	101	76.4 - 120	18	20
1,1,2-Trichloroethane	54.4	µg/L	1	50.0	<0.329	109	82.3 - 120	16	20
1,3-Dichloropropane	55.1	µg/L	1	50.0	<0.316	110	75 - 126.2	15	20
Dibromochloromethane	47.4	µg/L	1	50.0	<0.290	95	71.2 - 143.9	18	20
1,2-Dibromoethane (EDB)	56.2	µg/L	1	50.0	<0.229	112	83.4 - 122.5	16	20
Tetrachloroethene (PCE)	24.4	µg/L	1	50.0	<0.233	49	23.6 - 138	18	20
Chlorobenzene	47.9	µg/L	1	50.0	<0.276	96	74 - 119.3	18	20
1,1,1,2-Tetrachloroethane	49.6	µg/L	1	50.0	<0.226	99	80 - 123	19	20
Ethylbenzene	48.9	µg/L	1	50.0	<0.245	98	72.3 - 127	18	20
m,p-Xylene	96.0	µg/L	1	100	<0.517	96	73.2 - 128	18	20
Bromoform	46.8	µg/L	1	50.0	<0.175	94	90.2 - 127.8	19	20
Styrene	1.26	µg/L	1	50.0	<0.239	2	53.8 - 145.5	16	20

*continued ...*

<sup>23</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

<sup>24</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>25</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. RPD within RPD limits.

<sup>26</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. RPD within RPD limits.

<sup>27</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. RPD within RPD limits.

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
o-Xylene	49.0	µg/L	1	50.0	<0.247	98	71.3 - 134.4	19	20
1,1,2,2-Tetrachloroethane	66.8	µg/L	1	50.0	<0.223	134	67 - 144	19	20
2-Chlorotoluene	46.6	µg/L	1	50.0	<0.235	93	62.7 - 128.9	17	20
1,2,3-Trichloropropane	28 67.6	µg/L	1	50.0	<0.230	135	68.5 - 122.8	18	20
Isopropylbenzene	46.9	µg/L	1	50.0	<0.226	94	61.8 - 133.9	19	20
Bromobenzene	53.9	µg/L	1	50.0	<0.245	108	67.2 - 123.6	19	20
n-Propylbenzene	43.4	µg/L	1	50.0	<0.234	87	61.6 - 128.2	17	20
1,3,5-Trimethylbenzene	44.0	µg/L	1	50.0	<0.261	88	66.4 - 125.8	19	20
tert-Butylbenzene	29 42.3	µg/L	1	50.0	<0.281	85	59.8 - 133	20	20
1,2,4-Trimethylbenzene	45.9	µg/L	1	50.0	<0.285	92	78.2 - 119.1	18	20
1,4-Dichlorobenzene (para)	44.9	µg/L	1	50.0	<0.307	90	68 - 118.4	18	20
sec-Butylbenzene	42.1	µg/L	1	50.0	<0.312	84	60.6 - 129.5	20	20
1,3-Dichlorobenzene (meta)	45.6	µg/L	1	50.0	<0.284	91	69.1 - 122	18	20
p-Isopropyltoluene	42.1	µg/L	1	50.0	<0.244	84	60.5 - 132	19	20
4-Chlorotoluene	47.8	µg/L	1	50.0	<0.257	96	65.3 - 127.7	18	20
1,2-Dichlorobenzene (ortho)	48.4	µg/L	1	50.0	<0.294	97	71.8 - 124.8	20	20
n-Butylbenzene	42.9	µg/L	1	50.0	<0.339	86	56.6 - 133.8	19	20
1,2-Dibromo-3-chloropropane	30 67.0	µg/L	1	50.0	<0.780	134	85.4 - 112.2	20	20
1,2,3-Trichlorobenzene	31 46.1	µg/L	1	50.0	<0.736	92	10 - 166.2	26	20
1,2,4-Trichlorobenzene	32 36.4	µg/L	1	50.0	<0.432	73	54.8 - 122.2	25	20
Naphthalene	33 58.4	µg/L	1	50.0	<0.475	117	24 - 169	25	20
Hexachlorobutadiene	34 42.3	µg/L	1	50.0	<1.02	85	35.6 - 136.3	24	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Dibromofluoromethane	54.1	53.3	µg/L	1	50	108	107	83.9 - 120
Toluene-d8	50.0	49.8	µg/L	1	50	100	100	86.8 - 111
4-Bromofluorobenzene (4-BFB)	47.9	47.9	µg/L	1	50	96	96	82.2 - 117

Matrix Spike (MS-1) Spiked Sample: 178800

QC Batch: 54162  
 Prep Batch: 46332

Date Analyzed: 2008-11-11  
 QC Preparation: 2008-11-11

Analyzed By: TP  
 Prepared By: TP

<sup>28</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

<sup>29</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>30</sup>MSD analyte out of range. RPD outside RPD limits.

<sup>31</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>32</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>33</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>34</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	<sup>35</sup> 0.000715	mg/L	1	0.00100	<0.0000251	72	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.000748	mg/L	1	0.00100	<0.0000251	75	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178087**

QC Batch: 54203      Date Analyzed: 2008-11-13      Analyzed By: RR  
 Prep Batch: 46344      QC Preparation: 2008-11-12      Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silica	1.02	mg/L	1	1.00	<0.0186	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silica	1.03	mg/L	1	1.00	<0.0186	103	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178087**

QC Batch: 54203      Date Analyzed: 2008-11-13      Analyzed By: RR  
 Prep Batch: 46344      QC Preparation: 2008-11-12      Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.121	mg/L	1	0.125	<0.000700	97	75 - 125
Total Arsenic	0.501	mg/L	1	0.500	<0.00850	100	75 - 125
Total Barium	1.07	mg/L	1	1.00	<0.00180	107	75 - 125
Total Cadmium	0.251	mg/L	1	0.250	<0.00110	100	75 - 125
Total Chromium	0.0960	mg/L	1	0.100	<0.00201	96	75 - 125
Total Lead	0.493	mg/L	1	0.500	<0.00460	99	75 - 125
Total Selenium	0.466	mg/L	1	0.500	<0.0106	93	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>35</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.120	mg/L	1	0.125	<0.000700	96	75 - 125	1	20
Total Arsenic	0.502	mg/L	1	0.500	<0.00850	100	75 - 125	0	20
Total Barium	1.05	mg/L	1	1.00	<0.00180	105	75 - 125	2	20
Total Cadmium	0.250	mg/L	1	0.250	<0.00110	100	75 - 125	0	20
Total Chromium	0.0950	mg/L	1	0.100	<0.00201	95	75 - 125	1	20
Total Lead	0.492	mg/L	1	0.500	<0.00460	98	75 - 125	0	20
Total Selenium	0.466	mg/L	1	0.500	<0.0106	93	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
 Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	262	mg/L	1	50.0	211	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	261	mg/L	1	50.0	211	100	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Matrix Spike (xMS-1) Spiked Sample:

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
 Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Potassium	55.5	mg/L	1	50.0	5.53	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Potassium	56.2	mg/L	1	50.0	5.53	101	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.



standard continued . . .

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Acetone		µg/L	50.0	52.0	104	70 - 130	2008-11-10
Iodomethane (methyl iodide)		µg/L	50.0	49.3	99	70 - 130	2008-11-10
Carbon Disulfide		µg/L	50.0	52.4	105	70 - 130	2008-11-10
Acrylonitrile		µg/L	50.0	53.3	107	70 - 130	2008-11-10
2-Butanone (MEK)		µg/L	50.0	55.4	111	70 - 130	2008-11-10
4-Methyl-2-pentanone (MIBK)		µg/L	50.0	44.8	90	70 - 130	2008-11-10
2-Hexanone		µg/L	50.0	50.0	100	70 - 130	2008-11-10
trans 1,4-Dichloro-2-butene		µg/L	50.0	57.0	114	70 - 130	2008-11-10
1,1-Dichloroethene		µg/L	50.0	49.3	99	80 - 120	2008-11-10
Methylene chloride		µg/L	50.0	52.7	105	70 - 130	2008-11-10
MTBE		µg/L	50.0	48.6	97	70 - 130	2008-11-10
trans-1,2-Dichloroethene		µg/L	50.0	52.8	106	70 - 130	2008-11-10
1,1-Dichloroethane		µg/L	50.0	52.9	106	70 - 130	2008-11-10
cis-1,2-Dichloroethene		µg/L	50.0	52.8	106	70 - 130	2008-11-10
2,2-Dichloropropane		µg/L	50.0	51.6	103	70 - 130	2008-11-10
1,2-Dichloroethane (EDC)		µg/L	50.0	51.0	102	70 - 130	2008-11-10
Chloroform		µg/L	50.0	51.0	102	80 - 120	2008-11-10
1,1,1-Trichloroethane		µg/L	50.0	49.3	99	70 - 130	2008-11-10
1,1-Dichloropropene		µg/L	50.0	51.0	102	70 - 130	2008-11-10
Benzene		µg/L	50.0	51.4	103	70 - 130	2008-11-10
Carbon Tetrachloride		µg/L	50.0	46.3	93	70 - 130	2008-11-10
1,2-Dichloropropane		µg/L	50.0	52.4	105	80 - 120	2008-11-10
Trichloroethene (TCE)		µg/L	50.0	46.3	93	70 - 130	2008-11-10
Dibromomethane (methylene bromide)		µg/L	50.0	49.7	99	70 - 130	2008-11-10
Bromodichloromethane		µg/L	50.0	52.1	104	70 - 130	2008-11-10
2-Chloroethyl vinyl ether		µg/L	50.0	39.0	78	70 - 130	2008-11-10
cis-1,3-Dichloropropene		µg/L	50.0	48.5	97	70 - 130	2008-11-10
trans-1,3-Dichloropropene		µg/L	50.0	48.4	97	70 - 130	2008-11-10
Toluene		µg/L	50.0	50.3	101	80 - 120	2008-11-10
1,1,2-Trichloroethane		µg/L	50.0	49.4	99	70 - 130	2008-11-10
1,3-Dichloropropane		µg/L	50.0	50.1	100	70 - 130	2008-11-10
Dibromochloromethane		µg/L	50.0	44.0	88	70 - 130	2008-11-10
1,2-Dibromoethane (EDB)		µg/L	50.0	49.4	99	70 - 130	2008-11-10
Tetrachloroethene (PCE)	36	µg/L	50.0	34.0	68	70 - 130	2008-11-10
Chlorobenzene		µg/L	50.0	47.4	95	80 - 120	2008-11-10
1,1,1,2-Tetrachloroethane		µg/L	50.0	47.9	96	70 - 130	2008-11-10
Ethylbenzene		µg/L	50.0	50.8	102	80 - 120	2008-11-10
m,p-Xylene		µg/L	100	101	101	70 - 130	2008-11-10
Bromoform		µg/L	50.0	42.1	84	70 - 130	2008-11-10
Styrene		µg/L	50.0	46.4	93	70 - 130	2008-11-10
o-Xylene		µg/L	50.0	52.1	104	70 - 130	2008-11-10

continued . . .

<sup>36</sup>Tetrachloroethene outside of control limits on CCV(ICV). CCV(ICV) component average is 99 which is within acceptable range. This is acceptable by Method 8000.

standard continued . . .

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1,1,2,2-Tetrachloroethane		µg/L	50.0	53.0	106	70 - 130	2008-11-10
2-Chlorotoluene		µg/L	50.0	47.8	96	70 - 130	2008-11-10
1,2,3-Trichloropropane		µg/L	50.0	52.2	104	70 - 130	2008-11-10
Isopropylbenzene		µg/L	50.0	49.7	99	70 - 130	2008-11-10
Bromobenzene		µg/L	50.0	49.4	99	70 - 130	2008-11-10
n-Propylbenzene		µg/L	50.0	47.5	95	70 - 130	2008-11-10
1,3,5-Trimethylbenzene		µg/L	50.0	48.7	97	70 - 130	2008-11-10
tert-Butylbenzene		µg/L	50.0	47.5	95	70 - 130	2008-11-10
1,2,4-Trimethylbenzene		µg/L	50.0	50.0	100	70 - 130	2008-11-10
1,4-Dichlorobenzene (para)		µg/L	50.0	46.3	93	70 - 130	2008-11-10
sec-Butylbenzene		µg/L	50.0	47.9	96	70 - 130	2008-11-10
1,3-Dichlorobenzene (meta)		µg/L	50.0	47.3	95	70 - 130	2008-11-10
p-Isopropyltoluene		µg/L	50.0	49.0	98	70 - 130	2008-11-10
4-Chlorotoluene		µg/L	50.0	48.6	97	70 - 130	2008-11-10
1,2-Dichlorobenzene (ortho)		µg/L	50.0	48.2	96	70 - 130	2008-11-10
n-Butylbenzene		µg/L	50.0	50.6	101	70 - 130	2008-11-10
1,2-Dibromo-3-chloropropane		µg/L	50.0	41.1	82	70 - 130	2008-11-10
1,2,3-Trichlorobenzene		µg/L	50.0	41.8	84	70 - 130	2008-11-10
1,2,4-Trichlorobenzene		µg/L	50.0	36.7	73	70 - 130	2008-11-10
Naphthalene		µg/L	50.0	39.0	78	70 - 130	2008-11-10
Hexachlorobutadiene		µg/L	50.0	45.0	90	70 - 130	2008-11-10

Standard (ICV-1)

QC Batch: 54146

Date Analyzed: 2008-11-10

Analyzed By: RG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity		mg/L as CaCo3	250	238	95	95 - 105	2008-11-10

Standard (CCV-1)

QC Batch: 54146

Date Analyzed: 2008-11-10

Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity		mg/L as CaCo3	250	242	97	95 - 105	2008-11-10













Report Date: November 14, 2008  
NMSWD Station #11

Work Order: 8110902  
GW Sampling

Page Number: 71 of 71  
NM-SWD Station #11, Lea Co., NM

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	12.2	98	90 - 110	2008-11-14

Standard (CCV-1)

QC Batch: 54251

Date Analyzed: 2008-11-14

Analyzed By: RD

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Sulfate		mg/L	12.5	12.4	99	90 - 110	2008-11-14

Standard (ICV-1)

QC Batch: 54283

Date Analyzed: 2008-11-14

Analyzed By: RG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.16	102	98 - 102	2008-11-14

Standard (CCV-1)

QC Batch: 54283

Date Analyzed: 2008-11-14

Analyzed By: RG

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7.00	7.12	102	98 - 102	2008-11-14

81109102

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Company Name: New Mexico Salt Water Disposal Co. Phone #: 575-622-8800  
Address: (Street, City, Zip) PO Box 1213 Roswell, NM 88202-1213 Fax #: 575-622-8805  
Contact Person: Rory McMin E-mail: Rory.mcmin@dnr.com

Invoice to: PO Box 1518 Roswell, NM 88202-1518  
Project #: NMSWD Station #11 Project Name: GW Sampling  
Project Location (including state): NM-SWD Station #11, Lea Co. N.M. Sampler Signature: [Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX			PRESERVATIVE METHOD					SAMPLING			
				WATER	SOIL	AIR	SLUDGE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	ICE	NONE	DATE	TIME
179801	Station #11	6	-	X				X	X	X	X	X	X	11/06/08	1144
802	NMSWD Station #11 MW-3	6	-	X				X	X	X	X	X	X	11/06/08	1255
803	NMSWD Station #11 MW-2	6	-	X				X	X	X	X	X	X	11/06/08	1345
804	NMSWD Station #11 RW-7	6	-	X				X	X	X	X	X	X	11/06/08	1415
	Temp Blank														

Relinquished by: [Signature] Company: CMS Date: 11/07/08 Time: 0800 Temp °C: 5.9  
 Relinquished by: [Signature] Company: TA Date: 11-5-08 Time: 9:30 Temp °C: 5.9  
 Relinquished by: [Signature] Company: TA Date: 11-5-08 Time: 9:30 Temp °C: 5.9

## ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B / 602 / 8260B / 624	X
BTEX 8021B / 602 / 8260B / 624	X
TPH 418.1 / TX1005 / TX1005 EKC(C35)	X
TPH 8015 GRO / DRO / TVHC	X
PAH 8270C / 625	X
Total Metals Ag As Ba Cd Cr Pb Se Hg 10B/200.7	X
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	X
TCLP Volatiles	X
TCLP Semi Volatiles	X
TCLP Pesticides	X
RCI	X
GC/MS Vol. 8260B / 624	X
GC/MS Semi. Vol. 8270C / 625	X
PCBs 8082 / 608	X
Pesticides 8081A / 608	X
BOD 5 @ 20°C	X
Moisture Content	X

LAB USE ONLY  
 Inact  N  
 Headspace  N/A  
 Log-in/Review 2/7/NA

REMARKS: Sample Bottles?  
3x 40ml VON's w/ HCL  
1x 50ml IP/HNO<sub>3</sub>, 1x 12/6/NOR  
 Dry Weight Basis Required  
 TRAP Report Required  
 Check If Special Reporting Limits Are Needed

Carrier # FedEx 8625260696 / GAL

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C. O. C.



# TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

## Certifications

WBENC: 237019 HUB: 1752439743100-86536 DBE: VN 20657  
NCTRCA WFWB38444Y0909

## NELAP Certifications

Lubbock: T104704219-08-TX El Paso: T104704221-08-TX Midland: T104704392-08-TX  
LELAP-02003 LELAP-02002  
Kansas E-10317

## Analytical and Quality Control Report

Rory McMinn  
New Mexico Salt Water Disposal Co.

Report Date: November 21, 2008

P. O. Box 1213  
Roswell, NM, 88202

Work Order: 8110902



Project Location: NM-SWD Station #11, Lea Co., NM  
Project Name: GW Sampling  
Project Number: NMSWD Station #11

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
178801	NMSWD Station #11 MW-3	water	2008-11-06	11:41	2008-11-08
178802	NMSWD Station #11 MW-1	water	2008-11-06	12:55	2008-11-08
178803	NMSWD Station #11 MW-2	water	2008-11-06	13:45	2008-11-08
178804	NMSWD Station #11 RW-1	water	2008-11-06	14:15	2008-11-08

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 94 pages and shall not be reproduced except in its entirety, without written approval of

TraceAnalysis, Inc.



---

Dr. Blair Leftwich, Director

**Standard Flags**

B - The sample contains less than ten times the concentration found in the method blank.

## Case Narrative

Samples for project GW Sampling were received by TraceAnalysis, Inc. on 2008-11-08 and assigned to work order 8110902. Samples for work order 8110902 were received intact without headspace and at a temperature of 5.9 deg. C.

Samples were analyzed for the following tests using their respective methods.

Test	Method
Ag, Dissolved	E 200.7
Ag, Total	E 200.7
Alkalinity	SM 2320B
As, Dissolved	E 200.7
As, Total	E 200.7
Ba, Dissolved	E 200.7
Ba, Total	E 200.7
Ca, Dissolved	E 200.7
Cd, Dissolved	E 200.7
Cd, Total	E 200.7
Chloride (IC)	E 300.0
Conductivity	E 120.1
Cr, Dissolved	E 200.7
Cr, Total	E 200.7
Hg, Dissolved	S 7470A
Hg, Total	E 245.2
K, Dissolved	E 200.7
Mg, Dissolved	E 200.7
Na, Dissolved	E 200.7
Pb, Dissolved	E 200.7
Pb, Total	E 200.7
pH	SM 4500-H+
Se, Dissolved	E 200.7
Semivolatiles	E 625
Se, Total	E 200.7
Si, Dissolved	E 200.7
Si, Total	E 200.7
SO4 (IC)	E 300.0
TDS	SM 2540C
TSS	SM 2540D
Volatiles	E 624

Results for these samples are reported on a wet weight basis unless data package indicates otherwise.

A matrix spike (MS) and matrix spike duplicate (MSD) sample is chosen at random from each preparation batch. The MS and MSD will indicate if a site specific matrix problem is occurring, however, it may not pertain to the samples for work order 8110902 since the sample was chosen at random. Therefore, the validity of the analytical data reported has been determined by the laboratory control sample (LCS) and the method blank (MB). These quality control measures are performed with each preparation batch to ensure data integrity.

All other exceptions associated with this report have been footnoted on the appropriate analytical page to assist in general data comprehension. Please contact the laboratory directly if there are any questions regarding this project.

## Analytical Report

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Ag, Dissolved      Analytical Method: E 200.7      Prep Method: S 3005A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silver		<0.00500	mg/L	1	0.00500

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Alkalinity      Analytical Method: SM 2320B      Prep Method: N/A  
QC Batch: 54146      Date Analyzed: 2008-11-10      Analyzed By: RG  
Prep Batch: 46320      Sample Preparation: 2008-11-10      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		218	mg/L as CaCo3	1	4.00
Total Alkalinity		218	mg/L as CaCo3	1	4.00

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: As, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Arsenic		<0.00500	mg/L	1	0.00500

### Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Ba, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Report Date: November 21, 2008  
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Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Barium		0.0220	mg/L	1	0.0100

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Ca, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		65.3	mg/L	1	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Cd, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Cadmium		<0.00100	mg/L	1	0.00100

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 54171      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46350      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		234	mg/L	50	3.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Conductivity      Analytical Method: E 120.1      Prep Method: N/A  
QC Batch: 54245      Date Analyzed: 2008-11-14      Analyzed By: RD  
Prep Batch: 46408      Sample Preparation: 2008-11-11      Prepared By: RD

Report Date: November 21, 2008  
NMSWD Station #11

Work Order: 8110902  
GW Sampling

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NM-SWD Station #11, Lea Co., NM

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1530	uMHOS/cm	1	0.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Cr, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Chromium		0.0150	mg/L	1	0.00100

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Hg, Dissolved      Analytical Method: S 7470A      Prep Method: N/A  
QC Batch: 54436      Date Analyzed: 2008-11-19      Analyzed By: TP  
Prep Batch: 46545      Sample Preparation: 2008-11-19      Prepared By: TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Mercury		0.000585	mg/L	1	0.000200

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: K, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		10.6	mg/L	1	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
Analysis: Mg, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Report Date: November 21, 2008  
NMSWD Station #11

Work Order: 8110902  
GW Sampling

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NM-SWD Station #11, Lea Co., NM

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		13.3	mg/L	1	1.00

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock  
Analysis: Na, Dissolved      Analytical Method: E 200.7      Prep Method: S 3005A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		332	mg/L	5	1.00

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock  
Analysis: Pb, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Lead		<0.00500	mg/L	1	0.00500

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock  
Analysis: pH      Analytical Method: SM 4500-H+      Prep Method: N/A  
QC Batch: 54283      Date Analyzed: 2008-11-14      Analyzed By: RG  
Prep Batch: 46439      Sample Preparation: 2008-11-14      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.91	s.u.	1	0.00

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock  
Analysis: Se, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Selenium		<0.0100	mg/L	1	0.0100

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock  
 Analysis: Semivolatiles      Analytical Method: E 625      Prep Method: N/A  
 QC Batch: 54206      Date Analyzed: 2008-11-12      Analyzed By: DS  
 Prep Batch: 46379      Sample Preparation: 2008-11-10      Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00458	mg/L	0.917	0.00500
N-Nitrosodimethylamine		<0.00458	mg/L	0.917	0.00500
2-Picoline		<0.00458	mg/L	0.917	0.00500
Methyl methanesulfonate		<0.00458	mg/L	0.917	0.00500
Ethyl methanesulfonate		<0.00458	mg/L	0.917	0.00500
Phenol		<0.00458	mg/L	0.917	0.00500
Aniline		<0.00458	mg/L	0.917	0.00500
bis(2-chloroethyl)ether		<0.00458	mg/L	0.917	0.00500
2-Chlorophenol		<0.00458	mg/L	0.917	0.00500
1,3-Dichlorobenzene (meta)		<0.00458	mg/L	0.917	0.00500
1,4-Dichlorobenzene (para)		<0.00458	mg/L	0.917	0.00500
Benzyl alcohol		<0.00458	mg/L	0.917	0.00500
1,2-Dichlorobenzene (ortho)		<0.00458	ug/L	0.917	0.00500
2-Methylphenol		<0.00458	mg/L	0.917	0.00500
bis(2-chloroisopropyl)ether		<0.00458	mg/L	0.917	0.00500
4-Methylphenol / 3-Methylphenol		<0.00458	mg/L	0.917	0.00500
N-Nitrosodi-n-propylamine		<0.00458	mg/L	0.917	0.00500
Hexachloroethane		<0.00458	mg/L	0.917	0.00500
Acetophenone		<0.00458	mg/L	0.917	0.00500
Nitrobenzene		<0.00458	mg/L	0.917	0.00500
N-Nitrosopiperidine		<0.00458	mg/L	0.917	0.00500
Isophorone		<0.00458	mg/L	0.917	0.00500
2-Nitrophenol		<0.00458	mg/L	0.917	0.00500
2,4-Dimethylphenol		<0.00458	mg/L	0.917	0.00500
bis(2-chloroethoxy)methane		<0.00458	mg/L	0.917	0.00500
2,4-Dichlorophenol		<0.00458	mg/L	0.917	0.00500
1,2,4-Trichlorobenzene		<0.00458	mg/L	0.917	0.00500
Benzoic acid		<0.00458	mg/L	0.917	0.00500
Naphthalene		<0.00458	mg/L	0.917	0.00500
a,a-Dimethylphenethylamine		<0.00458	mg/L	0.917	0.00500
4-Chloroaniline		<0.00458	mg/L	0.917	0.00500
2,6-Dichlorophenol		<0.00917	mg/L	0.917	0.0100
Hexachlorobutadiene		<0.00458	mg/L	0.917	0.00500

*continued . . .*

sample 178801 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
N-Nitroso-di-n-butylamine		<0.00458	mg/L	0.917	0.00500
4-Chloro-3-methylphenol		<0.00458	mg/L	0.917	0.00500
2-Methylnaphthalene		<0.00458	mg/L	0.917	0.00500
1-Methylnaphthalene		<0.00458	mg/L	0.917	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00458	mg/L	0.917	0.00500
Hexachlorocyclopentadiene		<0.00458	mg/L	0.917	0.00500
2,4,6-Trichlorophenol		<0.00917	mg/L	0.917	0.0100
2,4,5-Trichlorophenol		<0.00458	mg/L	0.917	0.00500
2-Chloronaphthalene		<0.00458	mg/L	0.917	0.00500
1-Chloronaphthalene		<0.00458	mg/L	0.917	0.00500
2-Nitroaniline		<0.00458	mg/L	0.917	0.00500
Dimethylphthalate		<0.00458	mg/L	0.917	0.00500
Acenaphthylene		<0.00458	mg/L	0.917	0.00500
2,6-Dinitrotoluene		<0.00458	mg/L	0.917	0.00500
3-Nitroaniline		<0.00458	mg/L	0.917	0.00500
Acenaphthene		<0.00458	mg/L	0.917	0.00500
2,4-Dinitrophenol		<0.00458	mg/L	0.917	0.00500
Dibenzofuran		<0.00458	mg/L	0.917	0.00500
Pentachlorobenzene		<0.00458	mg/L	0.917	0.00500
4-Nitrophenol		<0.0229	mg/L	0.917	0.0250
2,4-Dinitrotoluene		<0.00458	mg/L	0.917	0.00500
1-Naphthylamine		<0.00458	mg/L	0.917	0.00500
2,3,4,6-Tetrachlorophenol		<0.00917	mg/L	0.917	0.0100
2-Naphthylamine		<0.00458	mg/L	0.917	0.00500
Fluorene		<0.00458	mg/L	0.917	0.00500
4-Chlorophenyl-phenylether		<0.00458	mg/L	0.917	0.00500
Diethylphthalate		<0.00458	mg/L	0.917	0.00500
4-Nitroaniline		<0.00458	mg/L	0.917	0.00500
Diphenylhydrazine		<0.00458	mg/L	0.917	0.00500
4,6-Dinitro-2-methylphenol		<0.00458	mg/L	0.917	0.00500
Diphenylamine		<0.00458	mg/L	0.917	0.00500
4-Bromophenyl-phenylether		<0.00458	mg/L	0.917	0.00500
Phenacetin		<0.00458	mg/L	0.917	0.00500
Hexachlorobenzene		<0.00458	mg/L	0.917	0.00500
4-Aminobiphenyl		<0.00458	mg/L	0.917	0.00500
Pentachlorophenol		<0.00917	mg/L	0.917	0.0100
Anthracene		<0.00458	mg/L	0.917	0.00500
Pentachloronitrobenzene		<0.00458	mg/L	0.917	0.00500
Pronamide		<0.00458	mg/L	0.917	0.00500
Phenanthrene		<0.00458	mg/L	0.917	0.00500
Di-n-butylphthalate		<0.00458	mg/L	0.917	0.00500
Fluoranthene		<0.00458	mg/L	0.917	0.00500
Benzidine		<0.0229	mg/L	0.917	0.0250

continued ...

sample 178801 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL
Pyrene		<0.00458	mg/L	0.917	0.00500
p-Dimethylaminoazobenzene		<0.00458	mg/L	0.917	0.00500
Butylbenzylphthalate		<0.00458	mg/L	0.917	0.00500
Benzo(a)anthracene		<0.00458	mg/L	0.917	0.00500
3,3-Dichlorobenzidine		<0.00458	mg/L	0.917	0.00500
Chrysene		<0.00458	mg/L	0.917	0.00500
bis(2-ethylhexyl)phthalate		<0.00458	mg/L	0.917	0.00500
Di-n-octylphthalate		<0.00458	mg/L	0.917	0.00500
Benzo(b)fluoranthene		<0.00458	mg/L	0.917	0.00500
Benzo(k)fluoranthene		<0.00458	mg/L	0.917	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00458	mg/L	0.917	0.00500
Benzo(a)pyrene		<0.00458	mg/L	0.917	0.00500
3-Methylcholanthrene		<0.00458	mg/L	0.917	0.00500
Dibenzo(a,j)acridine		<0.00458	mg/L	0.917	0.00500
Indeno(1,2,3-cd)pyrene		<0.00458	mg/L	0.917	0.00500
Dibenzo(a,h)anthracene		<0.00458	mg/L	0.917	0.00500
Benzo(g,h,i)perylene		<0.00458	mg/L	0.917	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0161	mg/L	0.917	0.0800	20	10 - 62.8
Phenol-d5		0.0125	mg/L	0.917	0.0800	16	10 - 41.3
Nitrobenzene-d5		0.0436	mg/L	0.917	0.0800	54	25.4 - 115
2-Fluorobiphenyl		0.0442	mg/L	0.917	0.0800	55	18.7 - 125
2,4,6-Tribromophenol		0.0409	mg/L	0.917	0.0800	51	15.5 - 107
Terphenyl-d14		0.0616	mg/L	0.917	0.0800	77	23.4 - 151

**Sample: 178801 - NMSWD Station #11 MW-3**

Laboratory: Lubbock  
 Analysis: Si, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silica		16.8	mg/L	1	0.0500



Parameter	Flag	RL	Units	Dilution	RL
		Result			
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<0.0100	mg/L	1	0.0100
Total Barium		<b>0.0630</b>	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200
Total Chromium		<b>0.0160</b>	mg/L	1	0.00500
Total Mercury		<0.000200	mg/L	1	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
 Analysis: TSS Analytical Method: SM 2540D Prep Method: N/A  
 QC Batch: 54274 Date Analyzed: 2008-11-13 Analyzed By: RG  
 Prep Batch: 46431 Sample Preparation: 2008-11-12 Prepared By: RG

Parameter	Flag	RL	Units	Dilution	RL
		Result			
Total Suspended Solids		<b>546</b>	mg/L	1	1.00

Sample: 178801 - NMSWD Station #11 MW-3

Laboratory: Lubbock  
 Analysis: Volatiles Analytical Method: E 624 Prep Method: N/A  
 QC Batch: 54142 Date Analyzed: 2008-11-10 Analyzed By: KB  
 Prep Batch: 46318 Sample Preparation: 2008-11-10 Prepared By: KB

Parameter	Flag	RL	Units	Dilution	RL
		Result			
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00

continued ...

sample 178801 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00

continued ...

sample 178801 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.1	µg/L	1	50.0	104	86.7 - 111
Toluene-d8		51.6	µg/L	1	50.0	103	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.8	µg/L	1	50.0	98	72.4 - 112.2

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: Ag, Dissolved Analytical Method: E 200.7 Prep Method: N/A  
 QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
 Prep Batch: 46614 Sample Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silver		<0.00500	mg/L	1	0.00500

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: Alkalinity Analytical Method: SM 2320B Prep Method: N/A  
 QC Batch: 54146 Date Analyzed: 2008-11-10 Analyzed By: RG  
 Prep Batch: 46320 Sample Preparation: 2008-11-10 Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Bicarbonate Alkalinity		188	mg/L as CaCo3	1	4.00
Total Alkalinity		188	mg/L as CaCo3	1	4.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: As, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Arsenic		<0.00500	mg/L	1	0.00500

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: Ba, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Barium		0.0200	mg/L	1	0.0100

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: Ca, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		64.4	mg/L	1	1.00

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NM-SWD Station #11, Lea Co., NM

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Cd, Dissolved  
QC Batch: 54521  
Prep Batch: 46614  
Analytical Method: E 200.7  
Date Analyzed: 2008-11-21  
Sample Preparation: 2008-11-21  
Prep Method: N/A  
Analyzed By: RR  
Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Cadmium		<0.00100	mg/L	1	0.00100

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Chloride (IC)  
QC Batch: 54171  
Prep Batch: 46350  
Analytical Method: E 300.0  
Date Analyzed: 2008-11-12  
Sample Preparation: 2008-11-11  
Prep Method: N/A  
Analyzed By: RD  
Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		325	mg/L	50	3.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Conductivity  
QC Batch: 54245  
Prep Batch: 46408  
Analytical Method: E 120.1  
Date Analyzed: 2008-11-14  
Sample Preparation: 2008-11-11  
Prep Method: N/A  
Analyzed By: RD  
Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1590	uMHOS/cm	1	0.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Cr, Dissolved  
QC Batch: 54521  
Prep Batch: 46614  
Analytical Method: E 200.7  
Date Analyzed: 2008-11-21  
Sample Preparation: 2008-11-21  
Prep Method: N/A  
Analyzed By: RR  
Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Chromium		0.00200	mg/L	1	0.00100

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Hg, Dissolved      Analytical Method: S 7470A      Prep Method: N/A  
QC Batch: 54436      Date Analyzed: 2008-11-19      Analyzed By: TP  
Prep Batch: 46545      Sample Preparation: 2008-11-19      Prepared By: TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Mercury		0.000208	mg/L	1	0.000200

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: K, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		9.47	mg/L	1	1.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Mg, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		16.3	mg/L	1	1.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Na, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		334	mg/L	5	1.00

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Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Pb, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Lead		<0.00500	mg/L	1	0.00500

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: pH      Analytical Method: SM 4500-H+      Prep Method: N/A  
QC Batch: 54283      Date Analyzed: 2008-11-14      Analyzed By: RG  
Prep Batch: 46439      Sample Preparation: 2008-11-14      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.89	s.u.	1	0.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Se, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Selenium		<0.0100	mg/L	1	0.0100

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
Analysis: Semivolatiles      Analytical Method: E 625      Prep Method: N/A  
QC Batch: 54206      Date Analyzed: 2008-11-12      Analyzed By: DS  
Prep Batch: 46379      Sample Preparation: 2008-11-10      Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00465	mg/L	0.93	0.00500
N-Nitrosodimethylamine		<0.00465	mg/L	0.93	0.00500

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
2-Picoline		<0.00465	mg/L	0.93	0.00500
Methyl methanesulfonate		<0.00465	mg/L	0.93	0.00500
Ethyl methanesulfonate		<0.00465	mg/L	0.93	0.00500
Phenol		<0.00465	mg/L	0.93	0.00500
Aniline		<0.00465	mg/L	0.93	0.00500
bis(2-chloroethyl)ether		<0.00465	mg/L	0.93	0.00500
2-Chlorophenol		<0.00465	mg/L	0.93	0.00500
1,3-Dichlorobenzene (meta)		<0.00465	mg/L	0.93	0.00500
1,4-Dichlorobenzene (para)		<0.00465	mg/L	0.93	0.00500
Benzyl alcohol		<0.00465	mg/L	0.93	0.00500
1,2-Dichlorobenzene (ortho)		<0.00465	mg/L	0.93	0.00500
2-Methylphenol		<0.00465	mg/L	0.93	0.00500
bis(2-chloroisopropyl)ether		<0.00465	mg/L	0.93	0.00500
4-Methylphenol / 3-Methylphenol		<0.00465	mg/L	0.93	0.00500
N-Nitrosodi-n-propylamine		<0.00465	mg/L	0.93	0.00500
Hexachloroethane		<0.00465	mg/L	0.93	0.00500
Acetophenone		<0.00465	mg/L	0.93	0.00500
Nitrobenzene		<0.00465	mg/L	0.93	0.00500
N-Nitrosopiperidine		<0.00465	mg/L	0.93	0.00500
Isophorone		<0.00465	mg/L	0.93	0.00500
2-Nitrophenol		<0.00465	mg/L	0.93	0.00500
2,4-Dimethylphenol		<0.00465	mg/L	0.93	0.00500
bis(2-chloroethoxy)methane		<0.00465	mg/L	0.93	0.00500
2,4-Dichlorophenol		<0.00465	mg/L	0.93	0.00500
1,2,4-Trichlorobenzene		<0.00465	mg/L	0.93	0.00500
Benzoic acid		<0.00465	mg/L	0.93	0.00500
Naphthalene		<0.00465	mg/L	0.93	0.00500
a,a-Dimethylphenethylamine		<0.00465	mg/L	0.93	0.00500
4-Chloroaniline		<0.00465	mg/L	0.93	0.00500
2,6-Dichlorophenol		<0.00930	mg/L	0.93	0.0100
Hexachlorobutadiene		<0.00465	mg/L	0.93	0.00500
N-Nitroso-di-n-butylamine		<0.00465	mg/L	0.93	0.00500
4-Chloro-3-methylphenol		<0.00465	mg/L	0.93	0.00500
2-Methylnaphthalene		<0.00465	mg/L	0.93	0.00500
1-Methylnaphthalene		<0.00465	mg/L	0.93	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00465	mg/L	0.93	0.00500
Hexachlorocyclopentadiene		<0.00465	mg/L	0.93	0.00500
2,4,6-Trichlorophenol		<0.00930	mg/L	0.93	0.0100
2,4,5-Trichlorophenol		<0.00465	mg/L	0.93	0.00500
2-Chloronaphthalene		<0.00465	mg/L	0.93	0.00500
1-Chloronaphthalene		<0.00465	mg/L	0.93	0.00500
2-Nitroaniline		<0.00465	mg/L	0.93	0.00500
Dimethylphthalate		<0.00465	mg/L	0.93	0.00500

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Acenaphthylene		<0.00465	mg/L	0.93	0.00500
2,6-Dinitrotoluene		<0.00465	mg/L	0.93	0.00500
3-Nitroaniline		<0.00465	mg/L	0.93	0.00500
Acenaphthene		<0.00465	mg/L	0.93	0.00500
2,4-Dinitrophenol		<0.00465	mg/L	0.93	0.00500
Dibenzofuran		<0.00465	mg/L	0.93	0.00500
Pentachlorobenzene		<0.00465	mg/L	0.93	0.00500
4-Nitrophenol		<0.0232	mg/L	0.93	0.0250
2,4-Dinitrotoluene		<0.00465	mg/L	0.93	0.00500
1-Naphthylamine		<0.00465	mg/L	0.93	0.00500
2,3,4,6-Tetrachlorophenol		<0.00930	mg/L	0.93	0.0100
2-Naphthylamine		<0.00465	mg/L	0.93	0.00500
Fluorene		<0.00465	mg/L	0.93	0.00500
4-Chlorophenyl-phenylether		<0.00465	mg/L	0.93	0.00500
Diethylphthalate		<0.00465	mg/L	0.93	0.00500
4-Nitroaniline		<0.00465	mg/L	0.93	0.00500
Diphenylhydrazine		<0.00465	mg/L	0.93	0.00500
4,6-Dinitro-2-methylphenol		<0.00465	mg/L	0.93	0.00500
Diphenylamine		<0.00465	mg/L	0.93	0.00500
4-Bromophenyl-phenylether		<0.00465	mg/L	0.93	0.00500
Phenacetin		<0.00465	mg/L	0.93	0.00500
Hexachlorobenzene		<0.00465	mg/L	0.93	0.00500
4-Aminobiphenyl		<0.00465	mg/L	0.93	0.00500
Pentachlorophenol		<0.00930	mg/L	0.93	0.0100
Anthracene		<0.00465	mg/L	0.93	0.00500
Pentachloronitrobenzene		<0.00465	mg/L	0.93	0.00500
Pronamide		<0.00465	mg/L	0.93	0.00500
Phenanthrene		<0.00465	mg/L	0.93	0.00500
Di-n-butylphthalate		<0.00465	mg/L	0.93	0.00500
Fluoranthene		<0.00465	mg/L	0.93	0.00500
Benzidine		<0.0232	mg/L	0.93	0.0250
Pyrene		<0.00465	mg/L	0.93	0.00500
p-Dimethylaminoazobenzene		<0.00465	mg/L	0.93	0.00500
Butylbenzylphthalate		<0.00465	mg/L	0.93	0.00500
Benzo(a)anthracene		<0.00465	mg/L	0.93	0.00500
3,3-Dichlorobenzidine		<0.00465	mg/L	0.93	0.00500
Chrysene		<0.00465	mg/L	0.93	0.00500
bis(2-ethylhexyl)phthalate		<0.00465	mg/L	0.93	0.00500
Di-n-octylphthalate		<0.00465	mg/L	0.93	0.00500
Benzo(b)fluoranthene		<0.00465	mg/L	0.93	0.00500
Benzo(k)fluoranthene		<0.00465	mg/L	0.93	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00465	mg/L	0.93	0.00500
Benzo(a)pyrene		<0.00465	mg/L	0.93	0.00500

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
3-Methylcholanthrene		<0.00465	mg/L	0.93	0.00500
Dibenzo(a,j)acridine		<0.00465	mg/L	0.93	0.00500
Indeno(1,2,3-cd)pyrene		<0.00465	mg/L	0.93	0.00500
Dibenzo(a,h)anthracene		<0.00465	mg/L	0.93	0.00500
Benzo(g,h,i)perylene		<0.00465	mg/L	0.93	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0229	mg/L	0.93	0.0800	29	10 - 62.8
Phenol-d5		0.0174	mg/L	0.93	0.0800	22	10 - 41.3
Nitrobenzene-d5		0.0568	mg/L	0.93	0.0800	71	25.4 - 115
2-Fluorobiphenyl		0.0591	mg/L	0.93	0.0800	74	18.7 - 125
2,4,6-Tribromophenol		0.0465	mg/L	0.93	0.0800	58	15.5 - 107
Terphenyl-d14		0.0635	mg/L	0.93	0.0800	79	23.4 - 151

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: Si, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silica		14.2	mg/L	1	0.0500

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock  
 Analysis: Si, Total      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54523      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46344      Sample Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		18.7	mg/L	1	0.0500

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: SO4 (IC) Analytical Method: E 300.0 Prep Method: N/A  
QC Batch: 54171 Date Analyzed: 2008-11-12 Analyzed By: RD  
Prep Batch: 46350 Sample Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		385	mg/L	50	1.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: TDS Analytical Method: SM 2540C Prep Method: N/A  
QC Batch: 54184 Date Analyzed: 2008-11-12 Analyzed By: RD  
Prep Batch: 46362 Sample Preparation: 2008-11-11 Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		1154	mg/L	2	10.00

**Sample: 178802 - NMSWD Station #11 MW-1**

Laboratory: Lubbock  
Analysis: Total 8 Metals Analytical Method: E 245.2 Prep Method: N/A  
QC Batch: 54162 Date Analyzed: 2008-11-11 Analyzed By: TP  
Prep Batch: 46332 Sample Preparation: 2008-11-11 Prepared By: TP  
Laboratory: Lubbock  
Analysis: Total 8 Metals Analytical Method: E 200.7 Prep Method: N/A  
QC Batch: 54523 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46344 Sample Preparation: 2008-11-12 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<0.0100	mg/L	1	0.0100
Total Barium		0.0280	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200
Total Chromium		<0.00500	mg/L	1	0.00500
Total Mercury		<0.000200	mg/L	1	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock	Analytical Method: SM 2540D	Prep Method: N/A
Analysis: TSS	Date Analyzed: 2008-11-13	Analyzed By: RG
QC Batch: 54274	Sample Preparation: 2008-11-12	Prepared By: RG
Prep Batch: 46431		

Parameter	Flag	RL Result	Units	Dilution	RL
Total Suspended Solids		414	mg/L	1	1.00

Sample: 178802 - NMSWD Station #11 MW-1

Laboratory: Lubbock	Analytical Method: E 624	Prep Method: N/A
Analysis: Volatiles	Date Analyzed: 2008-11-10	Analyzed By: KB
QC Batch: 54142	Sample Preparation: 2008-11-10	Prepared By: KB
Prep Batch: 46318		

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00

continued ...

sample 178802 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.4	µg/L	1	50.0	105	86.7 - 111
Toluene-d8		51.6	µg/L	1	50.0	103	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.3	µg/L	1	50.0	97	72.4 - 112.2

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: Ag, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silver		<0.00500	mg/L	1	0.00500

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: Alkalinity      Analytical Method: SM 2320B      Prep Method: N/A  
 QC Batch: 54146      Date Analyzed: 2008-11-10      Analyzed By: RG  
 Prep Batch: 46320      Sample Preparation: 2008-11-10      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		208	mg/L as CaCo3	1	4.00
Total Alkalinity		208	mg/L as CaCo3	1	4.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
 Analysis: As, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Arsenic		<0.00500	mg/L	1	0.00500

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**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Ba, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Barium		0.0200	mg/L	1	0.0100

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Ca, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		54.5	mg/L	1	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Cd, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Cadmium		<0.00100	mg/L	1	0.00100

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 54171      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46350      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		241	mg/L	50	3.00

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**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Conductivity                      Analytical Method: E 120.1                      Prep Method: N/A  
QC Batch: 54245                              Date Analyzed: 2008-11-14                      Analyzed By: RD  
Prep Batch: 46408                              Sample Preparation: 2008-11-11                      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		1350	uMHOS/cm	1	0.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Cr, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54521                              Date Analyzed: 2008-11-21                      Analyzed By: RR  
Prep Batch: 46614                              Sample Preparation: 2008-11-21                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Chromium		<0.00100	mg/L	1	0.00100

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Hg, Dissolved                      Analytical Method: S 7470A                      Prep Method: N/A  
QC Batch: 54436                              Date Analyzed: 2008-11-19                      Analyzed By: TP  
Prep Batch: 46545                              Sample Preparation: 2008-11-19                      Prepared By: TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Mercury		0.00161	mg/L	1	0.000200

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: K, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		9.14	mg/L	1	1.00

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**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Mg, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		10.2	mg/L	1	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Na, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		309	mg/L	5	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Pb, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Lead		<0.00500	mg/L	1	0.00500

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: pH      Analytical Method: SM 4500-H+      Prep Method: N/A  
QC Batch: 54283      Date Analyzed: 2008-11-14      Analyzed By: RG  
Prep Batch: 46439      Sample Preparation: 2008-11-14      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		7.68	s.u.	1	0.00

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Sample: 178803 - NMSWD Station #11 MW-2

Laboratory: Lubbock  
Analysis: Se, Dissolved Analytical Method: E 200.7 Prep Method: N/A  
QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46614 Sample Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Selenium		<0.0100	mg/L	1	0.0100

Sample: 178803 - NMSWD Station #11 MW-2

Laboratory: Lubbock  
Analysis: Semivolatiles Analytical Method: E 625 Prep Method: N/A  
QC Batch: 54206 Date Analyzed: 2008-11-12 Analyzed By: DS  
Prep Batch: 46379 Sample Preparation: 2008-11-10 Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00468	mg/L	0.935	0.00500
N-Nitrosodimethylamine		<0.00468	mg/L	0.935	0.00500
2-Picoline		<0.00468	mg/L	0.935	0.00500
Methyl methanesulfonate		<0.00468	mg/L	0.935	0.00500
Ethyl methanesulfonate		<0.00468	mg/L	0.935	0.00500
Phenol		<0.00468	mg/L	0.935	0.00500
Aniline		<0.00468	mg/L	0.935	0.00500
bis(2-chloroethyl)ether		<0.00468	mg/L	0.935	0.00500
2-Chlorophenol		<0.00468	mg/L	0.935	0.00500
1,3-Dichlorobenzene (meta)		<0.00468	mg/L	0.935	0.00500
1,4-Dichlorobenzene (para)		<0.00468	mg/L	0.935	0.00500
Benzyl alcohol		<0.00468	mg/L	0.935	0.00500
1,2-Dichlorobenzene (ortho)		<0.00468	mg/L	0.935	0.00500
2-Methylphenol		<0.00468	mg/L	0.935	0.00500
bis(2-chloroisopropyl)ether		<0.00468	mg/L	0.935	0.00500
4-Methylphenol / 3-Methylphenol		<0.00468	mg/L	0.935	0.00500
N-Nitrosodi-n-propylamine		<0.00468	mg/L	0.935	0.00500
Hexachloroethane		<0.00468	mg/L	0.935	0.00500
Acetophenone		<0.00468	mg/L	0.935	0.00500
Nitrobenzene		<0.00468	mg/L	0.935	0.00500
N-Nitrosopiperidine		<0.00468	mg/L	0.935	0.00500
Isophorone		<0.00468	mg/L	0.935	0.00500
2-Nitrophenol		<0.00468	mg/L	0.935	0.00500
2,4-Dimethylphenol		<0.00468	mg/L	0.935	0.00500
bis(2-chloroethoxy)methane		<0.00468	mg/L	0.935	0.00500
2,4-Dichlorophenol		<0.00468	mg/L	0.935	0.00500

continued ...

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Parameter	Flag	RL Result	Units	Dilution	RL
1,2,4-Trichlorobenzene		<0.00468	mg/L	0.935	0.00500
Benzoic acid		<0.00468	mg/L	0.935	0.00500
Naphthalene		<0.00468	mg/L	0.935	0.00500
a,a-Dimethylphenethylamine		<0.00468	mg/L	0.935	0.00500
4-Chloroaniline		<0.00468	mg/L	0.935	0.00500
2,6-Dichlorophenol		<0.00935	mg/L	0.935	0.0100
Hexachlorobutadiene		<0.00468	mg/L	0.935	0.00500
N-Nitroso-di-n-butylamine		<0.00468	mg/L	0.935	0.00500
4-Chloro-3-methylphenol		<0.00468	mg/L	0.935	0.00500
2-Methylnaphthalene		<0.00468	mg/L	0.935	0.00500
1-Methylnaphthalene		<0.00468	mg/L	0.935	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00468	mg/L	0.935	0.00500
Hexachlorocyclopentadiene		<0.00468	mg/L	0.935	0.00500
2,4,6-Trichlorophenol		<0.00935	mg/L	0.935	0.0100
2,4,5-Trichlorophenol		<0.00468	mg/L	0.935	0.00500
2-Chloronaphthalene		<0.00468	mg/L	0.935	0.00500
1-Chloronaphthalene		<0.00468	mg/L	0.935	0.00500
2-Nitroaniline		<0.00468	mg/L	0.935	0.00500
Dimethylphthalate		<0.00468	mg/L	0.935	0.00500
Acenaphthylene		<0.00468	mg/L	0.935	0.00500
2,6-Dinitrotoluene		<0.00468	mg/L	0.935	0.00500
3-Nitroaniline		<0.00468	mg/L	0.935	0.00500
Acenaphthene		<0.00468	mg/L	0.935	0.00500
2,4-Dinitrophenol		<0.00468	mg/L	0.935	0.00500
Dibenzofuran		<0.00468	mg/L	0.935	0.00500
Pentachlorobenzene		<0.00468	mg/L	0.935	0.00500
4-Nitrophenol		<0.0234	mg/L	0.935	0.0250
2,4-Dinitrotoluene		<0.00468	mg/L	0.935	0.00500
1-Naphthylamine		<0.00468	mg/L	0.935	0.00500
2,3,4,6-Tetrachlorophenol		<0.00935	mg/L	0.935	0.0100
2-Naphthylamine		<0.00468	mg/L	0.935	0.00500
Fluorene		<0.00468	mg/L	0.935	0.00500
4-Chlorophenyl-phenylether		<0.00468	mg/L	0.935	0.00500
Diethylphthalate		<0.00468	mg/L	0.935	0.00500
4-Nitroaniline		<0.00468	mg/L	0.935	0.00500
Diphenylhydrazine		<0.00468	mg/L	0.935	0.00500
4,6-Dinitro-2-methylphenol		<0.00468	mg/L	0.935	0.00500
Diphenylamine		<0.00468	mg/L	0.935	0.00500
4-Bromophenyl-phenylether		<0.00468	mg/L	0.935	0.00500
Phenacetin		<0.00468	mg/L	0.935	0.00500
Hexachlorobenzene		<0.00468	mg/L	0.935	0.00500
4-Aminobiphenyl		<0.00468	mg/L	0.935	0.00500
Pentachlorophenol		<0.00935	mg/L	0.935	0.0100

continued ...

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Anthracene		<0.00468	mg/L	0.935	0.00500
Pentachloronitrobenzene		<0.00468	mg/L	0.935	0.00500
Pronamide		<0.00468	mg/L	0.935	0.00500
Phenanthrene		<0.00468	mg/L	0.935	0.00500
Di-n-butylphthalate		<0.00468	mg/L	0.935	0.00500
Fluoranthene		<0.00468	mg/L	0.935	0.00500
Benzidine		<0.0234	mg/L	0.935	0.0250
Pyrene		<0.00468	mg/L	0.935	0.00500
p-Dimethylaminoazobenzene		<0.00468	mg/L	0.935	0.00500
Butylbenzylphthalate		<0.00468	mg/L	0.935	0.00500
Benzo(a)anthracene		<0.00468	mg/L	0.935	0.00500
3,3-Dichlorobenzidine		<0.00468	mg/L	0.935	0.00500
Chrysene		<0.00468	mg/L	0.935	0.00500
bis(2-ethylhexyl)phthalate		<0.00468	mg/L	0.935	0.00500
Di-n-octylphthalate		<0.00468	mg/L	0.935	0.00500
Benzo(b)fluoranthene		<0.00468	mg/L	0.935	0.00500
Benzo(k)fluoranthene		<0.00468	mg/L	0.935	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00468	mg/L	0.935	0.00500
Benzo(a)pyrene		<0.00468	mg/L	0.935	0.00500
3-Methylcholanthrene		<0.00468	mg/L	0.935	0.00500
Dibenzo(a,j)acridine		<0.00468	mg/L	0.935	0.00500
Indeno(1,2,3-cd)pyrene		<0.00468	mg/L	0.935	0.00500
Dibenzo(a,h)anthracene		<0.00468	mg/L	0.935	0.00500
Benzo(g,h,i)perylene		<0.00468	mg/L	0.935	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol	1	0.00110	mg/L	0.935	0.0800	1	10 - 62.8
Phenol-d5	2	0.00230	mg/L	0.935	0.0800	3	10 - 41.3
Nitrobenzene-d5	3	0.00690	mg/L	0.935	0.0800	9	25.4 - 115
2-Fluorobiphenyl		0.0208	mg/L	0.935	0.0800	26	18.7 - 125
2,4,6-Tribromophenol		0.0380	mg/L	0.935	0.0800	48	15.5 - 107
Terphenyl-d14		0.0664	mg/L	0.935	0.0800	83	23.4 - 151

Sample: 178803 - NMSWD Station #11 MW-2

Laboratory: Lubbock  
 Analysis: Si, Dissolved  
 QC Batch: 54521  
 Prep Batch: 46614

Analytical Method: E 200.7  
 Date Analyzed: 2008-11-21  
 Sample Preparation: 2008-11-21

Prep Method: N/A  
 Analyzed By: RR  
 Prepared By: KV

<sup>1</sup>8270 Only - Two acidic surrogates are out of control limits. The other acidic surrogate shows extraction was performed properly.

<sup>2</sup>8270 Only - Two acidic surrogates are out of control limits. The other acidic surrogate shows extraction was performed properly.

<sup>3</sup>8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

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Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silica		13.1	mg/L	1	0.0500

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: Si, Total      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54523      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46344      Sample Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		77.8	mg/L	1	0.0500

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: SO4 (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 54171      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46350      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		358	mg/L	50	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock  
Analysis: TDS      Analytical Method: SM 2540C      Prep Method: N/A  
QC Batch: 54184      Date Analyzed: 2008-11-12      Analyzed By: RD  
Prep Batch: 46362      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		1018	mg/L	2	10.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock			
Analysis: Total 8 Metals	Analytical Method: E 245.2	Prep Method: N/A	
QC Batch: 54162	Date Analyzed: 2008-11-11	Analyzed By: TP	
Prep Batch: 46332	Sample Preparation: 2008-11-11	Prepared By: TP	
Laboratory: Lubbock			
Analysis: Total 8 Metals	Analytical Method: E 200.7	Prep Method: N/A	
QC Batch: 54523	Date Analyzed: 2008-11-21	Analyzed By: RR	
Prep Batch: 46344	Sample Preparation: 2008-11-12	Prepared By: KV	

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		<b>0.0610</b>	mg/L	1	0.0100
Total Barium		<b>0.682</b>	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200
Total Chromium		<b>0.148</b>	mg/L	1	0.00500
Total Mercury		<0.000400	mg/L	2	0.000200
Total Lead		<0.00500	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock			
Analysis: TSS	Analytical Method: SM 2540D	Prep Method: N/A	
QC Batch: 54274	Date Analyzed: 2008-11-13	Analyzed By: RG	
Prep Batch: 46431	Sample Preparation: 2008-11-12	Prepared By: RG	

Parameter	Flag	RL Result	Units	Dilution	RL
Total Suspended Solids		<b>7140</b>	mg/L	1	1.00

**Sample: 178803 - NMSWD Station #11 MW-2**

Laboratory: Lubbock			
Analysis: Volatiles	Analytical Method: E 624	Prep Method: N/A	
QC Batch: 54142	Date Analyzed: 2008-11-10	Analyzed By: KB	
Prep Batch: 46318	Sample Preparation: 2008-11-10	Prepared By: KB	

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00

*continued ...*

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		<5.00	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00

continued ...

sample 178803 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		53.8	µg/L	1	50.0	108	86.7 - 111
Toluene-d8		52.2	µg/L	1	50.0	104	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.2	µg/L	1	50.0	96	72.4 - 112.2

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: Ag, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silver		<0.00500	mg/L	1	0.00500

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Alkalinity                      Analytical Method: SM 2320B                      Prep Method: N/A  
QC Batch: 54146                              Date Analyzed: 2008-11-10                      Analyzed By: RG  
Prep Batch: 46320                              Sample Preparation: 2008-11-10                      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1	1.00
Bicarbonate Alkalinity		232	mg/L as CaCo3	1	4.00
Total Alkalinity		232	mg/L as CaCo3	1	4.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: As, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54521                              Date Analyzed: 2008-11-21                      Analyzed By: RR  
Prep Batch: 46614                              Sample Preparation: 2008-11-21                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Arsenic		<0.00500	mg/L	1	0.00500

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Ba, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54521                              Date Analyzed: 2008-11-21                      Analyzed By: RR  
Prep Batch: 46614                              Sample Preparation: 2008-11-21                      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Barium		0.313	mg/L	1	0.0100

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Ca, Dissolved                      Analytical Method: E 200.7                      Prep Method: N/A  
QC Batch: 54204                              Date Analyzed: 2008-11-13                      Analyzed By: TP  
Prep Batch: 46313                              Sample Preparation: 2008-11-11                      Prepared By: KV

Report Date: November 21, 2008  
NMSWD Station #11

Work Order: 8110902  
GW Sampling

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Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		5810	mg/L	50	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Cd, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Cadmium		<0.00100	mg/L	1	0.00100

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Chloride (IC)      Analytical Method: E 300.0      Prep Method: N/A  
QC Batch: 54251      Date Analyzed: 2008-11-14      Analyzed By: RD  
Prep Batch: 46409      Sample Preparation: 2008-11-12      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		51600	mg/L	5000	3.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Conductivity      Analytical Method: E 120.1      Prep Method: N/A  
QC Batch: 54245      Date Analyzed: 2008-11-14      Analyzed By: RD  
Prep Batch: 46408      Sample Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	RL Result	Units	Dilution	RL
Specific Conductance		81100	uMHOS/cm	1	0.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Cr, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Report Date: November 21, 2008  
NMSWD Station #11

Work Order: 8110902  
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NM-SWD Station #11, Lea Co., NM

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Chromium		<0.00100	mg/L	1	0.00100

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Hg, Dissolved      Analytical Method: S 7470A      Prep Method: N/A  
QC Batch: 54436      Date Analyzed: 2008-11-19      Analyzed By: TP  
Prep Batch: 46545      Sample Preparation: 2008-11-19      Prepared By: TP

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Mercury		0.00105	mg/L	1	0.000200

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: K, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Potassium		157	mg/L	5	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Mg, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		719	mg/L	5	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Na, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54204      Date Analyzed: 2008-11-13      Analyzed By: TP  
Prep Batch: 46313      Sample Preparation: 2008-11-11      Prepared By: KV

Report Date: November 21, 2008  
NMSWD Station #11

Work Order: 8110902  
GW Sampling

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NM-SWD Station #11, Lea Co., NM

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Sodium		22200	mg/L	500	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Pb, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Lead		<0.00500	mg/L	1	0.00500

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: pH      Analytical Method: SM 4500-H+      Prep Method: N/A  
QC Batch: 54283      Date Analyzed: 2008-11-14      Analyzed By: RG  
Prep Batch: 46439      Sample Preparation: 2008-11-14      Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
pH		6.17	s.u.	1	0.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Se, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Selenium		<0.0100	mg/L	1	0.0100

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock  
Analysis: Semivolatiles      Analytical Method: E 625      Prep Method: N/A  
QC Batch: 54206      Date Analyzed: 2008-11-12      Analyzed By: DS  
Prep Batch: 46379      Sample Preparation: 2008-11-10      Prepared By: DS

Parameter	Flag	RL Result	Units	Dilution	RL
Pyridine		<0.00461	mg/L	0.922	0.00500
N-Nitrosodimethylamine		<0.00461	mg/L	0.922	0.00500
2-Picoline		<0.00461	mg/L	0.922	0.00500
Methyl methanesulfonate		<0.00461	mg/L	0.922	0.00500
Ethyl methanesulfonate		<0.00461	mg/L	0.922	0.00500
Phenol		<0.00461	mg/L	0.922	0.00500
Aniline		<0.00461	mg/L	0.922	0.00500
bis(2-chloroethyl)ether		<0.00461	mg/L	0.922	0.00500
2-Chlorophenol		<0.00461	mg/L	0.922	0.00500
1,3-Dichlorobenzene (meta)		<0.00461	mg/L	0.922	0.00500
1,4-Dichlorobenzene (para)		<0.00461	mg/L	0.922	0.00500
Benzyl alcohol		<0.00461	mg/L	0.922	0.00500
1,2-Dichlorobenzene (ortho)		<0.00461	mg/L	0.922	0.00500
2-Methylphenol		<0.00461	mg/L	0.922	0.00500
bis(2-chloroisopropyl)ether		<0.00461	mg/L	0.922	0.00500
4-Methylphenol / 3-Methylphenol		<0.00461	mg/L	0.922	0.00500
N-Nitrosodi-n-propylamine		<0.00461	mg/L	0.922	0.00500
Hexachloroethane		<0.00461	mg/L	0.922	0.00500
Acetophenone		<0.00461	mg/L	0.922	0.00500
Nitrobenzene		<0.00461	mg/L	0.922	0.00500
N-Nitrosopiperidine		<0.00461	mg/L	0.922	0.00500
Isophorone		<0.00461	mg/L	0.922	0.00500
2-Nitrophenol		<0.00461	mg/L	0.922	0.00500
2,4-Dimethylphenol		<0.00461	mg/L	0.922	0.00500
bis(2-chloroethoxy)methane		<0.00461	mg/L	0.922	0.00500
2,4-Dichlorophenol		<0.00461	mg/L	0.922	0.00500
1,2,4-Trichlorobenzene		<0.00461	mg/L	0.922	0.00500
Benzoic acid		<0.00461	mg/L	0.922	0.00500
Naphthalene		<0.00461	mg/L	0.922	0.00500
a,a-Dimethylphenethylamine		<0.00461	mg/L	0.922	0.00500
4-Chloroaniline		<0.00461	mg/L	0.922	0.00500
2,6-Dichlorophenol		<0.00922	mg/L	0.922	0.0100
Hexachlorobutadiene		<0.00461	mg/L	0.922	0.00500
N-Nitroso-di-n-butylamine		<0.00461	mg/L	0.922	0.00500
4-Chloro-3-methylphenol		<0.00461	mg/L	0.922	0.00500
2-Methylnaphthalene		<0.00461	mg/L	0.922	0.00500
1-Methylnaphthalene		<0.00461	mg/L	0.922	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00461	mg/L	0.922	0.00500
Hexachlorocyclopentadiene		<0.00461	mg/L	0.922	0.00500
2,4,6-Trichlorophenol		<0.00922	mg/L	0.922	0.0100
2,4,5-Trichlorophenol		<0.00461	mg/L	0.922	0.00500
2-Chloronaphthalene		<0.00461	mg/L	0.922	0.00500
1-Chloronaphthalene		<0.00461	mg/L	0.922	0.00500
2-Nitroaniline		<0.00461	mg/L	0.922	0.00500
Dimethylphthalate		<0.00461	mg/L	0.922	0.00500

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Acenaphthylene		<0.00461	mg/L	0.922	0.00500
2,6-Dinitrotoluene		<0.00461	mg/L	0.922	0.00500
3-Nitroaniline		<0.00461	mg/L	0.922	0.00500
Acenaphthene		<0.00461	mg/L	0.922	0.00500
2,4-Dinitrophenol		<0.00461	mg/L	0.922	0.00500
Dibenzofuran		<0.00461	mg/L	0.922	0.00500
Pentachlorobenzene		<0.00461	mg/L	0.922	0.00500
4-Nitrophenol		<0.0230	mg/L	0.922	0.0250
2,4-Dinitrotoluene		<0.00461	mg/L	0.922	0.00500
1-Naphthylamine		<0.00461	mg/L	0.922	0.00500
2,3,4,6-Tetrachlorophenol		<0.00922	mg/L	0.922	0.0100
2-Naphthylamine		<0.00461	mg/L	0.922	0.00500
Fluorene		<0.00461	mg/L	0.922	0.00500
4-Chlorophenyl-phenylether		<0.00461	mg/L	0.922	0.00500
Diethylphthalate		<0.00461	mg/L	0.922	0.00500
4-Nitroaniline		<0.00461	mg/L	0.922	0.00500
Diphenylhydrazine		<0.00461	mg/L	0.922	0.00500
4,6-Dinitro-2-methylphenol		<0.00461	mg/L	0.922	0.00500
Diphenylamine		<0.00461	mg/L	0.922	0.00500
4-Bromophenyl-phenylether		<0.00461	mg/L	0.922	0.00500
Phenacetin		<0.00461	mg/L	0.922	0.00500
Hexachlorobenzene		<0.00461	mg/L	0.922	0.00500
4-Aminobiphenyl		<0.00461	mg/L	0.922	0.00500
Pentachlorophenol		<0.00922	mg/L	0.922	0.0100
Anthracene		<0.00461	mg/L	0.922	0.00500
Pentachloronitrobenzene		<0.00461	mg/L	0.922	0.00500
Pronamide		<0.00461	mg/L	0.922	0.00500
Phenanthrene		<0.00461	mg/L	0.922	0.00500
Di-n-butylphthalate		<0.00461	mg/L	0.922	0.00500
Fluoranthene		<0.00461	mg/L	0.922	0.00500
Benzidine		<0.0230	mg/L	0.922	0.0250
Pyrene		<0.00461	mg/L	0.922	0.00500
p-Dimethylaminoazobenzene		<0.00461	mg/L	0.922	0.00500
Butylbenzylphthalate		<0.00461	mg/L	0.922	0.00500
Benzo(a)anthracene		<0.00461	mg/L	0.922	0.00500
3,3-Dichlorobenzidine		<0.00461	mg/L	0.922	0.00500
Chrysene		<0.00461	mg/L	0.922	0.00500
bis(2-ethylhexyl)phthalate		<0.00461	mg/L	0.922	0.00500
Di-n-octylphthalate		<0.00461	mg/L	0.922	0.00500
Benzo(b)fluoranthene		<0.00461	mg/L	0.922	0.00500
Benzo(k)fluoranthene		<0.00461	mg/L	0.922	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00461	mg/L	0.922	0.00500
Benzo(a)pyrene		<0.00461	mg/L	0.922	0.00500

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
3-Methylcholanthrene		<0.00461	mg/L	0.922	0.00500
Dibenzo(a,j)acridine		<0.00461	mg/L	0.922	0.00500
Indeno(1,2,3-cd)pyrene		<0.00461	mg/L	0.922	0.00500
Dibenzo(a,h)anthracene		<0.00461	mg/L	0.922	0.00500
Benzo(g,h,i)perylene		<0.00461	mg/L	0.922	0.00500

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.00980	mg/L	0.922	0.0800	12	10 - 62.8
Phenol-d5		0.0111	mg/L	0.922	0.0800	14	10 - 41.3
Nitrobenzene-d5	4	0.0198	mg/L	0.922	0.0800	25	25.4 - 115
2-Fluorobiphenyl		0.0343	mg/L	0.922	0.0800	43	18.7 - 125
2,4,6-Tribromophenol		0.0516	mg/L	0.922	0.0800	64	15.5 - 107
Terphenyl-d14		0.0539	mg/L	0.922	0.0800	67	23.4 - 151

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: Si, Dissolved      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46614      Sample Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Silica		<b>33.6</b>	mg/L	1	0.0500

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
 Analysis: Si, Total      Analytical Method: E 200.7      Prep Method: N/A  
 QC Batch: 54523      Date Analyzed: 2008-11-21      Analyzed By: RR  
 Prep Batch: 46344      Sample Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silica		<b>54.0</b>	mg/L	1	0.0500

<sup>4</sup>8270 Only - One basic surrogate is out of control limits. The other two basic surrogates show extraction was performed properly.

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock	Analytical Method: E 300.0	Prep Method: N/A
Analysis: SO4 (IC)	Date Analyzed: 2008-11-14	Analyzed By: RD
QC Batch: 54251	Sample Preparation: 2008-11-12	Prepared By: RD
Prep Batch: 46409		

Parameter	Flag	RL Result	Units	Dilution	RL
Sulfate		1270	mg/L	50	1.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock	Analytical Method: SM 2540C	Prep Method: N/A
Analysis: TDS	Date Analyzed: 2008-11-18	Analyzed By: RD
QC Batch: 54362	Sample Preparation: 2008-11-17	Prepared By: RD
Prep Batch: 46502		

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		43150	mg/L	50	10.00

**Sample: 178804 - NMSWD Station #11 RW-1**

Laboratory: Lubbock	Analytical Method: E 245.2	Prep Method: N/A
Analysis: Total 8 Metals	Date Analyzed: 2008-11-11	Analyzed By: TP
QC Batch: 54162	Sample Preparation: 2008-11-11	Prepared By: TP
Prep Batch: 46332		
Laboratory: Lubbock	Analytical Method: E 200.7	Prep Method: N/A
Analysis: Total 8 Metals	Date Analyzed: 2008-11-21	Analyzed By: RR
QC Batch: 54523	Sample Preparation: 2008-11-12	Prepared By: KV
Prep Batch: 46344		

Parameter	Flag	RL Result	Units	Dilution	RL
Total Silver		<0.00500	mg/L	1	0.00500
Total Arsenic		0.0170	mg/L	1	0.0100
Total Barium		0.307	mg/L	1	0.00500
Total Cadmium		<0.00200	mg/L	1	0.00200
Total Chromium		0.0460	mg/L	1	0.00500
Total Mercury		0.000547	mg/L	1	0.000200
Total Lead		0.0130	mg/L	1	0.00500
Total Selenium		<0.0200	mg/L	1	0.0200

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Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: TSS Analytical Method: SM 2540D Prep Method: N/A  
QC Batch: 54274 Date Analyzed: 2008-11-13 Analyzed By: RG  
Prep Batch: 46431 Sample Preparation: 2008-11-12 Prepared By: RG

Parameter	Flag	RL Result	Units	Dilution	RL
Total Suspended Solids		450	mg/L	1	1.00

Sample: 178804 - NMSWD Station #11 RW-1

Laboratory: Lubbock  
Analysis: Volatiles Analytical Method: E 624 Prep Method: N/A  
QC Batch: 54142 Date Analyzed: 2008-11-10 Analyzed By: KB  
Prep Batch: 46318 Sample Preparation: 2008-11-10 Prepared By: KB

Parameter	Flag	RL Result	Units	Dilution	RL
Bromochloromethane		<1.00	µg/L	1	1.00
Dichlorodifluoromethane		<1.00	µg/L	1	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1	1.00
Vinyl Chloride		<1.00	µg/L	1	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	1	5.00
Chloroethane		<1.00	µg/L	1	1.00
Trichlorofluoromethane		<1.00	µg/L	1	1.00
Acetone		<10.0	µg/L	1	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	1	5.00
Carbon Disulfide		<1.00	µg/L	1	1.00
Acrylonitrile		<1.00	µg/L	1	1.00
2-Butanone (MEK)		<5.00	µg/L	1	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	1	5.00
2-Hexanone		<5.00	µg/L	1	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	1	10.0
1,1-Dichloroethene		<1.00	µg/L	1	1.00
Methylene chloride		13.5	µg/L	1	5.00
MTBE		<1.00	µg/L	1	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1	1.00
1,1-Dichloroethane		<1.00	µg/L	1	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1	1.00
2,2-Dichloropropane		<1.00	µg/L	1	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1	1.00
Chloroform		<1.00	µg/L	1	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1	1.00
1,1-Dichloropropene		<1.00	µg/L	1	1.00

continued ...

sample 178804 continued ...

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<1.00	µg/L	1	1.00
Carbon Tetrachloride		<1.00	µg/L	1	1.00
1,2-Dichloropropane		<1.00	µg/L	1	1.00
Trichloroethene (TCE)		<1.00	µg/L	1	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1	1.00
Bromodichloromethane		<1.00	µg/L	1	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	1	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1	1.00
Toluene		<1.00	µg/L	1	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1	1.00
1,3-Dichloropropane		<1.00	µg/L	1	1.00
Dibromochloromethane		<1.00	µg/L	1	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1	1.00
Chlorobenzene		<1.00	µg/L	1	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1	1.00
Ethylbenzene		<1.00	µg/L	1	1.00
m,p-Xylene		<1.00	µg/L	1	1.00
Bromoform		<1.00	µg/L	1	1.00
Styrene		<1.00	µg/L	1	1.00
o-Xylene		<1.00	µg/L	1	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1	1.00
2-Chlorotoluene		<1.00	µg/L	1	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1	1.00
Isopropylbenzene		<1.00	µg/L	1	1.00
Bromobenzene		<1.00	µg/L	1	1.00
n-Propylbenzene		<1.00	µg/L	1	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1	1.00
tert-Butylbenzene		<1.00	µg/L	1	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1	1.00
sec-Butylbenzene		<1.00	µg/L	1	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1	1.00
p-Isopropyltoluene		<1.00	µg/L	1	1.00
4-Chlorotoluene		<1.00	µg/L	1	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1	1.00
n-Butylbenzene		<1.00	µg/L	1	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	1	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	1	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	1	5.00
Naphthalene		<5.00	µg/L	1	5.00
Hexachlorobutadiene		<5.00	µg/L	1	5.00

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		55.1	µg/L	1	50.0	110	86.7 - 111
Toluene-d8		51.5	µg/L	1	50.0	103	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		44.7	µg/L	1	50.0	89	72.4 - 112.2

Method Blank (1)      QC Batch: 54142

QC Batch: 54142  
 Prep Batch: 46318

Date Analyzed: 2008-11-10  
 QC Preparation: 2008-11-10

Analyzed By: KB  
 Prepared By: KB

Parameter	Flag	MDL Result	Units	RL
Bromochloromethane		<0.197	µg/L	1
Dichlorodifluoromethane		<0.672	µg/L	1
Chloromethane (methyl chloride)		<0.542	µg/L	1
Vinyl Chloride		<0.516	µg/L	1
Bromomethane (methyl bromide)		<0.446	µg/L	5
Chloroethane		<0.656	µg/L	1
Trichlorofluoromethane		<0.538	µg/L	1
Acetone		<1.10	µg/L	10
Iodomethane (methyl iodide)		<0.214	µg/L	5
Carbon Disulfide		<0.294	µg/L	1
Acrylonitrile		<0.442	µg/L	1
2-Butanone (MEK)		<0.420	µg/L	5
4-Methyl-2-pentanone (MIBK)		<0.407	µg/L	5
2-Hexanone		<0.486	µg/L	5
trans 1,4-Dichloro-2-butene		<0.463	µg/L	10
1,1-Dichloroethene		<0.237	µg/L	1
Methylene chloride		<0.312	µg/L	5
MTBE		<0.318	µg/L	1
trans-1,2-Dichloroethene		<0.217	µg/L	1
1,1-Dichloroethane		<0.202	µg/L	1
cis-1,2-Dichloroethene		<0.309	µg/L	1
2,2-Dichloropropane		<0.318	µg/L	1
1,2-Dichloroethane (EDC)		<0.292	µg/L	1
Chloroform		<0.234	µg/L	1
1,1,1-Trichloroethane		<0.257	µg/L	1
1,1-Dichloropropene		<0.286	µg/L	1
Benzene		<0.319	µg/L	1
Carbon Tetrachloride		<0.223	µg/L	1
1,2-Dichloropropane		<0.266	µg/L	1
Trichloroethene (TCE)		<0.235	µg/L	1
Dibromomethane (methylene bromide)		<0.341	µg/L	1
Bromodichloromethane		<0.291	µg/L	1
2-Chloroethyl vinyl ether		<0.293	µg/L	5

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
cis-1,3-Dichloropropene		<0.207	µg/L	1
trans-1,3-Dichloropropene		<0.293	µg/L	1
Toluene		<0.268	µg/L	1
1,1,2-Trichloroethane		<0.329	µg/L	1
1,3-Dichloropropane		<0.316	µg/L	1
Dibromochloromethane		<0.290	µg/L	1
1,2-Dibromoethane (EDB)		<0.229	µg/L	1
Tetrachloroethene (PCE)		<0.233	µg/L	1
Chlorobenzene		<0.276	µg/L	1
1,1,1,2-Tetrachloroethane		<0.226	µg/L	1
Ethylbenzene		<0.245	µg/L	1
m,p-Xylene		<0.517	µg/L	1
Bromoform		<0.175	µg/L	1
Styrene		<0.239	µg/L	1
o-Xylene		<0.247	µg/L	1
1,1,2,2-Tetrachloroethane		<0.223	µg/L	1
2-Chlorotoluene		<0.235	µg/L	1
1,2,3-Trichloropropane		<0.230	µg/L	1
Isopropylbenzene		<0.226	µg/L	1
Bromobenzene		<0.245	µg/L	1
n-Propylbenzene		<0.234	µg/L	1
1,3,5-Trimethylbenzene		<0.261	µg/L	1
tert-Butylbenzene		<0.281	µg/L	1
1,2,4-Trimethylbenzene		<0.285	µg/L	1
1,4-Dichlorobenzene (para)		<0.307	µg/L	1
sec-Butylbenzene		<0.312	µg/L	1
1,3-Dichlorobenzene (meta)		<0.284	µg/L	1
p-Isopropyltoluene		<0.244	µg/L	1
4-Chlorotoluene		<0.257	µg/L	1
1,2-Dichlorobenzene (ortho)		<0.294	µg/L	1
n-Butylbenzene		<0.339	µg/L	1
1,2-Dibromo-3-chloropropane		<0.780	µg/L	5
1,2,3-Trichlorobenzene		<0.736	µg/L	5
1,2,4-Trichlorobenzene		<0.432	µg/L	5
Naphthalene		<0.475	µg/L	5
Hexachlorobutadiene		<1.02	µg/L	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		54.1	µg/L	1	50.0	108	86.7 - 111
Toluene-d8		52.2	µg/L	1	50.0	104	86.1 - 117.4
4-Bromofluorobenzene (4-BFB)		48.1	µg/L	1	50.0	96	72.4 - 112.2

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Method Blank (1) QC Batch: 54146

QC Batch: 54146  
Prep Batch: 46320

Date Analyzed: 2008-11-10  
QC Preparation: 2008-11-10

Analyzed By: RG  
Prepared By: RG

Parameter	Flag	MDL Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.00	mg/L as CaCo3	4
Total Alkalinity		<4.00	mg/L as CaCo3	4

Method Blank (1) QC Batch: 54162

QC Batch: 54162  
Prep Batch: 46332

Date Analyzed: 2008-11-11  
QC Preparation: 2008-11-11

Analyzed By: TP  
Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
Total Mercury		<0.0000251	mg/L	0.0002

Method Blank (1) QC Batch: 54171

QC Batch: 54171  
Prep Batch: 46350

Date Analyzed: 2008-11-12  
QC Preparation: 2008-11-11

Analyzed By: RD  
Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Chloride		<1.74	mg/L	3

Method Blank (1) QC Batch: 54171

QC Batch: 54171  
Prep Batch: 46350

Date Analyzed: 2008-11-12  
QC Preparation: 2008-11-11

Analyzed By: RD  
Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Sulfate		<0.344	mg/L	1

Method Blank (1) QC Batch: 54184

QC Batch: 54184  
Prep Batch: 46362

Date Analyzed: 2008-11-12  
QC Preparation: 2008-11-11

Analyzed By: RD  
Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

Method Blank (1) QC Batch: 54204

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		<0.175	mg/L	1

Method Blank (1) QC Batch: 54204

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Potassium		<0.327	mg/L	1

Method Blank (1) QC Batch: 54204

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Magnesium		<0.148	mg/L	1

Method Blank (1) QC Batch: 54204

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Sodium		<0.244	mg/L	1

Method Blank (1)      QC Batch: 54206

QC Batch: 54206  
 Prep Batch: 46379

Date Analyzed: 2008-11-12  
 QC Preparation: 2008-11-10

Analyzed By: DS  
 Prepared By: DS

Parameter	Flag	MDL Result	Units	RL
Pyridine		<0.00128	mg/L	0.005
N-Nitrosodimethylamine		<0.00192	mg/L	0.005
2-Picoline		<0.00132	mg/L	0.005
Methyl methanesulfonate		<0.00175	mg/L	0.005
Ethyl methanesulfonate		<0.00122	mg/L	0.005
Phenol		<0.00165	mg/L	0.005
Aniline		<0.00138	mg/L	0.005
bis(2-chloroethyl)ether		<0.00217	mg/L	0.005
2-Chlorophenol		<0.00150	mg/L	0.005
1,3-Dichlorobenzene (meta)		<0.00166	mg/L	0.005
1,4-Dichlorobenzene (para)		<0.00156	mg/L	0.005
Benzyl alcohol		0.00285	mg/L	0.005
1,2-Dichlorobenzene (ortho)		<0.00164	mg/L	0.005
2-Methylphenol		<0.00158	mg/L	0.005
bis(2-chloroisopropyl)ether		<0.000828	mg/L	0.005
4-Methylphenol / 3-Methylphenol		<0.00124	mg/L	0.005
N-Nitrosodi-n-propylamine		<0.00127	mg/L	0.005
Hexachloroethane		<0.00198	mg/L	0.005
Acetophenone		<0.00127	mg/L	0.005
Nitrobenzene		<0.00193	mg/L	0.005
N-Nitrosopiperidine		<0.00120	mg/L	0.005
Isophorone		<0.00194	mg/L	0.005
2-Nitrophenol		<0.00140	mg/L	0.005
2,4-Dimethylphenol		<0.00109	mg/L	0.005
bis(2-chloroethoxy)methane		<0.00124	mg/L	0.005
2,4-Dichlorophenol		<0.00134	mg/L	0.005
1,2,4-Trichlorobenzene		<0.00193	mg/L	0.005
Benzoic acid		<0.00304	mg/L	0.005
Naphthalene		<0.00165	mg/L	0.005
a,a-Dimethylphenethylamine		<0.000758	mg/L	0.005
4-Chloroaniline		<0.00115	mg/L	0.005
2,6-Dichlorophenol		<0.00120	mg/L	0.01
Hexachlorobutadiene		<0.00184	mg/L	0.005
N-Nitroso-di-n-butylamine		<0.00169	mg/L	0.005
4-Chloro-3-methylphenol		<0.00120	mg/L	0.005
2-Methylnaphthalene		<0.00145	mg/L	0.005
1-Methylnaphthalene		<0.00155	mg/L	0.005
1,2,4,5-Tetrachlorobenzene		<0.00205	mg/L	0.005
Hexachlorocyclopentadiene		<0.00385	mg/L	0.005
2,4,6-Trichlorophenol		<0.00152	mg/L	0.01
2,4,5-Trichlorophenol		<0.00320	mg/L	0.005

continued ...

*method blank continued . . .*

Parameter	Flag	MDL Result	Units	RL
2-Chloronaphthalene		<0.00168	mg/L	0.005
1-Chloronaphthalene		<0.00181	mg/L	0.005
2-Nitroaniline		<0.00169	mg/L	0.005
Dimethylphthalate		<0.00178	mg/L	0.005
Acenaphthylene		<0.00136	mg/L	0.005
2,6-Dinitrotoluene		<0.00139	mg/L	0.005
3-Nitroaniline		<0.00124	mg/L	0.005
Acenaphthene		<0.00132	mg/L	0.005
2,4-Dinitrophenol		<0.00392	mg/L	0.005
Dibenzofuran		<0.00161	mg/L	0.005
Pentachlorobenzene		<0.00242	mg/L	0.005
4-Nitrophenol		<0.00127	mg/L	0.025
2,4-Dinitrotoluene		<0.00139	mg/L	0.005
1-Naphthylamine		<0.00128	mg/L	0.005
2,3,4,6-Tetrachlorophenol		<0.00130	mg/L	0.01
2-Naphthylamine		<0.00154	mg/L	0.005
Fluorene		<0.00130	mg/L	0.005
4-Chlorophenyl-phenylether		<0.00173	mg/L	0.005
Diethylphthalate		<0.00161	mg/L	0.005
4-Nitroaniline		<0.00101	mg/L	0.005
Diphenylhydrazine		<0.00125	mg/L	0.005
4,6-Dinitro-2-methylphenol		<0.00135	mg/L	0.005
Diphenylamine		<0.00159	mg/L	0.005
4-Bromophenyl-phenylether		<0.00187	mg/L	0.005
Phenacetin		<0.00139	mg/L	0.005
Hexachlorobenzene		<0.00238	mg/L	0.005
4-Aminobiphenyl		<0.00134	mg/L	0.005
Pentachlorophenol		<0.000632	mg/L	0.01
Anthracene		<0.00152	mg/L	0.005
Pentachloronitrobenzene		<0.00307	mg/L	0.005
Pronamide		<0.00159	mg/L	0.005
Phenanthrene		<0.00144	mg/L	0.005
Di-n-butylphthalate		<0.00125	mg/L	0.005
Fluoranthene		<0.00159	mg/L	0.005
Benzidine		<0.000845	mg/L	0.025
Pyrene		<0.00135	mg/L	0.005
p-Dimethylaminoazobenzene		<0.000969	mg/L	0.005
Butylbenzylphthalate		<0.00110	mg/L	0.005
Benzo(a)anthracene		<0.00138	mg/L	0.005
3,3-Dichlorobenzidine		<0.00130	mg/L	0.005
Chrysene		<0.00146	mg/L	0.005
bis(2-ethylhexyl)phthalate		<0.00108	mg/L	0.005
Di-n-octylphthalate		<0.000892	mg/L	0.005
Benzo(b)fluoranthene		<0.00126	mg/L	0.005

*continued . . .*

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Benzo(k)fluoranthene		<0.00149	mg/L	0.005
7,12-Dimethylbenz(a)anthracene		<0.00134	mg/L	0.005
Benzo(a)pyrene		<0.00155	mg/L	0.005
3-Methylcholanthrene		<0.00166	mg/L	0.005
Dibenzo(a,j)acridine		<0.00201	mg/L	0.005
Indeno(1,2,3-cd)pyrene		<0.00195	mg/L	0.005
Dibenzo(a,h)anthracene		<0.00210	mg/L	0.005
Benzo(g,h,i)perylene		<0.00207	mg/L	0.005

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
2-Fluorophenol		0.0254	mg/L	1	0.0800	32	10 - 62.8
Phenol-d5		0.0186	mg/L	1	0.0800	23	10 - 41.3
Nitrobenzene-d5		0.0528	mg/L	1	0.0800	66	25.4 - 115
2-Fluorobiphenyl		0.0449	mg/L	1	0.0800	56	18.7 - 125
2,4,6-Tribromophenol		0.0410	mg/L	1	0.0800	51	15.5 - 107
Terphenyl-d14		0.0618	mg/L	1	0.0800	77	23.4 - 151

**Method Blank (1)**      QC Batch: 54245

QC Batch: 54245      Date Analyzed: 2008-11-14      Analyzed By: RD  
 Prep Batch: 46408      QC Preparation: 2008-11-11      Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Specific Conductance		1.77	uMHOS/cm	

**Method Blank (1)**      QC Batch: 54251

QC Batch: 54251      Date Analyzed: 2008-11-14      Analyzed By: RD  
 Prep Batch: 46409      QC Preparation: 2008-11-12      Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Chloride		<1.74	mg/L	3

**Method Blank (1)**      QC Batch: 54251

QC Batch: 54251      Date Analyzed: 2008-11-14      Analyzed By: RD  
 Prep Batch: 46409      QC Preparation: 2008-11-12      Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Sulfate		<0.344	mg/L	1

**Method Blank (1)**      QC Batch: 54274

QC Batch: 54274      Date Analyzed: 2008-11-13      Analyzed By: RG  
Prep Batch: 46431      QC Preparation: 2008-11-12      Prepared By: RG

Parameter	Flag	MDL Result	Units	RL
Total Suspended Solids		<1.00	mg/L	1

**Method Blank (1)**      QC Batch: 54362

QC Batch: 54362      Date Analyzed: 2008-11-18      Analyzed By: RD  
Prep Batch: 46502      QC Preparation: 2008-11-17      Prepared By: RD

Parameter	Flag	MDL Result	Units	RL
Total Dissolved Solids		<5.000	mg/L	10

**Method Blank (1)**      QC Batch: 54436

QC Batch: 54436      Date Analyzed: 2008-11-19      Analyzed By: TP  
Prep Batch: 46545      QC Preparation: 2008-11-19      Prepared By: TP

Parameter	Flag	MDL Result	Units	RL
Dissolved Mercury		<0.0000251	mg/L	0.0002

**Method Blank (1)**      QC Batch: 54521

QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      QC Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Silver		<0.000700	mg/L	0.005

Method Blank (1) QC Batch: 54521

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Arsenic		<0.00850	mg/L	0.005

Method Blank (1) QC Batch: 54521

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Barium		<0.00180	mg/L	0.01

Method Blank (1) QC Batch: 54521

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Cadmium		<0.00110	mg/L	0.001

Method Blank (1) QC Batch: 54521

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Chromium		<0.00200	mg/L	0.001

Method Blank (1) QC Batch: 54521

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Lead		<0.00460	mg/L	0.005

Method Blank (1)      QC Batch: 54521

QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      QC Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Selenium		<0.0106	mg/L	0.01

Method Blank (1)      QC Batch: 54521

QC Batch: 54521      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46614      QC Preparation: 2008-11-21      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Dissolved Silica		<0.0186	mg/L	0.05

Method Blank (1)      QC Batch: 54523

QC Batch: 54523      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46344      QC Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silica		<0.0186	mg/L	0.05

Method Blank (1)      QC Batch: 54523

QC Batch: 54523      Date Analyzed: 2008-11-21      Analyzed By: RR  
Prep Batch: 46344      QC Preparation: 2008-11-12      Prepared By: KV

Parameter	Flag	MDL Result	Units	RL
Total Silver		<0.000700	mg/L	0.005
Total Arsenic		<0.00850	mg/L	0.01
Total Barium		<0.00180	mg/L	0.005
Total Cadmium		<0.00110	mg/L	0.002

continued ...

method blank continued ...

Parameter	Flag	MDL Result	Units	RL
Total Chromium		<0.00201	mg/L	0.005
Total Lead		<0.00460	mg/L	0.005
Total Selenium		<0.0106	mg/L	0.02

**Duplicates (1)** Duplicated Sample: 178804

QC Batch: 54146 Date Analyzed: 2008-11-10 Analyzed By: RG  
 Prep Batch: 46320 QC Preparation: 2008-11-10 Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Carbonate Alkalinity	<1.00	<1.00	mg/L as CaCo3	1	0	20
Bicarbonate Alkalinity	244	232	mg/L as CaCo3	1	5	20
Total Alkalinity	244	232	mg/L as CaCo3	1	5	20

**Duplicates (1)** Duplicated Sample: 178903

QC Batch: 54184 Date Analyzed: 2008-11-12 Analyzed By: RD  
 Prep Batch: 46320 QC Preparation: 2008-11-11 Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	424.0	414.0	mg/L	1	2	10

**Duplicates (1)** Duplicated Sample: 178804

QC Batch: 54245 Date Analyzed: 2008-11-14 Analyzed By: RD  
 Prep Batch: 46408 QC Preparation: 2008-11-11 Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance	81900	81100	uMHOS/cm	1	1	20

**Duplicates (1)** Duplicated Sample: 178804

QC Batch: 54274 Date Analyzed: 2008-11-13 Analyzed By: RG  
 Prep Batch: 46431 QC Preparation: 2008-11-12 Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Suspended Solids	468	450	mg/L	1	4	10

**Duplicates (1)** Duplicated Sample: 179314

QC Batch: 54283                      Date Analyzed: 2008-11-14                      Analyzed By: RG  
 Prep Batch: 46439                      QC Preparation: 2008-11-14                      Prepared By: RG

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH	8.11	8.09	s.u.	1	0	20

**Duplicates (1)** Duplicated Sample: 179496

QC Batch: 54362                      Date Analyzed: 2008-11-18                      Analyzed By: RD  
 Prep Batch: 46502                      QC Preparation: 2008-11-17                      Prepared By: RD

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	98200	98000	mg/L	200	0	10

**Laboratory Control Spike (LCS-1)**

QC Batch: 54142                      Date Analyzed: 2008-11-10                      Analyzed By: KB  
 Prep Batch: 46318                      QC Preparation: 2008-11-10                      Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane	51.5	µg/L	1	50.0	<0.197	103	88.6 - 114.8
Dichlorodifluoromethane	55.9	µg/L	1	50.0	<0.672	112	57 - 138.2
Chloromethane (methyl chloride)	50.8	µg/L	1	50.0	<0.542	102	67.3 - 125
Vinyl Chloride	52.9	µg/L	1	50.0	<0.516	106	72.1 - 126.6
Bromomethane (methyl bromide)	48.2	µg/L	1	50.0	<0.446	96	51.4 - 149
Chloroethane	46.1	µg/L	1	50.0	<0.656	92	62.4 - 134
Trichlorofluoromethane	48.2	µg/L	1	50.0	<0.538	96	69.8 - 137.8
Acetone	57.0	µg/L	1	50.0	<1.10	114	36.8 - 138.7
Iodomethane (methyl iodide)	53.4	µg/L	1	50.0	<0.214	107	84.8 - 123
Carbon Disulfide	52.5	µg/L	1	50.0	<0.294	105	77.3 - 125.6
Acrylonitrile	54.5	µg/L	1	50.0	<0.442	109	80.1 - 130
2-Butanone (MEK)	56.0	µg/L	1	50.0	<0.420	112	40.2 - 152
4-Methyl-2-pentanone (MIBK)	46.9	µg/L	1	50.0	<0.407	94	83.2 - 126.2
2-Hexanone	50.3	µg/L	1	50.0	<0.486	101	61.9 - 152.1

*continued . . .*

*control spikes continued ...*

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit
trans 1,4-Dichloro-2-butene	56.9	µg/L	1	50.0	<0.463	114	63.8 - 141.2
1,1-Dichloroethene	50.4	µg/L	1	50.0	<0.237	101	83.9 - 118
Methylene chloride	53.6	µg/L	1	50.0	<0.312	107	74.9 - 121.2
MTBE	48.7	µg/L	1	50.0	<0.318	97	80.3 - 126.4
trans-1,2-Dichloroethene	54.4	µg/L	1	50.0	<0.217	109	80 - 118.8
1,1-Dichloroethane	53.8	µg/L	1	50.0	<0.202	108	78.1 - 121.1
cis-1,2-Dichloroethene	54.3	µg/L	1	50.0	<0.309	109	84.4 - 120.2
2,2-Dichloropropane	51.7	µg/L	1	50.0	<0.318	103	40 - 148.2
1,2-Dichloroethane (EDC)	52.1	µg/L	1	50.0	<0.292	104	78 - 119.2
Chloroform	51.8	µg/L	1	50.0	<0.234	104	86 - 113.3
1,1,1-Trichloroethane	50.3	µg/L	1	50.0	<0.257	101	66.5 - 132.8
1,1-Dichloropropene	52.3	µg/L	1	50.0	<0.286	105	94.8 - 109.7
Benzene	53.0	µg/L	1	50.0	<0.319	106	88.6 - 114.8
Carbon Tetrachloride	48.8	µg/L	1	50.0	<0.223	98	81.9 - 120.5
1,2-Dichloropropane	53.0	µg/L	1	50.0	<0.266	106	90.9 - 113
Trichloroethene (TCE)	49.2	µg/L	1	50.0	<0.235	98	84.1 - 119.2
Dibromomethane (methylene bromide)	51.0	µg/L	1	50.0	<0.341	102	87.7 - 114.3
Bromodichloromethane	54.3	µg/L	1	50.0	<0.291	109	93.1 - 116.2
2-Chloroethyl vinyl ether	40.9	µg/L	1	50.0	<0.293	82	79.8 - 122
cis-1,3-Dichloropropene	49.8	µg/L	1	50.0	<0.207	100	88.7 - 119.8
trans-1,3-Dichloropropene	49.3	µg/L	1	50.0	<0.293	99	84.8 - 124.6
Toluene	51.6	µg/L	1	50.0	<0.268	103	88.1 - 115.3
1,1,2-Trichloroethane	51.4	µg/L	1	50.0	<0.329	103	89.9 - 111.2
1,3-Dichloropropane	52.3	µg/L	1	50.0	<0.316	105	86.9 - 115
Dibromochloromethane	46.3	µg/L	1	50.0	<0.290	93	89 - 122
1,2-Dibromoethane (EDB)	51.7	µg/L	1	50.0	<0.229	103	89.5 - 117
Tetrachloroethene (PCE)	38.2	µg/L	1	50.0	<0.233	76	37.6 - 143
Chlorobenzene	49.9	µg/L	1	50.0	<0.276	100	86.6 - 111.2
1,1,1,2-Tetrachloroethane	50.8	µg/L	1	50.0	<0.226	102	89.8 - 114
Ethylbenzene	52.8	µg/L	1	50.0	<0.245	106	87.4 - 117
m,p-Xylene	104	µg/L	1	100	<0.517	104	86.1 - 115
Bromoform	44.7	µg/L	1	50.0	<0.175	89	84.6 - 132.6
Styrene	48.2	µg/L	1	50.0	<0.239	96	88.3 - 125
o-Xylene	54.0	µg/L	1	50.0	<0.247	108	86.7 - 118.6
1,1,2,2-Tetrachloroethane	54.8	µg/L	1	50.0	<0.223	110	73.8 - 127
2-Chlorotoluene	50.5	µg/L	1	50.0	<0.235	101	84.3 - 117
1,2,3-Trichloropropane	55.6	µg/L	1	50.0	<0.230	111	83 - 117.8
Isopropylbenzene	52.4	µg/L	1	50.0	<0.226	105	86.2 - 119
Bromobenzene	51.6	µg/L	1	50.0	<0.245	103	84.2 - 115
n-Propylbenzene	49.9	µg/L	1	50.0	<0.234	100	80.7 - 120
1,3,5-Trimethylbenzene	50.8	µg/L	1	50.0	<0.261	102	85.4 - 115
tert-Butylbenzene	50.2	µg/L	1	50.0	<0.281	100	85.9 - 115.9
1,2,4-Trimethylbenzene	51.9	µg/L	1	50.0	<0.285	104	87.1 - 116
1,4-Dichlorobenzene (para)	48.8	µg/L	1	50.0	<0.307	98	87.2 - 109

*continued ...*

control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
sec-Butylbenzene	50.1	µg/L	1	50.0	<0.312	100	82.6 - 118.5
1,3-Dichlorobenzene (meta)	49.7	µg/L	1	50.0	<0.284	99	89.5 - 111.3
p-Isopropyltoluene	51.9	µg/L	1	50.0	<0.244	104	86.6 - 118.2
4-Chlorotoluene	51.4	µg/L	1	50.0	<0.257	103	87.2 - 114
1,2-Dichlorobenzene (ortho)	51.2	µg/L	1	50.0	<0.294	102	92.2 - 111.6
n-Butylbenzene	53.3	µg/L	1	50.0	<0.339	107	82.2 - 120.8
1,2-Dibromo-3-chloropropane	45.2	µg/L	1	50.0	<0.780	90	64.3 - 133
1,2,3-Trichlorobenzene	45.7	µg/L	1	50.0	<0.736	91	22.2 - 201.8
1,2,4-Trichlorobenzene	39.7	µg/L	1	50.0	<0.432	79	66 - 135.7
Naphthalene	42.3	µg/L	1	50.0	<0.475	85	51.8 - 163.3
Hexachlorobutadiene	49.5	µg/L	1	50.0	<1.02	99	70.4 - 130.9

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane	54.4	µg/L	1	50.0	<0.197	109	88.6 - 114.8	6	20
Dichlorodifluoromethane	52.2	µg/L	1	50.0	<0.672	104	57 - 138.2	7	20
Chloromethane (methyl chloride)	49.7	µg/L	1	50.0	<0.542	99	67.3 - 125	2	20
Vinyl Chloride	51.1	µg/L	1	50.0	<0.516	102	72.1 - 126.6	4	20
Bromomethane (methyl bromide)	48.3	µg/L	1	50.0	<0.446	97	51.4 - 149	0	20
Chloroethane	48.2	µg/L	1	50.0	<0.656	96	62.4 - 134	4	20
Trichlorofluoromethane	46.8	µg/L	1	50.0	<0.538	94	69.8 - 137.8	3	20
Acetone	64.9	µg/L	1	50.0	<1.10	130	36.8 - 138.7	13	20
Iodomethane (methyl iodide)	56.4	µg/L	1	50.0	<0.214	113	84.8 - 123	6	20
Carbon Disulfide	54.3	µg/L	1	50.0	<0.294	109	77.3 - 125.6	3	20
Acrylonitrile	56.2	µg/L	1	50.0	<0.442	112	80.1 - 130	3	20
2-Butanone (MEK)	57.6	µg/L	1	50.0	<0.420	115	40.2 - 152	3	20
4-Methyl-2-pentanone (MIBK)	49.0	µg/L	1	50.0	<0.407	98	83.2 - 126.2	4	20
trans-Hexanone	52.2	µg/L	1	50.0	<0.486	104	61.9 - 152.1	4	20
trans 1,4-Dichloro-2-butene	58.3	µg/L	1	50.0	<0.463	117	63.8 - 141.2	2	20
1,1-Dichloroethene	51.5	µg/L	1	50.0	<0.237	103	83.9 - 118	2	20
Methylene chloride	54.9	µg/L	1	50.0	<0.312	110	74.9 - 121.2	2	20
MTBE	50.8	µg/L	1	50.0	<0.318	102	80.3 - 126.4	4	20
trans-1,2-Dichloroethene	55.7	µg/L	1	50.0	<0.217	111	80 - 118.8	2	20
1,1-Dichloroethane	55.0	µg/L	1	50.0	<0.202	110	78.1 - 121.1	2	20
cis-1,2-Dichloroethene	55.6	µg/L	1	50.0	<0.309	111	84.4 - 120.2	2	20
2,2-Dichloropropane	54.9	µg/L	1	50.0	<0.318	110	40 - 148.2	6	20
1,2-Dichloroethane (EDC)	52.8	µg/L	1	50.0	<0.292	106	78 - 119.2	1	20
Chloroform	52.8	µg/L	1	50.0	<0.234	106	86 - 113.3	2	20
1,1,1-Trichloroethane	53.1	µg/L	1	50.0	<0.257	106	66.5 - 132.8	5	20
1,1-Dichloropropene	53.8	µg/L	1	50.0	<0.286	108	94.8 - 109.7	3	20
Benzene	54.9	µg/L	1	50.0	<0.319	110	88.6 - 114.8	4	20
Carbon Tetrachloride	51.4	µg/L	1	50.0	<0.223	103	81.9 - 120.5	5	20
1,2-Dichloropropane	55.3	µg/L	1	50.0	<0.266	111	90.9 - 113	4	20

continued ...

control spikes continued . . .

Param	LCSD		Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
	Result	Units							
Trichloroethene (TCE)	51.5	µg/L	1	50.0	<0.235	103	84.1 - 119.2	5	20
Dibromomethane (methylene bromide)	53.9	µg/L	1	50.0	<0.341	108	87.7 - 114.3	6	20
Bromodichloromethane	56.8	µg/L	1	50.0	<0.291	114	93.1 - 116.2	4	20
2-Chloroethyl vinyl ether	43.1	µg/L	1	50.0	<0.293	86	79.8 - 122	5	20
cis-1,3-Dichloropropene	52.2	µg/L	1	50.0	<0.207	104	88.7 - 119.8	5	20
trans-1,3-Dichloropropene	51.0	µg/L	1	50.0	<0.293	102	84.8 - 124.6	3	20
Toluene	53.8	µg/L	1	50.0	<0.268	108	88.1 - 115.3	4	20
1,1,2-Trichloroethane	53.6	µg/L	1	50.0	<0.329	107	89.9 - 111.2	4	20
1,3-Dichloropropane	54.4	µg/L	1	50.0	<0.316	109	86.9 - 115	4	20
Dibromochloromethane	48.8	µg/L	1	50.0	<0.290	98	89 - 122	5	20
1,2-Dibromoethane (EDB)	55.4	µg/L	1	50.0	<0.229	111	89.5 - 117	7	20
Tetrachloroethene (PCE)	40.8	µg/L	1	50.0	<0.233	82	37.6 - 143	7	20
Chlorobenzene	52.1	µg/L	1	50.0	<0.276	104	86.6 - 111.2	4	20
1,1,1,2-Tetrachloroethane	53.6	µg/L	1	50.0	<0.226	107	89.8 - 114	5	20
Ethylbenzene	54.8	µg/L	1	50.0	<0.245	110	87.4 - 117	4	20
m,p-Xylene	109	µg/L	1	100	<0.517	109	86.1 - 115	5	20
Bromoform	47.1	µg/L	1	50.0	<0.175	94	84.6 - 132.6	5	20
Styrene	50.2	µg/L	1	50.0	<0.239	100	88.3 - 125	4	20
o-Xylene	56.1	µg/L	1	50.0	<0.247	112	86.7 - 118.6	4	20
1,1,2,2-Tetrachloroethane	57.1	µg/L	1	50.0	<0.223	114	73.8 - 127	4	20
2-Chlorotoluene	52.6	µg/L	1	50.0	<0.235	105	84.3 - 117	4	20
1,2,3-Trichloropropane	58.6	µg/L	1	50.0	<0.230	117	83 - 117.8	5	20
Isopropylbenzene	54.8	µg/L	1	50.0	<0.226	110	86.2 - 119	4	20
Bromobenzene	54.2	µg/L	1	50.0	<0.245	108	84.2 - 115	5	20
n-Propylbenzene	52.0	µg/L	1	50.0	<0.234	104	80.7 - 120	4	20
1,3,5-Trimethylbenzene	53.0	µg/L	1	50.0	<0.261	106	85.4 - 115	4	20
tert-Butylbenzene	52.9	µg/L	1	50.0	<0.281	106	85.9 - 115.9	5	20
1,2,4-Trimethylbenzene	54.5	µg/L	1	50.0	<0.285	109	87.1 - 116	5	20
1,4-Dichlorobenzene (para)	51.2	µg/L	1	50.0	<0.307	102	87.2 - 109	5	20
sec-Butylbenzene	52.3	µg/L	1	50.0	<0.312	105	82.6 - 118.5	4	20
1,3-Dichlorobenzene (meta)	52.0	µg/L	1	50.0	<0.284	104	89.5 - 111.3	4	20
p-Isopropyltoluene	54.3	µg/L	1	50.0	<0.244	109	86.6 - 118.2	4	20
4-Chlorotoluene	53.7	µg/L	1	50.0	<0.257	107	87.2 - 114	4	20
1,2-Dichlorobenzene (ortho)	53.9	µg/L	1	50.0	<0.294	108	92.2 - 111.6	5	20
n-Butylbenzene	54.8	µg/L	1	50.0	<0.339	110	82.2 - 120.8	3	20
1,2-Dibromo-3-chloropropane	47.7	µg/L	1	50.0	<0.780	95	64.3 - 133	5	20
1,2,3-Trichlorobenzene	50.0	µg/L	1	50.0	<0.736	100	22.2 - 201.8	9	20
1,2,4-Trichlorobenzene	42.5	µg/L	1	50.0	<0.432	85	66 - 135.7	7	20
Naphthalene	46.3	µg/L	1	50.0	<0.475	93	51.8 - 168.3	9	20
Hexachlorobutadiene	52.7	µg/L	1	50.0	<1.02	105	70.4 - 130.9	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

continued . . .

control spikes continued ...

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Dibromofluoromethane	52.9	51.8	µg/L	1	50.0	106	104	85 - 110.6
Toluene-d8	51.0	50.0	µg/L	1	50.0	102	100	86.8 - 109.2
4-Bromofluorobenzene (4-BFB)	51.9	50.8	µg/L	1	50.0	104	102	84.4 - 113.2

**Laboratory Control Spike (LCS-1)**

QC Batch: 54162  
 Prep Batch: 46332

Date Analyzed: 2008-11-11  
 QC Preparation: 2008-11-11

Analyzed By: TP  
 Prepared By: TP

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	0.00104	mg/L	1	0.00100	<0.0000251	104	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.00104	mg/L	1	0.00100	<0.0000251	104	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54171  
 Prep Batch: 46350

Date Analyzed: 2008-11-12  
 QC Preparation: 2008-11-11

Analyzed By: RD  
 Prepared By: RD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	<sup>5</sup> 11.7	mg/L	1	12.5	<1.74	94	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	<sup>6</sup> 12.2	mg/L	1	12.5	<1.74	98	90 - 110	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>5</sup>Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •

<sup>6</sup>Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •





control spikes continued ...

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Phenol	0.0201	mg/L	1	0.0800	<0.00165	25	10 - 37.6
2-Chlorophenol	0.0465	mg/L	1	0.0800	<0.00150	58	27.4 - 88.1
1,4-Dichlorobenzene (para)	0.0422	mg/L	1	0.0800	<0.00156	53	22.2 - 85.4
N-Nitrosodi-n-propylamine	0.0572	mg/L	1	0.0800	<0.00127	72	15.8 - 119
1,2,4-Trichlorobenzene	0.0410	mg/L	1	0.0800	<0.00193	51	25 - 99.5
Naphthalene	0.0452	mg/L	1	0.0800	<0.00165	56	24.8 - 93.1
4-Chloro-3-methylphenol	0.0512	mg/L	1	0.0800	<0.00120	64	28.4 - 110
Acenaphthylene	0.0544	mg/L	1	0.0800	<0.00136	68	33.3 - 110
Acenaphthene	0.0523	mg/L	1	0.0800	<0.00132	65	31.5 - 107
4-Nitrophenol	0.0143	mg/L	1	0.0800	<0.00127	18	10 - 48.8
2,4-Dinitrotoluene	0.0473	mg/L	1	0.0800	<0.00139	59	27.8 - 126
Fluorene	0.0509	mg/L	1	0.0800	<0.00130	64	25.5 - 124
Pentachlorophenol	0.0210	mg/L	1	0.0800	<0.000632	26	10 - 119
Anthracene	0.0524	mg/L	1	0.0800	<0.00152	66	39.5 - 119
Phenanthrene	0.0550	mg/L	1	0.0800	<0.00144	69	41 - 119
Fluoranthene	0.0587	mg/L	1	0.0800	<0.00159	73	35.7 - 143
Pyrene	0.0561	mg/L	1	0.0800	<0.00135	70	35.8 - 132
Benzo(a)anthracene	0.0556	mg/L	1	0.0800	<0.00138	70	40.1 - 128
Chrysene	0.0564	mg/L	1	0.0800	<0.00146	70	40.5 - 128
Benzo(b)fluoranthene	0.0530	mg/L	1	0.0800	<0.00126	66	32 - 134
Benzo(k)fluoranthene	0.0586	mg/L	1	0.0800	<0.00149	73	43.5 - 131
Benzo(a)pyrene	0.0630	mg/L	1	0.0800	<0.00155	79	43.5 - 140
Indeno(1,2,3-cd)pyrene	0.0671	mg/L	1	0.0800	<0.00195	84	39.7 - 159
Dibenzo(a,h)anthracene	0.0668	mg/L	1	0.0800	<0.0210	84	39.2 - 154
Benzo(g,h,i)perylene	0.0684	mg/L	1	0.0800	<0.00207	86	38 - 157

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Phenol	0.0208	mg/L	1	0.0800	<0.00165	26	10 - 37.6	3	20
2-Chlorophenol	0.0475	mg/L	1	0.0800	<0.00150	59	27.4 - 88.1	2	20
1,4-Dichlorobenzene (para)	0.0435	mg/L	1	0.0800	<0.00156	54	22.2 - 85.4	3	20
N-Nitrosodi-n-propylamine	0.0594	mg/L	1	0.0800	<0.00127	74	15.8 - 119	4	20
1,2,4-Trichlorobenzene	0.0419	mg/L	1	0.0800	<0.00193	52	25 - 99.5	2	20
Naphthalene	0.0457	mg/L	1	0.0800	<0.00165	57	24.8 - 93.1	1	20
4-Chloro-3-methylphenol	0.0523	mg/L	1	0.0800	<0.00120	65	28.4 - 110	2	20
Acenaphthylene	0.0561	mg/L	1	0.0800	<0.00136	70	33.3 - 110	3	20
Acenaphthene	0.0540	mg/L	1	0.0800	<0.00132	68	31.5 - 107	3	20
4-Nitrophenol	0.0133	mg/L	1	0.0800	<0.00127	17	10 - 48.8	7	20
2,4-Dinitrotoluene	0.0488	mg/L	1	0.0800	<0.00139	61	27.8 - 126	3	20
Fluorene	0.0528	mg/L	1	0.0800	<0.00130	66	25.5 - 124	4	20

continued ...

control spikes continued . . .

Param	LCS Result	LCS Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Pentachlorophenol	0.0212	mg/L	1	0.0800	<0.000632	26	10 - 119	1	20
Anthracene	0.0532	mg/L	1	0.0800	<0.00152	66	39.5 - 119	2	20
Phenanthrene	0.0548	mg/L	1	0.0800	<0.00144	68	41 - 119	0	20
Fluoranthene	0.0588	mg/L	1	0.0800	<0.00159	74	35.7 - 143	0	20
Pyrene	0.0579	mg/L	1	0.0800	<0.00135	72	35.8 - 132	3	20
Benzo(a)anthracene	0.0553	mg/L	1	0.0800	<0.00138	69	40.1 - 128	0	20
Chrysene	0.0576	mg/L	1	0.0800	<0.00146	72	40.5 - 128	2	20
Benzo(b)fluoranthene	0.0534	mg/L	1	0.0800	<0.00126	67	32 - 134	1	20
Benzo(k)fluoranthene	0.0576	mg/L	1	0.0800	<0.00149	72	43.5 - 131	2	20
Benzo(a)pyrene	0.0602	mg/L	1	0.0800	<0.00155	75	43.5 - 140	4	20
Indeno(1,2,3-cd)pyrene	0.0641	mg/L	1	0.0800	<0.00195	80	39.7 - 159	5	20
Dibenzo(a,h)anthracene	0.0630	mg/L	1	0.0800	<0.0210	79	39.2 - 154	6	20
Benzo(g,h,i)perylene	0.0643	mg/L	1	0.0800	<0.00207	80	38 - 157	6	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	LCS Result	LCS Result	Units	Dil.	Spike Amount	LCS Rec.	LCS Rec.	Rec. Limit
2-Fluorophenol	0.0294	0.0302	mg/L	1	0.0800	37	38	10 - 62.8
Phenol-d5	0.0213	0.0222	mg/L	1	0.0800	27	28	10 - 41.3
Nitrobenzene-d5	0.0531	0.0534	mg/L	1	0.0800	66	67	25.4 - 115
2-Fluorobiphenyl	0.0521	0.0530	mg/L	1	0.0800	65	66	18.7 - 125
2,4,6-Tribromophenol	0.0467	0.0486	mg/L	1	0.0800	58	61	15.5 - 107
Terphenyl-d14	0.0570	0.0574	mg/L	1	0.0800	71	72	23.4 - 151

Laboratory Control Spike (LCS-1)

QC Batch: 54251  
 Prep Batch: 46409

Date Analyzed: 2008-11-14  
 QC Preparation: 2008-11-12

Analyzed By: RD  
 Prepared By: RD

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	<sup>9</sup> 13.0	mg/L	1	12.5	<1.74	104	90 - 110

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Chloride	12.1	mg/L	1	12.5	<1.74	97	90 - 110	7	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>9</sup>Matrix spikes run with batch, but spiked sample reran in another batch. Use LCS/LCSD to show analysis is in control. •





Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Barium	1.01	mg/L	1	1.00	<0.00180	101	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Barium	1.02	mg/L	1	1.00	<0.00180	102	85 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54521  
 Prep Batch: 46614

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-21

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Cadmium	0.257	mg/L	1	0.250	<0.00110	103	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Cadmium	0.256	mg/L	1	0.250	<0.00110	102	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54521  
 Prep Batch: 46614

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-21

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Chromium	0.0960	mg/L	1	0.100	<0.00200	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Chromium	0.0960	mg/L	1	0.100	<0.00200	96	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54521  
 Prep Batch: 46614

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-21

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Lead	0.512	mg/L	1	0.500	<0.00460	102	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Lead	0.512	mg/L	1	0.500	<0.00460	102	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54521  
 Prep Batch: 46614

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-21

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Selenium	0.479	mg/L	1	0.500	<0.0131	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Selenium	0.477	mg/L	1	0.500	<0.0131	95	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54521  
 Prep Batch: 46614

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-21

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Silica	1.08	mg/L	1	1.00	<0.0186	108	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Silica	1.05	mg/L	1	1.00	<0.0186	105	85 - 115	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54523  
 Prep Batch: 46344

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-12

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silica	1.08	mg/L	1	1.00	<0.0186	108	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silica	1.05	mg/L	1	1.00	<0.0186	105	85 - 115	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 54523  
 Prep Batch: 46344

Date Analyzed: 2008-11-21  
 QC Preparation: 2008-11-12

Analyzed By: RR  
 Prepared By: KV

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Silver	0.118	mg/L	1	0.125	<0.000700	94	85 - 115
Total Arsenic	0.487	mg/L	1	0.500	<0.00850	97	85 - 115
Total Barium	1.01	mg/L	1	1.00	<0.00180	101	85 - 115
Total Cadmium	0.257	mg/L	1	0.250	<0.00110	103	85 - 115
Total Chromium	0.0960	mg/L	1	0.100	<0.00201	96	85 - 115
Total Lead	0.512	mg/L	1	0.500	<0.00460	102	85 - 115
Total Selenium	0.479	mg/L	1	0.500	<0.0106	96	85 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Silver	0.118	mg/L	1	0.125	<0.000700	94	85 - 115	0	20
Total Arsenic	0.491	mg/L	1	0.500	<0.00850	98	85 - 115	1	20
Total Barium	1.02	mg/L	1	1.00	<0.00180	102	85 - 115	1	20
Total Cadmium	0.256	mg/L	1	0.250	<0.00110	102	85 - 115	0	20
Total Chromium	0.0960	mg/L	1	0.100	<0.00201	96	85 - 115	0	20
Total Lead	0.512	mg/L	1	0.500	<0.00460	102	85 - 115	0	20
Total Selenium	0.477	mg/L	1	0.500	<0.0106	95	85 - 115	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178804**

QC Batch: 54142  
 Prep Batch: 46318

Date Analyzed: 2008-11-10  
 QC Preparation: 2008-11-10

Analyzed By: KB  
 Prepared By: KB

*continued ...*

matrix spikes continued . . .

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Bromochloromethane	45.5	µg/L	1	50.0	<0.197	91	84.8 - 121.5
Dichlorodifluoromethane	38.7	µg/L	1	50.0	<0.672	77	57.4 - 145.5
Chloromethane (methyl chloride)	48.9	µg/L	1	50.0	<0.542	98	73.9 - 126
Vinyl Chloride	43.2	µg/L	1	50.0	<0.516	86	71 - 130.3
Bromomethane (methyl bromide)	34.5	µg/L	1	50.0	<0.446	69	64.4 - 138.5
Chloroethane	38.1	µg/L	1	50.0	<0.656	76	65.1 - 140
Trichlorofluoromethane	36.8	µg/L	1	50.0	<0.538	74	76.7 - 146.9
Acetone	27.4	µg/L	1	50.0	<1.10	55	10 - 152.1
Iodomethane (methyl iodide)	38.6	µg/L	1	50.0	<0.214	77	81.3 - 123.9
Carbon Disulfide	46.3	µg/L	1	50.0	<0.294	93	81.4 - 123.5
Acrylonitrile	53.2	µg/L	1	50.0	<0.442	106	87.3 - 131.1
2-Butanone (MEK)	44.5	µg/L	1	50.0	<0.420	89	48.6 - 140.8
4-Methyl-2-pentanone (MIBK)	60.2	µg/L	1	50.0	<0.407	120	87.2 - 130.3
2-Hexanone	58.7	µg/L	1	50.0	<0.486	117	50.2 - 170.3
trans 1,4-Dichloro-2-butene	48.7	µg/L	1	50.0	<0.463	97	65.4 - 129.5
1,1-Dichloroethene	41.5	µg/L	1	50.0	<0.237	83	80.6 - 122.4
Methylene chloride	59.3	µg/L	1	50.0	13.5	92	69.3 - 120.8
MTBE	27.9	µg/L	1	50.0	<0.318	56	83.9 - 128.7
trans-1,2-Dichloroethene	45.5	µg/L	1	50.0	<0.217	91	79.1 - 122.8
1,1-Dichloroethane	44.7	µg/L	1	50.0	<0.202	89	79.1 - 123.4
cis-1,2-Dichloroethene	45.6	µg/L	1	50.0	<0.309	91	80.9 - 126.8
2,2-Dichloropropane	26.3	µg/L	1	50.0	<0.318	53	10 - 142.9
1,2-Dichloroethane (EDC)	46.6	µg/L	1	50.0	<0.292	93	77.4 - 130.1
Chloroform	43.6	µg/L	1	50.0	<0.234	87	78 - 126
1,1,1-Trichloroethane	39.0	µg/L	1	50.0	<0.257	78	68.6 - 133.4
1,1-Dichloropropene	42.3	µg/L	1	50.0	<0.286	85	77.3 - 127.8
Benzene	45.1	µg/L	1	50.0	<0.319	90	69.8 - 128.2
Carbon Tetrachloride	37.1	µg/L	1	50.0	<0.223	74	76.3 - 127.1
1,2-Dichloropropane	45.1	µg/L	1	50.0	<0.266	90	79.4 - 127.2
Trichloroethene (TCE)	38.6	µg/L	1	50.0	<0.235	77	79.4 - 121
Dibromomethane (methylene bromide)	46.1	µg/L	1	50.0	<0.341	92	82.6 - 123
Bromodichloromethane	45.5	µg/L	1	50.0	<0.291	91	76.1 - 136.4
2-Chloroethyl vinyl ether	<0.293	µg/L	1	50.0	<0.293	0	10 - 191.4
cis-1,3-Dichloropropene	38.9	µg/L	1	50.0	<0.207	78	69.2 - 132.4
trans-1,3-Dichloropropene	39.9	µg/L	1	50.0	<0.293	80	72.3 - 132.4
Toluene	42.0	µg/L	1	50.0	<0.268	84	76.4 - 120

continued . . .

<sup>11</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>12</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>13</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>14</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>15</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.  
<sup>16</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued ...

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
1,1,2-Trichloroethane	46.1	µg/L	1	50.0	<0.329	92	82.3 - 120
1,3-Dichloropropane	47.2	µg/L	1	50.0	<0.316	94	75 - 126.2
Dibromochloromethane	39.4	µg/L	1	50.0	<0.290	79	71.2 - 143.9
1,2-Dibromoethane (EDB)	47.8	µg/L	1	50.0	<0.229	96	83.4 - 122.5
Tetrachloroethene (PCE)	20.4	µg/L	1	50.0	<0.233	41	23.6 - 138
Chlorobenzene	40.2	µg/L	1	50.0	<0.276	80	74 - 119.3
1,1,1,2-Tetrachloroethane	41.1	µg/L	1	50.0	<0.226	82	80 - 123
Ethylbenzene	40.8	µg/L	1	50.0	<0.245	82	72.3 - 127
m,p-Xylene	80.1	µg/L	1	100	<0.517	80	73.2 - 128
Bromoform	17 38.8	µg/L	1	50.0	<0.175	78	90.2 - 127.8
Styrene	18 1.07	µg/L	1	50.0	<0.239	2	53.8 - 145.5
o-Xylene	40.5	µg/L	1	50.0	<0.247	81	71.3 - 134.4
1,1,2,2-Tetrachloroethane	55.0	µg/L	1	50.0	<0.223	110	67 - 144
2-Chlorotoluene	39.2	µg/L	1	50.0	<0.235	78	62.7 - 128.9
1,2,3-Trichloropropane	56.2	µg/L	1	50.0	<0.230	112	68.5 - 122.8
Isopropylbenzene	38.9	µg/L	1	50.0	<0.226	78	61.8 - 133.9
Bromobenzene	44.5	µg/L	1	50.0	<0.245	89	67.2 - 123.6
n-Propylbenzene	36.5	µg/L	1	50.0	<0.234	73	61.6 - 128.2
1,3,5-Trimethylbenzene	36.4	µg/L	1	50.0	<0.261	73	66.4 - 125.8
tert-Butylbenzene	34.5	µg/L	1	50.0	<0.281	69	59.8 - 133
1,2,4-Trimethylbenzene	19 38.5	µg/L	1	50.0	<0.285	77	78.2 - 119.1
1,4-Dichlorobenzene (para)	37.4	µg/L	1	50.0	<0.307	75	68 - 118.4
sec-Butylbenzene	34.5	µg/L	1	50.0	<0.312	69	60.6 - 129.5
1,3-Dichlorobenzene (meta)	38.0	µg/L	1	50.0	<0.284	76	69.1 - 122
p-Isopropyltoluene	34.7	µg/L	1	50.0	<0.244	69	60.5 - 132
4-Chlorotoluene	40.0	µg/L	1	50.0	<0.257	80	65.3 - 127.7
1,2-Dichlorobenzene (ortho)	39.7	µg/L	1	50.0	<0.294	79	71.8 - 124.8
n-Butylbenzene	35.3	µg/L	1	50.0	<0.339	71	56.6 - 133.8
1,2-Dibromo-3-chloropropane	54.7	µg/L	1	50.0	<0.780	109	85.4 - 112.2
1,2,3-Trichlorobenzene	35.4	µg/L	1	50.0	<0.736	71	10 - 166.2
1,2,4-Trichlorobenzene	28.4	µg/L	1	50.0	<0.432	57	54.8 - 122.2
Naphthalene	45.6	µg/L	1	50.0	<0.475	91	24 - 169
Hexachlorobutadiene	33.3	µg/L	1	50.0	<1.02	67	35.6 - 136.3

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Bromochloromethane	52.1	µg/L	1	50.0	<0.197	104	84.8 - 121.5	14	20
Dichlorodifluoromethane	20 49.6	µg/L	1	50.0	<0.672	99	57.4 - 145.5	25	20
Chloromethane (methyl chloride)	57.5	µg/L	1	50.0	<0.542	115	73.9 - 126	16	20

continued ...

<sup>17</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>18</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>19</sup> Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>20</sup> MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

matrix spikes continued . . .

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec. Rec.	Rec. Limit	RPD	RPD Limit
Vinyl Chloride	51.0	µg/L	1	50.0	<0.516	102	71 - 130.3	17	20
Bromomethane (methyl bromide)	38.8	µg/L	1	50.0	<0.446	78	64.4 - 138.5	12	20
Chloroethane	43.8	µg/L	1	50.0	<0.656	88	65.1 - 140	14	20
Trichlorofluoromethane	<sup>21</sup> 55.1	µg/L	1	50.0	<0.538	110	76.7 - 146.9	40	20
Acetone	<sup>22</sup> 37.2	µg/L	1	50.0	<1.10	74	10 - 152.1	30	20
Iodomethane (methyl iodide)	46.6	µg/L	1	50.0	<0.214	93	81.3 - 123.9	19	20
Carbon Disulfide	51.0	µg/L	1	50.0	<0.294	102	81.4 - 123.5	10	20
Acrylonitrile	61.6	µg/L	1	50.0	<0.442	123	87.3 - 131.1	15	20
2-Butanone (MEK)	54.4	µg/L	1	50.0	<0.420	109	48.6 - 140.8	20	20
4-Methyl-2-pentanone (MIBK)	<sup>23</sup> 69.2	µg/L	1	50.0	<0.407	138	87.2 - 130.3	14	20
2-Hexanone	70.8	µg/L	1	50.0	<0.486	142	50.2 - 170.3	19	20
trans 1,4-Dichloro-2-butene	<sup>24</sup> 60.6	µg/L	1	50.0	<0.463	121	65.4 - 129.5	22	20
1,1-Dichloroethene	46.3	µg/L	1	50.0	<0.237	93	80.6 - 122.4	11	20
Methylene chloride	66.7	µg/L	1	50.0	13.5	106	69.3 - 120.8	12	20
MTBE	<sup>25</sup> 32.7	µg/L	1	50.0	<0.318	65	83.9 - 128.7	16	20
trans-1,2-Dichloroethene	51.5	µg/L	1	50.0	<0.217	103	79.1 - 122.8	12	20
1,1-Dichloroethane	52.0	µg/L	1	50.0	<0.202	104	79.1 - 123.4	15	20
cis-1,2-Dichloroethene	53.0	µg/L	1	50.0	<0.309	106	80.9 - 126.8	15	20
2,2-Dichloropropane	29.6	µg/L	1	50.0	<0.318	59	10 - 142.9	12	20
1,2-Dichloroethane (EDC)	53.9	µg/L	1	50.0	<0.292	108	77.4 - 130.1	14	20
Chloroform	50.8	µg/L	1	50.0	<0.234	102	78 - 126	15	20
1,1,1-Trichloroethane	46.2	µg/L	1	50.0	<0.257	92	68.6 - 133.4	17	20
1,1-Dichloropropene	49.8	µg/L	1	50.0	<0.286	100	77.3 - 127.8	16	20
Benzene	52.3	µg/L	1	50.0	<0.319	105	69.8 - 128.2	15	20
Carbon Tetrachloride	44.1	µg/L	1	50.0	<0.223	88	76.3 - 127.1	17	20
1,2-Dichloropropane	53.5	µg/L	1	50.0	<0.266	107	79.4 - 127.2	17	20
Trichloroethene (TCE)	46.7	µg/L	1	50.0	<0.235	93	79.4 - 121	19	20
Dibromomethane (methylene bromide)	54.7	µg/L	1	50.0	<0.341	109	82.6 - 123	17	20
Bromodichloromethane	53.9	µg/L	1	50.0	<0.291	108	76.1 - 136.4	17	20
2-Chloroethyl vinyl ether	<sup>26</sup> <0.293	µg/L	1	50.0	<0.293	0	10 - 191.4	0	20
cis-1,3-Dichloropropene	46.6	µg/L	1	50.0	<0.207	93	69.2 - 132.4	18	20
trans-1,3-Dichloropropene	47.6	µg/L	1	50.0	<0.293	95	72.3 - 132.4	18	20
Toluene	50.3	µg/L	1	50.0	<0.268	101	76.4 - 120	18	20
1,1,2-Trichloroethane	54.4	µg/L	1	50.0	<0.329	109	82.3 - 120	16	20
1,3-Dichloropropane	55.1	µg/L	1	50.0	<0.316	110	75 - 126.2	15	20
Dibromochloromethane	47.4	µg/L	1	50.0	<0.290	95	71.2 - 143.9	18	20
1,2-Dibromoethane (EDB)	56.2	µg/L	1	50.0	<0.229	112	83.4 - 122.5	16	20

continued . . .

<sup>21</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>22</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>23</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

<sup>24</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>25</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. RPD within RPD limits.

<sup>26</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. RPD within RPD limits.

matrix spikes continued ...

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Tetrachloroethene (PCE)	24.4	µg/L	1	50.0	<0.233	49	23.6 - 138	18	20
Chlorobenzene	47.9	µg/L	1	50.0	<0.276	96	74 - 119.3	18	20
1,1,1,2-Tetrachloroethane	49.6	µg/L	1	50.0	<0.226	99	80 - 123	19	20
Ethylbenzene	48.9	µg/L	1	50.0	<0.245	98	72.3 - 127	18	20
m,p-Xylene	96.0	µg/L	1	100	<0.517	96	73.2 - 128	18	20
Bromoform	46.8	µg/L	1	50.0	<0.175	94	90.2 - 127.8	19	20
Styrene	<sup>27</sup> 1.26	µg/L	1	50.0	<0.239	2	53.8 - 145.5	16	20
o-Xylene	49.0	µg/L	1	50.0	<0.247	98	71.3 - 134.4	19	20
1,1,2,2-Tetrachloroethane	66.8	µg/L	1	50.0	<0.223	134	67 - 144	19	20
2-Chlorotoluene	46.6	µg/L	1	50.0	<0.235	93	62.7 - 128.9	17	20
1,2,3-Trichloropropane	<sup>28</sup> 67.6	µg/L	1	50.0	<0.230	135	68.5 - 122.8	18	20
Isopropylbenzene	46.9	µg/L	1	50.0	<0.226	94	61.8 - 133.9	19	20
Bromobenzene	53.9	µg/L	1	50.0	<0.245	108	67.2 - 123.6	19	20
n-Propylbenzene	43.4	µg/L	1	50.0	<0.234	87	61.6 - 128.2	17	20
1,3,5-Trimethylbenzene	44.0	µg/L	1	50.0	<0.261	88	66.4 - 125.8	19	20
tert-Butylbenzene	<sup>29</sup> 42.3	µg/L	1	50.0	<0.281	85	59.8 - 133	20	20
1,2,4-Trimethylbenzene	45.9	µg/L	1	50.0	<0.285	92	78.2 - 119.1	18	20
1,4-Dichlorobenzene (para)	44.9	µg/L	1	50.0	<0.307	90	68 - 118.4	18	20
sec-Butylbenzene	42.1	µg/L	1	50.0	<0.312	84	60.6 - 129.5	20	20
1,3-Dichlorobenzene (meta)	45.6	µg/L	1	50.0	<0.284	91	69.1 - 122	18	20
p-Isopropyltoluene	42.1	µg/L	1	50.0	<0.244	84	60.5 - 132	19	20
4-Chlorotoluene	47.8	µg/L	1	50.0	<0.257	96	65.3 - 127.7	18	20
1,2-Dichlorobenzene (ortho)	48.4	µg/L	1	50.0	<0.294	97	71.8 - 124.8	20	20
n-Butylbenzene	42.9	µg/L	1	50.0	<0.339	86	56.6 - 133.8	19	20
1,2-Dibromo-3-chloropropane	<sup>30</sup> 67.0	µg/L	1	50.0	<0.780	134	85.4 - 112.2	20	20
1,2,3-Trichlorobenzene	<sup>31</sup> 46.1	µg/L	1	50.0	<0.736	92	10 - 166.2	26	20
1,2,4-Trichlorobenzene	<sup>32</sup> 36.4	µg/L	1	50.0	<0.432	73	54.8 - 122.2	25	20
Naphthalene	<sup>33</sup> 58.4	µg/L	1	50.0	<0.475	117	24 - 169	25	20
Hexachlorobutadiene	<sup>34</sup> 42.3	µg/L	1	50.0	<1.02	85	35.6 - 136.3	24	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Surrogate	MS Result	MSD Result	Units	Dil.	Spike Amount	MS Rec.	MSD Rec.	Rec. Limit
Dibromofluoromethane	54.1	53.3	µg/L	1	50	108	107	83.9 - 120
Toluene-d8	50.0	49.8	µg/L	1	50	100	100	86.8 - 111
4-Bromofluorobenzene (4-BFB)	47.9	47.9	µg/L	1	50	96	96	82.2 - 117

<sup>27</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control. RPD within RPD limits.

<sup>28</sup>MSD analyte out of range. MS/MSD has a RPD within limits. Therefore, MS shows extraction occurred properly.

<sup>29</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>30</sup>MSD analyte out of range. RPD outside RPD limits.

<sup>31</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>32</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>33</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

<sup>34</sup>MS/MSD RPD out of RPD Limits. Use LCS/LCSD to demonstrate analysis is under control.

**Matrix Spike (MS-1)** Spiked Sample: 178800

QC Batch: 54162 Date Analyzed: 2008-11-11 Analyzed By: TP  
 Prep Batch: 46332 QC Preparation: 2008-11-11 Prepared By: TP

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Total Mercury	<sup>35</sup> 0.000715	mg/L	1	0.00100	<0.0000251	72	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Total Mercury	0.000748	mg/L	1	0.00100	<0.0000251	75	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (xMS-1)** Spiked Sample:

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
 Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	262	mg/L	1	50.0	211	102	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Calcium	261	mg/L	1	50.0	211	100	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (xMS-1)** Spiked Sample:

QC Batch: 54204 Date Analyzed: 2008-11-13 Analyzed By: TP  
 Prep Batch: 46313 QC Preparation: 2008-11-11 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Potassium	55.5	mg/L	1	50.0	5.53	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

*continued ...*

<sup>35</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.



Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Mercury	<sup>36</sup> 0.000625	mg/L	1	0.00100	5.8e-05	57	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Mercury	<sup>37</sup> 0.000653	mg/L	1	0.00100	5.8e-05	60	75 - 125	4	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178803**

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
 Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Silver	0.119	mg/L	1	0.125	<0.000700	95	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Silver	0.118	mg/L	1	0.125	<0.000700	94	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178803**

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
 Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Arsenic	0.518	mg/L	1	0.500	<0.00850	104	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Arsenic	0.508	mg/L	1	0.500	<0.00850	102	75 - 125	2	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

<sup>36</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>37</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

**Matrix Spike (MS-1) Spiked Sample: 178803**

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
 Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Barium	0.998	mg/L	1	1.00	0.02	98	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Barium	0.997	mg/L	1	1.00	0.02	98	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178803**

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
 Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Cadmium	0.259	mg/L	1	0.250	<0.00110	104	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Cadmium	0.257	mg/L	1	0.250	<0.00110	103	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1) Spiked Sample: 178803**

QC Batch: 54521 Date Analyzed: 2008-11-21 Analyzed By: RR  
 Prep Batch: 46614 QC Preparation: 2008-11-21 Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Chromium	0.0950	mg/L	1	0.100	<0.00200	95	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Chromium	0.0950	mg/L	1	0.100	<0.00200	95	75 - 125	0	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

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**Matrix Spike (MS-1)** Spiked Sample: 178803

QC Batch: 54521  
Prep Batch: 46614

Date Analyzed: 2008-11-21  
QC Preparation: 2008-11-21

Analyzed By: RR  
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Lead	0.498	mg/L	1	0.500	<0.00460	100	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Lead	0.495	mg/L	1	0.500	<0.00460	99	75 - 125	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 178803

QC Batch: 54521  
Prep Batch: 46614

Date Analyzed: 2008-11-21  
QC Preparation: 2008-11-21

Analyzed By: RR  
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Selenium	0.523	mg/L	1	0.500	<0.0106	105	75 - 125

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Selenium	0.509	mg/L	1	0.500	<0.0106	102	75 - 125	3	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 178803

QC Batch: 54521  
Prep Batch: 46614

Date Analyzed: 2008-11-21  
QC Preparation: 2008-11-21

Analyzed By: RR  
Prepared By: KV

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Silica	14.2	mg/L	1	1.00	13.1	110	75 - 115

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Param	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Silica	14.0	mg/L	1	1.00	13.1	90	75 - 115	1	20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.



Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Bromochloromethane		µg/L	50.0	50.9	102	70 - 130	2008-11-10
Dichlorodifluoromethane		µg/L	50.0	49.9	100	70 - 130	2008-11-10
Chloromethane (methyl chloride)		µg/L	50.0	51.4	103	70 - 130	2008-11-10
Vinyl Chloride		µg/L	50.0	52.7	105	80 - 120	2008-11-10
Bromomethane (methyl bromide)		µg/L	50.0	48.6	97	70 - 130	2008-11-10
Chloroethane		µg/L	50.0	50.2	100	70 - 130	2008-11-10
Trichlorofluoromethane		µg/L	50.0	49.3	99	70 - 130	2008-11-10
Acetone		µg/L	50.0	52.0	104	70 - 130	2008-11-10
Iodomethane (methyl iodide)		µg/L	50.0	49.3	99	70 - 130	2008-11-10
Carbon Disulfide		µg/L	50.0	52.4	105	70 - 130	2008-11-10
Acrylonitrile		µg/L	50.0	53.3	107	70 - 130	2008-11-10
2-Butanone (MEK)		µg/L	50.0	55.4	111	70 - 130	2008-11-10
4-Methyl-2-pentanone (MIBK)		µg/L	50.0	44.8	90	70 - 130	2008-11-10
2-Hexanone		µg/L	50.0	50.0	100	70 - 130	2008-11-10
trans 1,4-Dichloro-2-butene		µg/L	50.0	57.0	114	70 - 130	2008-11-10
1,1-Dichloroethene		µg/L	50.0	49.3	99	80 - 120	2008-11-10
Methylene chloride		µg/L	50.0	52.7	105	70 - 130	2008-11-10
MTBE		µg/L	50.0	48.6	97	70 - 130	2008-11-10
trans-1,2-Dichloroethene		µg/L	50.0	52.8	106	70 - 130	2008-11-10
1,1-Dichloroethane		µg/L	50.0	52.9	106	70 - 130	2008-11-10
cis-1,2-Dichloroethene		µg/L	50.0	52.8	106	70 - 130	2008-11-10
2,2-Dichloropropane		µg/L	50.0	51.6	103	70 - 130	2008-11-10
1,2-Dichloroethane (EDC)		µg/L	50.0	51.0	102	70 - 130	2008-11-10
Chloroform		µg/L	50.0	51.0	102	80 - 120	2008-11-10
1,1,1-Trichloroethane		µg/L	50.0	49.3	99	70 - 130	2008-11-10
1,1-Dichloropropene		µg/L	50.0	51.0	102	70 - 130	2008-11-10
Benzene		µg/L	50.0	51.4	103	70 - 130	2008-11-10
Carbon Tetrachloride		µg/L	50.0	46.3	93	70 - 130	2008-11-10
1,2-Dichloropropane		µg/L	50.0	52.4	105	80 - 120	2008-11-10
Trichloroethene (TCE)		µg/L	50.0	46.3	93	70 - 130	2008-11-10
Dibromomethane (methylene bromide)		µg/L	50.0	49.7	99	70 - 130	2008-11-10
Bromodichloromethane		µg/L	50.0	52.1	104	70 - 130	2008-11-10
2-Chloroethyl vinyl ether		µg/L	50.0	39.0	78	70 - 130	2008-11-10
cis-1,3-Dichloropropene		µg/L	50.0	48.5	97	70 - 130	2008-11-10
trans-1,3-Dichloropropene		µg/L	50.0	48.4	97	70 - 130	2008-11-10
Toluene		µg/L	50.0	50.3	101	80 - 120	2008-11-10
1,1,2-Trichloroethane		µg/L	50.0	49.4	99	70 - 130	2008-11-10
1,3-Dichloropropane		µg/L	50.0	50.1	100	70 - 130	2008-11-10
Dibromochloromethane		µg/L	50.0	44.0	88	70 - 130	2008-11-10
1,2-Dibromoethane (EDB)		µg/L	50.0	49.4	99	70 - 130	2008-11-10
Tetrachloroethene (PCE)	38	µg/L	50.0	34.0	68	70 - 130	2008-11-10
Chlorobenzene		µg/L	50.0	47.4	95	80 - 120	2008-11-10

continued ...

<sup>38</sup>Tetrachloroethene outside of control limits on CCV(ICV). CCV(ICV) component average is 99 which is within acceptable range. This is acceptable by Method 8000.

standard continued . . .

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
1,1,1,2-Tetrachloroethane		µg/L	50.0	47.9	96	70 - 130	2008-11-10
Ethylbenzene		µg/L	50.0	50.8	102	80 - 120	2008-11-10
m,p-Xylene		µg/L	100	101	101	70 - 130	2008-11-10
Bromoform		µg/L	50.0	42.1	84	70 - 130	2008-11-10
Styrene		µg/L	50.0	46.4	93	70 - 130	2008-11-10
o-Xylene		µg/L	50.0	52.1	104	70 - 130	2008-11-10
1,1,2,2-Tetrachloroethane		µg/L	50.0	53.0	106	70 - 130	2008-11-10
2-Chlorotoluene		µg/L	50.0	47.8	96	70 - 130	2008-11-10
1,2,3-Trichloropropane		µg/L	50.0	52.2	104	70 - 130	2008-11-10
Isopropylbenzene		µg/L	50.0	49.7	99	70 - 130	2008-11-10
Bromobenzene		µg/L	50.0	49.4	99	70 - 130	2008-11-10
n-Propylbenzene		µg/L	50.0	47.5	95	70 - 130	2008-11-10
1,3,5-Trimethylbenzene		µg/L	50.0	48.7	97	70 - 130	2008-11-10
tert-Butylbenzene		µg/L	50.0	50.0	95	70 - 130	2008-11-10
1,2,4-Trimethylbenzene		µg/L	50.0	50.0	100	70 - 130	2008-11-10
1,4-Dichlorobenzene (para)		µg/L	50.0	46.3	93	70 - 130	2008-11-10
sec-Butylbenzene		µg/L	50.0	47.9	96	70 - 130	2008-11-10
1,3-Dichlorobenzene (meta)		µg/L	50.0	47.3	95	70 - 130	2008-11-10
p-Isopropyltoluene		µg/L	50.0	49.0	98	70 - 130	2008-11-10
4-Chlorotoluene		µg/L	50.0	48.6	97	70 - 130	2008-11-10
1,2-Dichlorobenzene (ortho)		µg/L	50.0	48.2	96	70 - 130	2008-11-10
n-Butylbenzene		µg/L	50.0	50.6	101	70 - 130	2008-11-10
1,2-Dibromo-3-chloropropane		µg/L	50.0	41.1	82	70 - 130	2008-11-10
1,2,3-Trichlorobenzene		µg/L	50.0	41.8	84	70 - 130	2008-11-10
1,2,4-Trichlorobenzene		µg/L	50.0	36.7	73	70 - 130	2008-11-10
Naphthalene		µg/L	50.0	39.0	78	70 - 130	2008-11-10
Hexachlorobutadiene		µg/L	50.0	45.0	90	70 - 130	2008-11-10

Standard (ICV-1)

QC Batch: 54146

Date Analyzed: 2008-11-10

Analyzed By: RG

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Alkalinity		mg/L as CaCo3	250	238	95	95 - 105	2008-11-10

Standard (CCV-1)

QC Batch: 54146

Date Analyzed: 2008-11-10

Analyzed By: RG





















Report Date: November 21, 2008  
 NMSWD Station #11

Work Order: 8110902  
 GW Sampling

Page Number: 94 of 94  
 NM-SWD Station #11, Lea Co., NM

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.123	98	90 - 110	2008-11-21
Total Arsenic		mg/L	1.00	0.997	100	95 - 105	2008-11-21
Total Barium		mg/L	1.00	1.01	101	95 - 105	2008-11-21
Total Cadmium		mg/L	1.00	1.00	100	95 - 105	2008-11-21
Total Chromium		mg/L	1.00	1.01	101	95 - 105	2008-11-21
Total Lead		mg/L	1.00	0.999	100	95 - 105	2008-11-21
Total Selenium		mg/L	1.00	0.999	100	95 - 105	2008-11-21

Standard (CCV-1)

QC Batch: 54523

Date Analyzed: 2008-11-21

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silica		mg/L	5.00	4.68	94	90 - 110	2008-11-21

Standard (CCV-1)

QC Batch: 54523

Date Analyzed: 2008-11-21

Analyzed By: RR

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Silver		mg/L	0.125	0.120	96	90 - 110	2008-11-21
Total Arsenic		mg/L	1.00	0.954	95	90 - 110	2008-11-21
Total Barium		mg/L	1.00	1.01	101	90 - 110	2008-11-21
Total Cadmium		mg/L	1.00	0.994	99	90 - 110	2008-11-21
Total Chromium		mg/L	1.00	0.991	99	90 - 110	2008-11-21
Total Lead		mg/L	1.00	0.966	97	90 - 110	2008-11-21
Total Selenium		mg/L	1.00	0.959	96	90 - 110	2008-11-21

81109102

# TraceAnalysis, Inc.

6701 Aberdeen Avenue, Suite 9  
Lubbock, Texas 79704  
Tel (806) 794-1296  
Fax (806) 794-1298  
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8808 Camp Bowie Blvd. West, Suite 180  
Ft. Worth, Texas 76116  
Tel (817) 201-5260  
Fax (817) 560-4336

email: lab@traceanalysis.com

Company Name: New Mexico Salt Water Disposal Co. Phone #: 575-622-8800  
 Address: PO Box 1213 Roswell, NM 88202-1213 Fax #: 575-622-8805  
 Contact Person: Rory McMin E-mail: RoryMcMin@dm.com  
 Invoice to: PO Box 1518 Roswell, NM 88202-1518  
 Project #: NMSWD Station #11 Project Name: GW Sampling  
 Project Location (including state): NM-SWD Station #11, Lea Co. N.M. Sampler Signature: [Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume / Amount	MATRIX			PRESERVATIVE METHOD					SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	ICE	NONE	DATE
17980	NMSWD Station #11	6	-	X				X	X	X	X	X	11/06/08	1144
802	NMSWD Station #11 MW-1	6	-	X				X	X	X	X	X	11/06/08	1255
803	NMSWD Station #11 MW-2	6	-	X				X	X	X	X	X	11/09/08	1345
804	NMSWD Station #11 RW-1	6	-	X				X	X	X	X	X	11/05/08	1415
	Temp Blank													

Relinquished by: [Signature] Company: CMS Date: 11/07/08 Time: 0800 Temp: 5.9  
 Relinquished by: [Signature] Company: TA Date: 11-5-08 Time: 9:30 Temp: 5.9  
 Relinquished by: [Signature] Company: TA Date: 11-5-08 Time: 9:30 Temp: 5.9

## ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B / 602 / 8260B / 624	X	↓
BTEX 8021B / 602 / 8260B / 624	X	↓
TPH 418.1 / TX1005 / TX1005 Ex(C35)	X	↓
TPH 8015 GRO / DRO / TVHC		
PAH 8270C / 625		
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	X	↓
TCLP Metals Ag As Ba Cd Cr Pb Se Hg		
TCLP Semi Volatiles		
TCLP Pesticides		
RCI		
GC/MS Vol. 8260B / 624	X	↓
GC/MS Semi. Vol. 8270C / 625	X	↓
PCBs 8082 / 608		
Pesticides 8081A / 608		
BOD (5) PH		
Moisture Content		
Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> / Ca <sub>2</sub> / Mg <sub>2</sub> / SO <sub>4</sub> / Cl	X	↓
Milk / Comp / Cl	X	↓

LAB USE ONLY  
 In tact  / N  
 Headspace  / N / A  
 Log-in/Review 8/19/08

REMARKS: Sample Bottles?  
3x40ml VOR's w/ HCL  
1x 50ml IP / HNO<sub>3</sub>, 1x 12/6/NAF  
1x 15/1P/NAF

Dry Weight Basis Required  
 TRRP Report Required  
 Check If Special Reporting Limits Are Needed

## Summary Report

Rory McMinn  
New Mexico Salt Water Disposal Co.  
P.O. box 1213  
Roswell, NM 88202

Report Date: November 14, 2008

Work Order: 8110902



Project Location: NM-SWD Station #11, Lea Co., NM  
Project Name: GW Sampling  
Project Number: NMSWD Station #11

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
178801	NMSWD Station #11 MW-3	water	2008-11-06	11:41	2008-11-08
178802	NMSWD Station #11 MW-1	water	2008-11-06	12:55	2008-11-08
178803	NMSWD Station #11 MW-2	water	2008-11-06	13:45	2008-11-08
178804	NMSWD Station #11 RW-1	water	2008-11-06	14:15	2008-11-08

### Sample: 178801 - NMSWD Station #11 MW-3

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		218	mg/L as CaCo3	4.00
Total Alkalinity		218	mg/L as CaCo3	4.00
Dissolved Calcium		65.3	mg/L	1.00
Chloride		234	mg/L	3.00
Specific Conductance		1530	uMHOS/cm	0.00
Dissolved Potassium		10.6	mg/L	1.00
Dissolved Magnesium		13.3	mg/L	1.00
Dissolved Sodium		332	mg/L	1.00
pH		7.91	s.u.	0.00
Pyridine		<0.00458	mg/L	0.00500
N-Nitrosodimethylamine		<0.00458	mg/L	0.00500
2-Picoline		<0.00458	mg/L	0.00500
Methyl methanesulfonate		<0.00458	mg/L	0.00500
Ethyl methanesulfonate		<0.00458	mg/L	0.00500
Phenol		<0.00458	mg/L	0.00500
Aniline		<0.00458	mg/L	0.00500

continued . . .

sample 178801 continued ...

Param	Flag	Result	Units	RL
bis(2-chloroethyl)ether		<0.00458	mg/L	0.00500
2-Chlorophenol		<0.00458	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00458	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00458	mg/L	0.00500
Benzyl alcohol		<0.00458	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00458	mg/L	0.00500
2-Methylphenol		<0.00458	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00458	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00458	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00458	mg/L	0.00500
Hexachloroethane		<0.00458	mg/L	0.00500
Acetophenone		<0.00458	mg/L	0.00500
Nitrobenzene		<0.00458	mg/L	0.00500
N-Nitrosopiperidine		<0.00458	mg/L	0.00500
Isophorone		<0.00458	mg/L	0.00500
2-Nitrophenol		<0.00458	mg/L	0.00500
2,4-Dimethylphenol		<0.00458	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00458	mg/L	0.00500
2,4-Dichlorophenol		<0.00458	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00458	mg/L	0.00500
Benzoic acid		<0.00458	mg/L	0.00500
Naphthalene		<0.00458	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00458	mg/L	0.00500
4-Chloroaniline		<0.00458	mg/L	0.00500
2,6-Dichlorophenol		<0.00917	mg/L	0.0100
Hexachlorobutadiene		<0.00458	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00458	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00458	mg/L	0.00500
2-Methylnaphthalene		<0.00458	mg/L	0.00500
1-Methylnaphthalene		<0.00458	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00458	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00458	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00917	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00458	mg/L	0.00500
2-Chloronaphthalene		<0.00458	mg/L	0.00500
1-Chloronaphthalene		<0.00458	mg/L	0.00500
2-Nitroaniline		<0.00458	mg/L	0.00500
Dimethylphthalate		<0.00458	mg/L	0.00500
Acenaphthylene		<0.00458	mg/L	0.00500
2,6-Dinitrotoluene		<0.00458	mg/L	0.00500
3-Nitroaniline		<0.00458	mg/L	0.00500
Acenaphthene		<0.00458	mg/L	0.00500
2,4-Dinitrophenol		<0.00458	mg/L	0.00500
Dibenzofuran		<0.00458	mg/L	0.00500
Pentachlorobenzene		<0.00458	mg/L	0.00500
4-Nitrophenol		<0.0229	mg/L	0.0250
2,4-Dinitrotoluene		<0.00458	mg/L	0.00500

continued ...

sample 178801 continued ...

Param	Flag	Result	Units	RL
1-Naphthylamine		<0.00458	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00917	mg/L	0.0100
2-Naphthylamine		<0.00458	mg/L	0.00500
Fluorene		<0.00458	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00458	mg/L	0.00500
Diethylphthalate		<0.00458	mg/L	0.00500
4-Nitroaniline		<0.00458	mg/L	0.00500
Diphenylhydrazine		<0.00458	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00458	mg/L	0.00500
Diphenylamine		<0.00458	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00458	mg/L	0.00500
Phenacetin		<0.00458	mg/L	0.00500
Hexachlorobenzene		<0.00458	mg/L	0.00500
4-Aminobiphenyl		<0.00458	mg/L	0.00500
Pentachlorophenol		<0.00917	mg/L	0.0100
Anthracene		<0.00458	mg/L	0.00500
Pentachloronitrobenzene		<0.00458	mg/L	0.00500
Pronamide		<0.00458	mg/L	0.00500
Phenanthrene		<0.00458	mg/L	0.00500
Di-n-butylphthalate		<0.00458	mg/L	0.00500
Fluoranthene		<0.00458	mg/L	0.00500
Benzidine		<0.0229	mg/L	0.0250
Pyrene		<0.00458	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00458	mg/L	0.00500
Butylbenzylphthalate		<0.00458	mg/L	0.00500
Benzo(a)anthracene		<0.00458	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00458	mg/L	0.00500
Chrysene		<0.00458	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00458	mg/L	0.00500
Di-n-octylphthalate		<0.00458	mg/L	0.00500
Benzo(b)fluoranthene		<0.00458	mg/L	0.00500
Benzo(k)fluoranthene		<0.00458	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00458	mg/L	0.00500
Benzo(a)pyrene		<0.00458	mg/L	0.00500
3-Methylcholanthrene		<0.00458	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00458	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00458	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00458	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00458	mg/L	0.00500
Total Silica		<0.0500	mg/L	0.0500
Sulfate		446	mg/L	1.00
Total Dissolved Solids		1122	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<0.0100	mg/L	0.0100
Total Barium		0.0890	mg/L	0.00500
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		0.0150	mg/L	0.00500

continued ...

sample 178801 continued ...

Param	Flag	Result	Units	RL
Total Mercury		<0.000200	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		<b>546</b>	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00

continued ...

sample 178801 continued ...

Param	Flag	Result	Units	RL
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 178802 - NMSWD Station #11 MW-1

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		188	mg/L as CaCo3	4.00
Total Alkalinity		188	mg/L as CaCo3	4.00
Dissolved Calcium		64.4	mg/L	1.00
Chloride		325	mg/L	3.00
Specific Conductance		1590	uMHOS/cm	0.00
Dissolved Potassium		9.47	mg/L	1.00
Dissolved Magnesium		16.3	mg/L	1.00
Dissolved Sodium		334	mg/L	1.00
pH		7.89	s.u.	0.00
Pyridine		<0.00465	mg/L	0.00500
N-Nitrosodimethylamine		<0.00465	mg/L	0.00500
2-Picoline		<0.00465	mg/L	0.00500
Methyl methanesulfonate		<0.00465	mg/L	0.00500
Ethyl methanesulfonate		<0.00465	mg/L	0.00500

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
Phenol		<0.00465	mg/L	0.00500
Aniline		<0.00465	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00465	mg/L	0.00500
2-Chlorophenol		<0.00465	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00465	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00465	mg/L	0.00500
Benzyl alcohol		<0.00465	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00465	mg/L	0.00500
2-Methylphenol		<0.00465	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00465	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00465	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00465	mg/L	0.00500
Hexachloroethane		<0.00465	mg/L	0.00500
Acetophenone		<0.00465	mg/L	0.00500
Nitrobenzene		<0.00465	mg/L	0.00500
N-Nitrosopiperidine		<0.00465	mg/L	0.00500
Isophorone		<0.00465	mg/L	0.00500
2-Nitrophenol		<0.00465	mg/L	0.00500
2,4-Dimethylphenol		<0.00465	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00465	mg/L	0.00500
2,4-Dichlorophenol		<0.00465	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00465	mg/L	0.00500
Benzoic acid		<0.00465	mg/L	0.00500
Naphthalene		<0.00465	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00465	mg/L	0.00500
4-Chloroaniline		<0.00465	mg/L	0.00500
2,6-Dichlorophenol		<0.00930	mg/L	0.0100
Hexachlorobutadiene		<0.00465	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00465	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00465	mg/L	0.00500
2-Methylnaphthalene		<0.00465	mg/L	0.00500
1-Methylnaphthalene		<0.00465	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00465	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00465	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00930	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00465	mg/L	0.00500
2-Chloronaphthalene		<0.00465	mg/L	0.00500
1-Chloronaphthalene		<0.00465	mg/L	0.00500
2-Nitroaniline		<0.00465	mg/L	0.00500
Dimethylphthalate		<0.00465	mg/L	0.00500
Acenaphthylene		<0.00465	mg/L	0.00500
2,6-Dinitrotoluene		<0.00465	mg/L	0.00500
3-Nitroaniline		<0.00465	mg/L	0.00500
Acenaphthene		<0.00465	mg/L	0.00500
2,4-Dinitrophenol		<0.00465	mg/L	0.00500
Dibenzofuran		<0.00465	mg/L	0.00500
Pentachlorobenzene		<0.00465	mg/L	0.00500

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
4-Nitrophenol		<0.0232	mg/L	0.0250
2,4-Dinitrotoluene		<0.00465	mg/L	0.00500
1-Naphthylamine		<0.00465	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00930	mg/L	0.0100
2-Naphthylamine		<0.00465	mg/L	0.00500
Fluorene		<0.00465	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00465	mg/L	0.00500
Diethylphthalate		<0.00465	mg/L	0.00500
4-Nitroaniline		<0.00465	mg/L	0.00500
Diphenylhydrazine		<0.00465	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00465	mg/L	0.00500
Diphenylamine		<0.00465	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00465	mg/L	0.00500
Phenacetin		<0.00465	mg/L	0.00500
Hexachlorobenzene		<0.00465	mg/L	0.00500
4-Aminobiphenyl		<0.00465	mg/L	0.00500
Pentachlorophenol		<0.00930	mg/L	0.0100
Anthracene		<0.00465	mg/L	0.00500
Pentachloronitrobenzene		<0.00465	mg/L	0.00500
Pronamide		<0.00465	mg/L	0.00500
Phenanthrene		<0.00465	mg/L	0.00500
Di-n-butylphthalate		<0.00465	mg/L	0.00500
Fluoranthene		<0.00465	mg/L	0.00500
Benzidine		<0.0232	mg/L	0.0250
Pyrene		<0.00465	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00465	mg/L	0.00500
Butylbenzylphthalate		<0.00465	mg/L	0.00500
Benzo(a)anthracene		<0.00465	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00465	mg/L	0.00500
Chrysene		<0.00465	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00465	mg/L	0.00500
Di-n-octylphthalate		<0.00465	mg/L	0.00500
Benzo(b)fluoranthene		<0.00465	mg/L	0.00500
Benzo(k)fluoranthene		<0.00465	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00465	mg/L	0.00500
Benzo(a)pyrene		<0.00465	mg/L	0.00500
3-Methylcholanthrene		<0.00465	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00465	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00465	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00465	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00465	mg/L	0.00500
Total Silica		<0.0500	mg/L	0.0500
Sulfate		<b>385</b>	mg/L	1.00
Total Dissolved Solids		<b>1154</b>	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<0.0100	mg/L	0.0100
Total Barium		<b>0.0400</b>	mg/L	0.00500

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		<0.00500	mg/L	0.00500
Total Mercury		<0.000200	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		414	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 178803 - NMSWD Station #11 MW-2

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		208	mg/L as CaCo3	4.00
Total Alkalinity		208	mg/L as CaCo3	4.00
Dissolved Calcium		54.5	mg/L	1.00
Chloride		241	mg/L	3.00
Specific Conductance		1350	µMHOS/cm	0.00
Dissolved Potassium		9.14	mg/L	1.00
Dissolved Magnesium		10.2	mg/L	1.00
Dissolved Sodium		309	mg/L	1.00
pH		7.68	s.u.	0.00
Pyridine		<0.00468	mg/L	0.00500
N-Nitrosodimethylamine		<0.00468	mg/L	0.00500
2-Picoline		<0.00468	mg/L	0.00500

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
Methyl methanesulfonate		<0.00468	mg/L	0.00500
Ethyl methanesulfonate		<0.00468	mg/L	0.00500
Phenol		<0.00468	mg/L	0.00500
Aniline		<0.00468	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00468	mg/L	0.00500
2-Chlorophenol		<0.00468	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00468	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00468	mg/L	0.00500
Benzyl alcohol		<0.00468	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00468	mg/L	0.00500
2-Methylphenol		<0.00468	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00468	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00468	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00468	mg/L	0.00500
Hexachloroethane		<0.00468	mg/L	0.00500
Acetophenone		<0.00468	mg/L	0.00500
Nitrobenzene		<0.00468	mg/L	0.00500
N-Nitrosopiperidine		<0.00468	mg/L	0.00500
Isophorone		<0.00468	mg/L	0.00500
2-Nitrophenol		<0.00468	mg/L	0.00500
2,4-Dimethylphenol		<0.00468	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00468	mg/L	0.00500
2,4-Dichlorophenol		<0.00468	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00468	mg/L	0.00500
Benzoic acid		<0.00468	mg/L	0.00500
Naphthalene		<0.00468	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00468	mg/L	0.00500
4-Chloroaniline		<0.00468	mg/L	0.00500
2,6-Dichlorophenol		<0.00935	mg/L	0.0100
Hexachlorobutadiene		<0.00468	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00468	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00468	mg/L	0.00500
2-Methylnaphthalene		<0.00468	mg/L	0.00500
1-Methylnaphthalene		<0.00468	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00468	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00468	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00935	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00468	mg/L	0.00500
2-Chloronaphthalene		<0.00468	mg/L	0.00500
1-Chloronaphthalene		<0.00468	mg/L	0.00500
2-Nitroaniline		<0.00468	mg/L	0.00500
Dimethylphthalate		<0.00468	mg/L	0.00500
Acenaphthylene		<0.00468	mg/L	0.00500
2,6-Dinitrotoluene		<0.00468	mg/L	0.00500
3-Nitroaniline		<0.00468	mg/L	0.00500
Acenaphthene		<0.00468	mg/L	0.00500
2,4-Dinitrophenol		<0.00468	mg/L	0.00500

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
Dibenzofuran		<0.00468	mg/L	0.00500
Pentachlorobenzene		<0.00468	mg/L	0.00500
4-Nitrophenol		<0.0234	mg/L	0.0250
2,4-Dinitrotoluene		<0.00468	mg/L	0.00500
1-Naphthylamine		<0.00468	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00935	mg/L	0.0100
2-Naphthylamine		<0.00468	mg/L	0.00500
Fluorene		<0.00468	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00468	mg/L	0.00500
Diethylphthalate		<0.00468	mg/L	0.00500
4-Nitroaniline		<0.00468	mg/L	0.00500
Diphenylhydrazine		<0.00468	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00468	mg/L	0.00500
Diphenylamine		<0.00468	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00468	mg/L	0.00500
Phenacetin		<0.00468	mg/L	0.00500
Hexachlorobenzene		<0.00468	mg/L	0.00500
4-Aminobiphenyl		<0.00468	mg/L	0.00500
Pentachlorophenol		<0.00935	mg/L	0.0100
Anthracene		<0.00468	mg/L	0.00500
Pentachloronitrobenzene		<0.00468	mg/L	0.00500
Pronamide		<0.00468	mg/L	0.00500
Phenanthrene		<0.00468	mg/L	0.00500
Di-n-butylphthalate		<0.00468	mg/L	0.00500
Fluoranthene		<0.00468	mg/L	0.00500
Benzidine		<0.0234	mg/L	0.0250
Pyrene		<0.00468	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00468	mg/L	0.00500
Butylbenzylphthalate		<0.00468	mg/L	0.00500
Benzo(a)anthracene		<0.00468	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00468	mg/L	0.00500
Chrysene		<0.00468	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00468	mg/L	0.00500
Di-n-octylphthalate		<0.00468	mg/L	0.00500
Benzo(b)fluoranthene		<0.00468	mg/L	0.00500
Benzo(k)fluoranthene		<0.00468	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00468	mg/L	0.00500
Benzo(a)pyrene		<0.00468	mg/L	0.00500
3-Methylcholanthrene		<0.00468	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00468	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00468	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00468	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00468	mg/L	0.00500
Total Silica		<b>104</b>	mg/L	0.0500
Sulfate		<b>358</b>	mg/L	1.00
Total Dissolved Solids		<b>1018</b>	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
Total Arsenic		0.0840	mg/L	0.0100
Total Barium		0.987	mg/L	0.00500
Total Cadmium		0.00300	mg/L	0.00200
Total Chromium		0.218	mg/L	0.00500
Total Mercury		<0.000400	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		7140	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 178804 - NMSWD Station #11 RW-1

Param	Flag	Result	Units	RL
Hydroxide Alkalinity		<1.00	mg/L as CaCO3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCO3	1.00
Bicarbonate Alkalinity		<b>232</b>	mg/L as CaCO3	4.00
Total Alkalinity		<b>232</b>	mg/L as CaCO3	4.00
Dissolved Calcium		<b>5810</b>	mg/L	1.00
Chloride		<b>51600</b>	mg/L	3.00
Specific Conductance		<b>81100</b>	µMHOS/cm	0.00
Dissolved Potassium		<b>157</b>	mg/L	1.00
Dissolved Magnesium		<b>719</b>	mg/L	1.00
Dissolved Sodium		<b>22200</b>	mg/L	1.00
pH		<b>6.17</b>	s.u.	0.00
Pyridine		<0.00461	mg/L	0.00500

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
N-Nitrosodimethylamine		<0.00461	mg/L	0.00500
2-Picoline		<0.00461	mg/L	0.00500
Methyl methanesulfonate		<0.00461	mg/L	0.00500
Ethyl methanesulfonate		<0.00461	mg/L	0.00500
Phenol		<0.00461	mg/L	0.00500
Aniline		<0.00461	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00461	mg/L	0.00500
2-Chlorophenol		<0.00461	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00461	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00461	mg/L	0.00500
Benzyl alcohol		<0.00461	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00461	mg/L	0.00500
2-Methylphenol		<0.00461	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00461	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00461	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00461	mg/L	0.00500
Hexachloroethane		<0.00461	mg/L	0.00500
Acetophenone		<0.00461	mg/L	0.00500
Nitrobenzene		<0.00461	mg/L	0.00500
N-Nitrosopiperidine		<0.00461	mg/L	0.00500
Isophorone		<0.00461	mg/L	0.00500
2-Nitrophenol		<0.00461	mg/L	0.00500
2,4-Dimethylphenol		<0.00461	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00461	mg/L	0.00500
2,4-Dichlorophenol		<0.00461	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00461	mg/L	0.00500
Benzoic acid		<0.00461	mg/L	0.00500
Naphthalene		<0.00461	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00461	mg/L	0.00500
4-Chloroaniline		<0.00461	mg/L	0.00500
2,6-Dichlorophenol		<0.00922	mg/L	0.0100
Hexachlorobutadiene		<0.00461	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00461	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00461	mg/L	0.00500
2-Methylnaphthalene		<0.00461	mg/L	0.00500
1-Methylnaphthalene		<0.00461	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00461	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00461	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00922	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00461	mg/L	0.00500
2-Chloronaphthalene		<0.00461	mg/L	0.00500
1-Chloronaphthalene		<0.00461	mg/L	0.00500
2-Nitroaniline		<0.00461	mg/L	0.00500
Dimethylphthalate		<0.00461	mg/L	0.00500
Acenaphthylene		<0.00461	mg/L	0.00500
2,6-Dinitrotoluene		<0.00461	mg/L	0.00500
3-Nitroaniline		<0.00461	mg/L	0.00500

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
Acenaphthene		<0.00461	mg/L	0.00500
2,4-Dinitrophenol		<0.00461	mg/L	0.00500
Dibenzofuran		<0.00461	mg/L	0.00500
Pentachlorobenzene		<0.00461	mg/L	0.00500
4-Nitrophenol		<0.0230	mg/L	0.0250
2,4-Dinitrotoluene		<0.00461	mg/L	0.00500
1-Naphthylamine		<0.00461	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00922	mg/L	0.0100
2-Naphthylamine		<0.00461	mg/L	0.00500
Fluorene		<0.00461	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00461	mg/L	0.00500
Diethylphthalate		<0.00461	mg/L	0.00500
4-Nitroaniline		<0.00461	mg/L	0.00500
Diphenylhydrazine		<0.00461	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00461	mg/L	0.00500
Diphenylamine		<0.00461	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00461	mg/L	0.00500
Phenacetin		<0.00461	mg/L	0.00500
Hexachlorobenzene		<0.00461	mg/L	0.00500
4-Aminobiphenyl		<0.00461	mg/L	0.00500
Pentachlorophenol		<0.00922	mg/L	0.0100
Anthracene		<0.00461	mg/L	0.00500
Pentachloronitrobenzene		<0.00461	mg/L	0.00500
Pronamide		<0.00461	mg/L	0.00500
Phenanthrene		<0.00461	mg/L	0.00500
Di-n-butylphthalate		<0.00461	mg/L	0.00500
Fluoranthene		<0.00461	mg/L	0.00500
Benzidine		<0.0230	mg/L	0.0250
Pyrene		<0.00461	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00461	mg/L	0.00500
Butylbenzylphthalate		<0.00461	mg/L	0.00500
Benzo(a)anthracene		<0.00461	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00461	mg/L	0.00500
Chrysene		<0.00461	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00461	mg/L	0.00500
Di-n-octylphthalate		<0.00461	mg/L	0.00500
Benzo(b)fluoranthene		<0.00461	mg/L	0.00500
Benzo(k)fluoranthene		<0.00461	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00461	mg/L	0.00500
Benzo(a)pyrene		<0.00461	mg/L	0.00500
3-Methylcholanthrene		<0.00461	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00461	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00461	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00461	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00461	mg/L	0.00500
Total Silica		<b>41.7</b>	mg/L	0.0500
Sulfate		<b>1270</b>	mg/L	1.00

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
Total Dissolved Solids		<b>38100</b>	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<0.0100	mg/L	0.0100
Total Barium		<b>0.247</b>	mg/L	0.00500
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		<b>0.0350</b>	mg/L	0.00500
Total Mercury		<b>0.000547</b>	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		<b>450</b>	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<b>13.5</b>	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

## Summary Report

Rory McMinn  
New Mexico Salt Water Disposal Co.

Report Date: November 21, 2008

P. O. Box 1213  
Roswell, NM 88202

Work Order: 8110902



Project Location: NM-SWD Station #11, Lea Co., NM  
Project Name: GW Sampling  
Project Number: NMSWD Station #11

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
178801	NMSWD Station #11 MW-3	water	2008-11-06	11:41	2008-11-08
178802	NMSWD Station #11 MW-1	water	2008-11-06	12:55	2008-11-08
178803	NMSWD Station #11 MW-2	water	2008-11-06	13:45	2008-11-08
178804	NMSWD Station #11 RW-1	water	2008-11-06	14:15	2008-11-08

### Sample: 178801 - NMSWD Station #11 MW-3

Param	Flag	Result	Units	RL
Dissolved Silver		<0.00500	mg/L	0.00500
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		218	mg/L as CaCo3	4.00
Total Alkalinity		218	mg/L as CaCo3	4.00
Dissolved Arsenic		<0.00500	mg/L	0.00500
Dissolved Barium		0.0220	mg/L	0.0100
Dissolved Calcium		65.3	mg/L	1.00
Dissolved Cadmium		<0.00100	mg/L	0.00100
Chloride		234	mg/L	3.00
Specific Conductance		1530	uMHOS/cm	0.00
Dissolved Chromium		0.0150	mg/L	0.00100
Dissolved Mercury		0.000585	mg/L	0.000200
Dissolved Potassium		10.6	mg/L	1.00
Dissolved Magnesium		13.3	mg/L	1.00
Dissolved Sodium		332	mg/L	1.00
Dissolved Lead		<0.00500	mg/L	0.00500

continued . . .

sample 178801 continued ...

Param	Flag	Result	Units	RL
pH		<b>7.91</b>	s.u.	0.00
Dissolved Selenium		<0.0100	mg/L	0.0100
Pyridine		<0.00458	mg/L	0.00500
N-Nitrosodimethylamine		<0.00458	mg/L	0.00500
2-Picoline		<0.00458	mg/L	0.00500
Methyl methanesulfonate		<0.00458	mg/L	0.00500
Ethyl methanesulfonate		<0.00458	mg/L	0.00500
Phenol		<0.00458	mg/L	0.00500
Aniline		<0.00458	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00458	mg/L	0.00500
2-Chlorophenol		<0.00458	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00458	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00458	mg/L	0.00500
Benzyl alcohol		<0.00458	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00458	mg/L	0.00500
2-Methylphenol		<0.00458	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00458	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00458	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00458	mg/L	0.00500
Hexachloroethane		<0.00458	mg/L	0.00500
Acetophenone		<0.00458	mg/L	0.00500
Nitrobenzene		<0.00458	mg/L	0.00500
N-Nitrosopiperidine		<0.00458	mg/L	0.00500
Isophorone		<0.00458	mg/L	0.00500
2-Nitrophenol		<0.00458	mg/L	0.00500
2,4-Dimethylphenol		<0.00458	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00458	mg/L	0.00500
2,4-Dichlorophenol		<0.00458	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00458	mg/L	0.00500
Benzoic acid		<0.00458	mg/L	0.00500
Naphthalene		<0.00458	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00458	mg/L	0.00500
4-Chloroaniline		<0.00458	mg/L	0.00500
2,6-Dichlorophenol		<0.00917	mg/L	0.0100
Hexachlorobutadiene		<0.00458	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00458	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00458	mg/L	0.00500
2-Methylnaphthalene		<0.00458	mg/L	0.00500
1-Methylnaphthalene		<0.00458	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00458	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00458	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00917	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00458	mg/L	0.00500
2-Chloronaphthalene		<0.00458	mg/L	0.00500
1-Chloronaphthalene		<0.00458	mg/L	0.00500
2-Nitroaniline		<0.00458	mg/L	0.00500
Dimethylphthalate		<0.00458	mg/L	0.00500

continued ...

sample 178801 continued ...

Param	Flag	Result	Units	RL
Acenaphthylene		<0.00458	mg/L	0.00500
2,6-Dinitrotoluene		<0.00458	mg/L	0.00500
3-Nitroaniline		<0.00458	mg/L	0.00500
Acenaphthene		<0.00458	mg/L	0.00500
2,4-Dinitrophenol		<0.00458	mg/L	0.00500
Dibenzofuran		<0.00458	mg/L	0.00500
Pentachlorobenzene		<0.00458	mg/L	0.00500
4-Nitrophenol		<0.0229	mg/L	0.0250
2,4-Dinitrotoluene		<0.00458	mg/L	0.00500
1-Naphthylamine		<0.00458	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00917	mg/L	0.0100
2-Naphthylamine		<0.00458	mg/L	0.00500
Fluorene		<0.00458	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00458	mg/L	0.00500
Diethylphthalate		<0.00458	mg/L	0.00500
4-Nitroaniline		<0.00458	mg/L	0.00500
Diphenylhydrazine		<0.00458	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00458	mg/L	0.00500
Diphenylamine		<0.00458	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00458	mg/L	0.00500
Phenacetin		<0.00458	mg/L	0.00500
Hexachlorobenzene		<0.00458	mg/L	0.00500
4-Aminobiphenyl		<0.00458	mg/L	0.00500
Pentachlorophenol		<0.00917	mg/L	0.0100
Anthracene		<0.00458	mg/L	0.00500
Pentachloronitrobenzene		<0.00458	mg/L	0.00500
Pronamide		<0.00458	mg/L	0.00500
Phenanthrene		<0.00458	mg/L	0.00500
Di-n-butylphthalate		<0.00458	mg/L	0.00500
Fluoranthene		<0.00458	mg/L	0.00500
Benzidine		<0.0229	mg/L	0.0250
Pyrene		<0.00458	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00458	mg/L	0.00500
Butylbenzylphthalate		<0.00458	mg/L	0.00500
Benzo(a)anthracene		<0.00458	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00458	mg/L	0.00500
Chrysene		<0.00458	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00458	mg/L	0.00500
Di-n-octylphthalate		<0.00458	mg/L	0.00500
Benzo(b)fluoranthene		<0.00458	mg/L	0.00500
Benzo(k)fluoranthene		<0.00458	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00458	mg/L	0.00500
Benzo(a)pyrene		<0.00458	mg/L	0.00500
3-Methylcholanthrene		<0.00458	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00458	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00458	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00458	mg/L	0.00500

continued ...

sample 178801 continued ...

Param	Flag	Result	Units	RL
Benzo(g,h,i)perylene		<0.00458	mg/L	0.00500
Dissolved Silica		<b>16.8</b>	mg/L	0.0500
Total Silica		<b>35.4</b>	mg/L	0.0500
Sulfate		<b>446</b>	mg/L	1.00
Total Dissolved Solids		<b>1122</b>	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<0.0100	mg/L	0.0100
Total Barium		<b>0.0630</b>	mg/L	0.00500
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		<b>0.0160</b>	mg/L	0.00500
Total Mercury		<0.000200	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		<b>546</b>	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00

continued ...

sample 178801 continued ...

Param	Flag	Result	Units	RL
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 178802 - NMSWD Station #11 MW-1

Param	Flag	Result	Units	RL
Dissolved Silver		<0.00500	mg/L	0.00500
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		188	mg/L as CaCo3	4.00
Total Alkalinity		188	mg/L as CaCo3	4.00
Dissolved Arsenic		<0.00500	mg/L	0.00500

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
Dissolved Barium		0.0200	mg/L	0.0100
Dissolved Calcium		64.4	mg/L	1.00
Dissolved Cadmium		<0.00100	mg/L	0.00100
Chloride		325	mg/L	3.00
Specific Conductance		1590	uMHOS/cm	0.00
Dissolved Chromium		0.00200	mg/L	0.00100
Dissolved Mercury		0.000208	mg/L	0.000200
Dissolved Potassium		9.47	mg/L	1.00
Dissolved Magnesium		16.3	mg/L	1.00
Dissolved Sodium		334	mg/L	1.00
Dissolved Lead		<0.00500	mg/L	0.00500
pH		7.89	s.u.	0.00
Dissolved Selenium		<0.0100	mg/L	0.0100
Pyridine		<0.00465	mg/L	0.00500
N-Nitrosodimethylamine		<0.00465	mg/L	0.00500
2-Picoline		<0.00465	mg/L	0.00500
Methyl methanesulfonate		<0.00465	mg/L	0.00500
Ethyl methanesulfonate		<0.00465	mg/L	0.00500
Phenol		<0.00465	mg/L	0.00500
Aniline		<0.00465	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00465	mg/L	0.00500
2-Chlorophenol		<0.00465	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00465	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00465	mg/L	0.00500
Benzyl alcohol		<0.00465	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00465	mg/L	0.00500
2-Methylphenol		<0.00465	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00465	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00465	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00465	mg/L	0.00500
Hexachloroethane		<0.00465	mg/L	0.00500
Acetophenone		<0.00465	mg/L	0.00500
Nitrobenzene		<0.00465	mg/L	0.00500
N-Nitrosopiperidine		<0.00465	mg/L	0.00500
Isophorone		<0.00465	mg/L	0.00500
2-Nitrophenol		<0.00465	mg/L	0.00500
2,4-Dimethylphenol		<0.00465	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00465	mg/L	0.00500
2,4-Dichlorophenol		<0.00465	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00465	mg/L	0.00500
Benzoic acid		<0.00465	mg/L	0.00500
Naphthalene		<0.00465	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00465	mg/L	0.00500
4-Chloroaniline		<0.00465	mg/L	0.00500
2,6-Dichlorophenol		<0.00930	mg/L	0.0100
Hexachlorobutadiene		<0.00465	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00465	mg/L	0.00500

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
4-Chloro-3-methylphenol		<0.00465	mg/L	0.00500
2-Methylnaphthalene		<0.00465	mg/L	0.00500
1-Methylnaphthalene		<0.00465	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00465	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00465	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00930	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00465	mg/L	0.00500
2-Chloronaphthalene		<0.00465	mg/L	0.00500
1-Chloronaphthalene		<0.00465	mg/L	0.00500
2-Nitroaniline		<0.00465	mg/L	0.00500
Dimethylphthalate		<0.00465	mg/L	0.00500
Acenaphthylene		<0.00465	mg/L	0.00500
2,6-Dinitrotoluene		<0.00465	mg/L	0.00500
3-Nitroaniline		<0.00465	mg/L	0.00500
Acenaphthene		<0.00465	mg/L	0.00500
2,4-Dinitrophenol		<0.00465	mg/L	0.00500
Dibenzofuran		<0.00465	mg/L	0.00500
Pentachlorobenzene		<0.00465	mg/L	0.00500
4-Nitrophenol		<0.0232	mg/L	0.0250
2,4-Dinitrotoluene		<0.00465	mg/L	0.00500
1-Naphthylamine		<0.00465	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00930	mg/L	0.0100
2-Naphthylamine		<0.00465	mg/L	0.00500
Fluorene		<0.00465	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00465	mg/L	0.00500
Diethylphthalate		<0.00465	mg/L	0.00500
4-Nitroaniline		<0.00465	mg/L	0.00500
Diphenylhydrazine		<0.00465	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00465	mg/L	0.00500
Diphenylamine		<0.00465	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00465	mg/L	0.00500
Phenacetin		<0.00465	mg/L	0.00500
Hexachlorobenzene		<0.00465	mg/L	0.00500
4-Aminobiphenyl		<0.00465	mg/L	0.00500
Pentachlorophenol		<0.00930	mg/L	0.0100
Anthracene		<0.00465	mg/L	0.00500
Pentachloronitrobenzene		<0.00465	mg/L	0.00500
Pronamide		<0.00465	mg/L	0.00500
Phenanthrene		<0.00465	mg/L	0.00500
Di-n-butylphthalate		<0.00465	mg/L	0.00500
Fluoranthene		<0.00465	mg/L	0.00500
Benzidine		<0.0232	mg/L	0.0250
Pyrene		<0.00465	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00465	mg/L	0.00500
Butylbenzylphthalate		<0.00465	mg/L	0.00500
Benzo(a)anthracene		<0.00465	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00465	mg/L	0.00500

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
Chrysene		<0.00465	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00465	mg/L	0.00500
Di-n-octylphthalate		<0.00465	mg/L	0.00500
Benzo(b)fluoranthene		<0.00465	mg/L	0.00500
Benzo(k)fluoranthene		<0.00465	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00465	mg/L	0.00500
Benzo(a)pyrene		<0.00465	mg/L	0.00500
3-Methylcholanthrene		<0.00465	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00465	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00465	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00465	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00465	mg/L	0.00500
Dissolved Silica		14.2	mg/L	0.0500
Total Silica		18.7	mg/L	0.0500
Sulfate		385	mg/L	1.00
Total Dissolved Solids		1154	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<0.0100	mg/L	0.0100
Total Barium		0.0280	mg/L	0.00500
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		<0.00500	mg/L	0.00500
Total Mercury		<0.000200	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		414	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00

continued ...

sample 178802 continued ...

Param	Flag	Result	Units	RL
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 178803 - NMSWD Station #11 MW-2

Param	Flag	Result	Units	RL
Dissolved Silver		<0.00500	mg/L	0.00500
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		208	mg/L as CaCo3	4.00
Total Alkalinity		208	mg/L as CaCo3	4.00
Dissolved Arsenic		<0.00500	mg/L	0.00500
Dissolved Barium		0.0200	mg/L	0.0100
Dissolved Calcium		54.5	mg/L	1.00
Dissolved Cadmium		<0.00100	mg/L	0.00100
Chloride		241	mg/L	3.00
Specific Conductance		1350	uMHOS/cm	0.00
Dissolved Chromium		<0.00100	mg/L	0.00100
Dissolved Mercury		0.00161	mg/L	0.000200
Dissolved Potassium		9.14	mg/L	1.00
Dissolved Magnesium		10.2	mg/L	1.00
Dissolved Sodium		309	mg/L	1.00
Dissolved Lead		<0.00500	mg/L	0.00500
pH		7.68	s.u.	0.00
Dissolved Selenium		<0.0100	mg/L	0.0100
Pyridine		<0.00468	mg/L	0.00500
N-Nitrosodimethylamine		<0.00468	mg/L	0.00500
2-Picoline		<0.00468	mg/L	0.00500
Methyl methanesulfonate		<0.00468	mg/L	0.00500
Ethyl methanesulfonate		<0.00468	mg/L	0.00500
Phenol		<0.00468	mg/L	0.00500
Aniline		<0.00468	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00468	mg/L	0.00500
2-Chlorophenol		<0.00468	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00468	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00468	mg/L	0.00500
Benzyl alcohol		<0.00468	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00468	mg/L	0.00500
2-Methylphenol		<0.00468	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00468	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00468	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00468	mg/L	0.00500
Hexachloroethane		<0.00468	mg/L	0.00500
Acetophenone		<0.00468	mg/L	0.00500
Nitrobenzene		<0.00468	mg/L	0.00500
N-Nitrosopiperidine		<0.00468	mg/L	0.00500
Isophorone		<0.00468	mg/L	0.00500
2-Nitrophenol		<0.00468	mg/L	0.00500
2,4-Dimethylphenol		<0.00468	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00468	mg/L	0.00500
2,4-Dichlorophenol		<0.00468	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00468	mg/L	0.00500
Benzoic acid		<0.00468	mg/L	0.00500
Naphthalene		<0.00468	mg/L	0.00500

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
a,a-Dimethylphenethylamine		<0.00468	mg/L	0.00500
4-Chloroaniline		<0.00468	mg/L	0.00500
2,6-Dichlorophenol		<0.00935	mg/L	0.0100
Hexachlorobutadiene		<0.00468	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00468	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00468	mg/L	0.00500
2-Methylnaphthalene		<0.00468	mg/L	0.00500
1-Methylnaphthalene		<0.00468	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00468	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00468	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00935	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00468	mg/L	0.00500
2-Chloronaphthalene		<0.00468	mg/L	0.00500
1-Chloronaphthalene		<0.00468	mg/L	0.00500
2-Nitroaniline		<0.00468	mg/L	0.00500
Dimethylphthalate		<0.00468	mg/L	0.00500
Acenaphthylene		<0.00468	mg/L	0.00500
2,6-Dinitrotoluene		<0.00468	mg/L	0.00500
3-Nitroaniline		<0.00468	mg/L	0.00500
Acenaphthene		<0.00468	mg/L	0.00500
2,4-Dinitrophenol		<0.00468	mg/L	0.00500
Dibenzofuran		<0.00468	mg/L	0.00500
Pentachlorobenzene		<0.00468	mg/L	0.00500
4-Nitrophenol		<0.0234	mg/L	0.0250
2,4-Dinitrotoluene		<0.00468	mg/L	0.00500
1-Naphthylamine		<0.00468	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00935	mg/L	0.0100
2-Naphthylamine		<0.00468	mg/L	0.00500
Fluorene		<0.00468	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00468	mg/L	0.00500
Diethylphthalate		<0.00468	mg/L	0.00500
4-Nitroaniline		<0.00468	mg/L	0.00500
Diphenylhydrazine		<0.00468	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00468	mg/L	0.00500
Diphenylamine		<0.00468	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00468	mg/L	0.00500
Phenacetin		<0.00468	mg/L	0.00500
Hexachlorobenzene		<0.00468	mg/L	0.00500
4-Aminobiphenyl		<0.00468	mg/L	0.00500
Pentachlorophenol		<0.00935	mg/L	0.0100
Anthracene		<0.00468	mg/L	0.00500
Pentachloronitrobenzene		<0.00468	mg/L	0.00500
Pronamide		<0.00468	mg/L	0.00500
Phenanthrene		<0.00468	mg/L	0.00500
Di-n-butylphthalate		<0.00468	mg/L	0.00500
Fluoranthene		<0.00468	mg/L	0.00500
Benzidine		<0.0234	mg/L	0.0250

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
Pyrene		<0.00468	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00468	mg/L	0.00500
Butylbenzylphthalate		<0.00468	mg/L	0.00500
Benzo(a)anthracene		<0.00468	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00468	mg/L	0.00500
Chrysene		<0.00468	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00468	mg/L	0.00500
Di-n-octylphthalate		<0.00468	mg/L	0.00500
Benzo(b)fluoranthene		<0.00468	mg/L	0.00500
Benzo(k)fluoranthene		<0.00468	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00468	mg/L	0.00500
Benzo(a)pyrene		<0.00468	mg/L	0.00500
3-Methylcholanthrene		<0.00468	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00468	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00468	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00468	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00468	mg/L	0.00500
Dissolved Silica		<b>13.1</b>	mg/L	0.0500
Total Silica		<b>77.8</b>	mg/L	0.0500
Sulfate		<b>358</b>	mg/L	1.00
Total Dissolved Solids		<b>1018</b>	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<b>0.0610</b>	mg/L	0.0100
Total Barium		<b>0.682</b>	mg/L	0.00500
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		<b>0.148</b>	mg/L	0.00500
Total Mercury		<0.000400	mg/L	0.000200
Total Lead		<0.00500	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		<b>7140</b>	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		<5.00	µg/L	5.00

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00

continued ...

sample 178803 continued ...

Param	Flag	Result	Units	RL
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

Sample: 178804 - NMSWD Station #11 RW-1

Param	Flag	Result	Units	RL
Dissolved Silver		<0.00500	mg/L	0.00500
Hydroxide Alkalinity		<1.00	mg/L as CaCo3	1.00
Carbonate Alkalinity		<1.00	mg/L as CaCo3	1.00
Bicarbonate Alkalinity		<b>232</b>	mg/L as CaCo3	4.00
Total Alkalinity		<b>232</b>	mg/L as CaCo3	4.00
Dissolved Arsenic		<0.00500	mg/L	0.00500
Dissolved Barium		<b>0.313</b>	mg/L	0.0100
Dissolved Calcium		<b>5810</b>	mg/L	1.00
Dissolved Cadmium		<0.00100	mg/L	0.00100
Chloride		<b>51600</b>	mg/L	3.00
Specific Conductance		<b>81100</b>	uMHOS/cm	0.00
Dissolved Chromium		<0.00100	mg/L	0.00100
Dissolved Mercury		<b>0.00105</b>	mg/L	0.000200
Dissolved Potassium		<b>157</b>	mg/L	1.00
Dissolved Magnesium		<b>719</b>	mg/L	1.00
Dissolved Sodium		<b>22200</b>	mg/L	1.00
Dissolved Lead		<0.00500	mg/L	0.00500
pH		<b>6.17</b>	s.u.	0.00
Dissolved Selenium		<0.0100	mg/L	0.0100
Pyridine		<0.00461	mg/L	0.00500
N-Nitrosodimethylamine		<0.00461	mg/L	0.00500
2-Picoline		<0.00461	mg/L	0.00500
Methyl methanesulfonate		<0.00461	mg/L	0.00500
Ethyl methanesulfonate		<0.00461	mg/L	0.00500
Phenol		<0.00461	mg/L	0.00500
Aniline		<0.00461	mg/L	0.00500
bis(2-chloroethyl)ether		<0.00461	mg/L	0.00500
2-Chlorophenol		<0.00461	mg/L	0.00500
1,3-Dichlorobenzene (meta)		<0.00461	mg/L	0.00500
1,4-Dichlorobenzene (para)		<0.00461	mg/L	0.00500
Benzyl alcohol		<0.00461	mg/L	0.00500
1,2-Dichlorobenzene (ortho)		<0.00461	mg/L	0.00500
2-Methylphenol		<0.00461	mg/L	0.00500
bis(2-chloroisopropyl)ether		<0.00461	mg/L	0.00500
4-Methylphenol / 3-Methylphenol		<0.00461	mg/L	0.00500
N-Nitrosodi-n-propylamine		<0.00461	mg/L	0.00500
Hexachloroethane		<0.00461	mg/L	0.00500

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
Acetophenone		<0.00461	mg/L	0.00500
Nitrobenzene		<0.00461	mg/L	0.00500
N-Nitrosopiperidine		<0.00461	mg/L	0.00500
Isophorone		<0.00461	mg/L	0.00500
2-Nitrophenol		<0.00461	mg/L	0.00500
2,4-Dimethylphenol		<0.00461	mg/L	0.00500
bis(2-chloroethoxy)methane		<0.00461	mg/L	0.00500
2,4-Dichlorophenol		<0.00461	mg/L	0.00500
1,2,4-Trichlorobenzene		<0.00461	mg/L	0.00500
Benzoic acid		<0.00461	mg/L	0.00500
Naphthalene		<0.00461	mg/L	0.00500
a,a-Dimethylphenethylamine		<0.00461	mg/L	0.00500
4-Chloroaniline		<0.00461	mg/L	0.00500
2,6-Dichlorophenol		<0.00922	mg/L	0.0100
Hexachlorobutadiene		<0.00461	mg/L	0.00500
N-Nitroso-di-n-butylamine		<0.00461	mg/L	0.00500
4-Chloro-3-methylphenol		<0.00461	mg/L	0.00500
2-Methylnaphthalene		<0.00461	mg/L	0.00500
1-Methylnaphthalene		<0.00461	mg/L	0.00500
1,2,4,5-Tetrachlorobenzene		<0.00461	mg/L	0.00500
Hexachlorocyclopentadiene		<0.00461	mg/L	0.00500
2,4,6-Trichlorophenol		<0.00922	mg/L	0.0100
2,4,5-Trichlorophenol		<0.00461	mg/L	0.00500
2-Chloronaphthalene		<0.00461	mg/L	0.00500
1-Chloronaphthalene		<0.00461	mg/L	0.00500
2-Nitroaniline		<0.00461	mg/L	0.00500
Dimethylphthalate		<0.00461	mg/L	0.00500
Acenaphthylene		<0.00461	mg/L	0.00500
2,6-Dinitrotoluene		<0.00461	mg/L	0.00500
3-Nitroaniline		<0.00461	mg/L	0.00500
Acenaphthene		<0.00461	mg/L	0.00500
2,4-Dinitrophenol		<0.00461	mg/L	0.00500
Dibenzofuran		<0.00461	mg/L	0.00500
Pentachlorobenzene		<0.00461	mg/L	0.00500
4-Nitrophenol		<0.0230	mg/L	0.0250
2,4-Dinitrotoluene		<0.00461	mg/L	0.00500
1-Naphthylamine		<0.00461	mg/L	0.00500
2,3,4,6-Tetrachlorophenol		<0.00922	mg/L	0.0100
2-Naphthylamine		<0.00461	mg/L	0.00500
Fluorene		<0.00461	mg/L	0.00500
4-Chlorophenyl-phenylether		<0.00461	mg/L	0.00500
Diethylphthalate		<0.00461	mg/L	0.00500
4-Nitroaniline		<0.00461	mg/L	0.00500
Diphenylhydrazine		<0.00461	mg/L	0.00500
4,6-Dinitro-2-methylphenol		<0.00461	mg/L	0.00500
Diphenylamine		<0.00461	mg/L	0.00500
4-Bromophenyl-phenylether		<0.00461	mg/L	0.00500

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
Phenacetin		<0.00461	mg/L	0.00500
Hexachlorobenzene		<0.00461	mg/L	0.00500
4-Aminobiphenyl		<0.00461	mg/L	0.00500
Pentachlorophenol		<0.00922	mg/L	0.0100
Anthracene		<0.00461	mg/L	0.00500
Pentachloronitrobenzene		<0.00461	mg/L	0.00500
Pronamide		<0.00461	mg/L	0.00500
Phenanthrene		<0.00461	mg/L	0.00500
Di-n-butylphthalate		<0.00461	mg/L	0.00500
Fluoranthene		<0.00461	mg/L	0.00500
Benzidine		<0.0230	mg/L	0.0250
Pyrene		<0.00461	mg/L	0.00500
p-Dimethylaminoazobenzene		<0.00461	mg/L	0.00500
Butylbenzylphthalate		<0.00461	mg/L	0.00500
Benzo(a)anthracene		<0.00461	mg/L	0.00500
3,3-Dichlorobenzidine		<0.00461	mg/L	0.00500
Chrysene		<0.00461	mg/L	0.00500
bis(2-ethylhexyl)phthalate		<0.00461	mg/L	0.00500
Di-n-octylphthalate		<0.00461	mg/L	0.00500
Benzo(b)fluoranthene		<0.00461	mg/L	0.00500
Benzo(k)fluoranthene		<0.00461	mg/L	0.00500
7,12-Dimethylbenz(a)anthracene		<0.00461	mg/L	0.00500
Benzo(a)pyrene		<0.00461	mg/L	0.00500
3-Methylcholanthrene		<0.00461	mg/L	0.00500
Dibenzo(a,j)acridine		<0.00461	mg/L	0.00500
Indeno(1,2,3-cd)pyrene		<0.00461	mg/L	0.00500
Dibenzo(a,h)anthracene		<0.00461	mg/L	0.00500
Benzo(g,h,i)perylene		<0.00461	mg/L	0.00500
Dissolved Silica		<b>33.6</b>	mg/L	0.0500
Total Silica		<b>54.0</b>	mg/L	0.0500
Sulfate		<b>1270</b>	mg/L	1.00
Total Dissolved Solids		<b>43150</b>	mg/L	10.00
Total Silver		<0.00500	mg/L	0.00500
Total Arsenic		<b>0.0170</b>	mg/L	0.0100
Total Barium		<b>0.307</b>	mg/L	0.00500
Total Cadmium		<0.00200	mg/L	0.00200
Total Chromium		<b>0.0460</b>	mg/L	0.00500
Total Mercury		<b>0.000547</b>	mg/L	0.000200
Total Lead		<b>0.0130</b>	mg/L	0.00500
Total Selenium		<0.0200	mg/L	0.0200
Total Suspended Solids		<b>450</b>	mg/L	1.00
Bromochloromethane		<1.00	µg/L	1.00
Dichlorodifluoromethane		<1.00	µg/L	1.00
Chloromethane (methyl chloride)		<1.00	µg/L	1.00
Vinyl Chloride		<1.00	µg/L	1.00
Bromomethane (methyl bromide)		<5.00	µg/L	5.00
Chloroethane		<1.00	µg/L	1.00

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
Trichlorofluoromethane		<1.00	µg/L	1.00
Acetone		<10.0	µg/L	10.0
Iodomethane (methyl iodide)		<5.00	µg/L	5.00
Carbon Disulfide		<1.00	µg/L	1.00
Acrylonitrile		<1.00	µg/L	1.00
2-Butanone (MEK)		<5.00	µg/L	5.00
4-Methyl-2-pentanone (MIBK)		<5.00	µg/L	5.00
2-Hexanone		<5.00	µg/L	5.00
trans 1,4-Dichloro-2-butene		<10.0	µg/L	10.0
1,1-Dichloroethene		<1.00	µg/L	1.00
Methylene chloride		13.5	µg/L	5.00
MTBE		<1.00	µg/L	1.00
trans-1,2-Dichloroethene		<1.00	µg/L	1.00
1,1-Dichloroethane		<1.00	µg/L	1.00
cis-1,2-Dichloroethene		<1.00	µg/L	1.00
2,2-Dichloropropane		<1.00	µg/L	1.00
1,2-Dichloroethane (EDC)		<1.00	µg/L	1.00
Chloroform		<1.00	µg/L	1.00
1,1,1-Trichloroethane		<1.00	µg/L	1.00
1,1-Dichloropropene		<1.00	µg/L	1.00
Benzene		<1.00	µg/L	1.00
Carbon Tetrachloride		<1.00	µg/L	1.00
1,2-Dichloropropane		<1.00	µg/L	1.00
Trichloroethene (TCE)		<1.00	µg/L	1.00
Dibromomethane (methylene bromide)		<1.00	µg/L	1.00
Bromodichloromethane		<1.00	µg/L	1.00
2-Chloroethyl vinyl ether		<5.00	µg/L	5.00
cis-1,3-Dichloropropene		<1.00	µg/L	1.00
trans-1,3-Dichloropropene		<1.00	µg/L	1.00
Toluene		<1.00	µg/L	1.00
1,1,2-Trichloroethane		<1.00	µg/L	1.00
1,3-Dichloropropane		<1.00	µg/L	1.00
Dibromochloromethane		<1.00	µg/L	1.00
1,2-Dibromoethane (EDB)		<1.00	µg/L	1.00
Tetrachloroethene (PCE)		<1.00	µg/L	1.00
Chlorobenzene		<1.00	µg/L	1.00
1,1,1,2-Tetrachloroethane		<1.00	µg/L	1.00
Ethylbenzene		<1.00	µg/L	1.00
m,p-Xylene		<1.00	µg/L	1.00
Bromoform		<1.00	µg/L	1.00
Styrene		<1.00	µg/L	1.00
o-Xylene		<1.00	µg/L	1.00
1,1,2,2-Tetrachloroethane		<1.00	µg/L	1.00
2-Chlorotoluene		<1.00	µg/L	1.00
1,2,3-Trichloropropane		<1.00	µg/L	1.00
Isopropylbenzene		<1.00	µg/L	1.00
Bromobenzene		<1.00	µg/L	1.00

continued ...

sample 178804 continued ...

Param	Flag	Result	Units	RL
n-Propylbenzene		<1.00	µg/L	1.00
1,3,5-Trimethylbenzene		<1.00	µg/L	1.00
tert-Butylbenzene		<1.00	µg/L	1.00
1,2,4-Trimethylbenzene		<1.00	µg/L	1.00
1,4-Dichlorobenzene (para)		<1.00	µg/L	1.00
sec-Butylbenzene		<1.00	µg/L	1.00
1,3-Dichlorobenzene (meta)		<1.00	µg/L	1.00
p-Isopropyltoluene		<1.00	µg/L	1.00
4-Chlorotoluene		<1.00	µg/L	1.00
1,2-Dichlorobenzene (ortho)		<1.00	µg/L	1.00
n-Butylbenzene		<1.00	µg/L	1.00
1,2-Dibromo-3-chloropropane		<5.00	µg/L	5.00
1,2,3-Trichlorobenzene		<5.00	µg/L	5.00
1,2,4-Trichlorobenzene		<5.00	µg/L	5.00
Naphthalene		<5.00	µg/L	5.00
Hexachlorobutadiene		<5.00	µg/L	5.00

New Mexico Salt Water Disposal Company  
 Groundwater Sampling July 09, 2007  
 By: CMB Environmental Geological Services Inc.

<u>Well:</u>	<u>TPH DRO</u>	<u>TPH GRO</u>	<u>BIEX</u>	<u>Fluoride</u>	<u>Chloride</u>	<u>Bromide</u>	<u>Nitrate</u>	<u>Phosphorus</u>	<u>Sulfate</u>	<u>Calcium</u>	<u>Magnesium</u>	<u>Potassium</u>	<u>Sodium</u>	<u>S.C.</u>	<u>pH</u>	<u>TDS</u>
MW-2	ND	ND	ND	1.6	560	2.6	ND	ND	260	120	22	8.8	350	2800	7.5	2600
MW-1	ND	ND	ND	1.6	550	1.3	1.3	ND	290	120	33	6.2	370	2500	7.31	1500
MW-3	ND	0.057	ND	1.6	620	2.7	ND	ND	360	210	42	11	350	3100	7.46	1800
NW Windmill				1.8	390	2.8	ND	ND	670	190	52	7.5	330	2900	7.5	2000
SW Windmill				0.66	460	1.8	26	ND	160	260	32	4.2	120	2300	7.8	1500
Tank Battery Fluid	35.1	55	20100	ND	83000	140	ND	ND	1600	3200	630	540	45000	280000	7.2	170000

# FIELD BOREHOLE LOG

BOREHOLE NO.: MW-4

TOTAL DEPTH: 65'

## PROJECT INFORMATION

PROJECT: NMSWD MW Drilling  
 SITE LOCATION: Lea County, NM  
 JOB NO.:  
 LOGGED BY: CM Barnhill, PG  
 PROJECT MANAGER: Rory McMin  
 DATES DRILLED: 04/14/09

## DRILLING INFORMATION

DRILLING CO.: Peterson Drilling Co.  
 DRILLER: Charles Johnson  
 RIG TYPE: IR TH-60  
 METHOD OF DRILLING: Air Rotary  
 SAMPLING METHODS: Split Spoon  
 HAMMER WT./DROP: N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

☐ Water level during drilling  
 ☒ Water level in completed well

DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH / CL	BORING COMPLETION	WELL DESCRIPTION
0								
-5		SM	SM: Tan Brown 2.5 YR/8/2 fine gr. to medium gr. sand, silt, & caliche	Split Spoon Soil Samples analyzed for TPH	0.5'	ND / 12		Cement / Grout
-10		SM			0.5'	ND / 43		
-15		SW	SW: Brown med. gr sand, well sorted 2.5 YR 6/4	Mod 8015	1.0'	ND / 400		Bentonite
-20		SC	SC: Clayey Silty Sand,	GRO /DRO, BTEX, Chloride from surface to	1.0'	13 / 960		
-25		CL	CL: Brown Fat Clay	Total Depth of Boring @ every 10' feet.	1.0'	59 / 1300		
-30		ML	ML: Clayey Silty Sand, yellow-redbrown, fn. sand, 25% clay		1.0'	ND / 1100		
-35		SW	SW: Very fine Brown Sand 7/5 YR 6/6, silt & clay, trace gravel, perched water		1.0'	ND / 1400		
-40		SW			1.0'			
-45		SW			1.0'			
-50		SW			1.0'			
-55		SW			1.0'			
-60		CH	CH: Clay, light olive brown to light yellowish brown,		1.0'			
-65		CH			1.0'			
-70		CH			1.0'			

TD 65' Cement Grout 0'-.5', Bentonite .5'-42'. 20/40 Sand 45-65', 0.010 Slot Screen 45'-65'

# FIELD BOREHOLE LOG

BOREHOLE NO.: MW-5

TOTAL DEPTH: 30'

## PROJECT INFORMATION

PROJECT: NMSWD MW Drilling  
 SITE LOCATION: Lea County, NM  
 JOB NO.:  
 LOGGED BY: C M Bandhall, PG  
 PROJECT MANAGER: Rory McManis  
 DATES DRILLED: 4/14/09

## DRILLING INFORMATION

DRILLING CO.: Peterson Drilling  
 DRILLER: Charles Johnson  
 RIG TYPE: IR TH-60  
 METHOD OF DRILLING: Air Rotary  
 SAMPLING METHODS: Split Spoon  
 HAMMER WT./DROP: N/A

NOTES: Split Spoon Pushed by TH-60 Drilling Rig.

☐ Water level during drilling  
 ☒ Water level in completed well

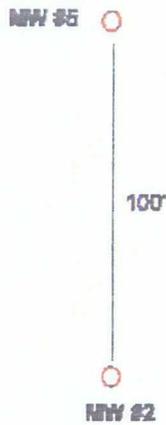
DEPTH	SOIL SYMBOLS	USCS	SOIL DESCRIPTION	SAMP. #	Rec. / feet.	PPM TPH / CL	BORING COMPLETION	WELL DESCRIPTION
0								Cement / Grout
0 - 0.5'		SM	SM: Tan, 2.5 YR 8/2 fine grained sand / caliche / silt mixture.	Split Spoon Soil Samples analyzed for TPH	0.5'	ND / 11		
0.5' - 1.5'		SW	SW: Brown fn, gr., well sorted sand 2.5 YR 6/4	Mod 8015 GRO /DRO, BTEX, Chloride from surface to	0.5'	ND / 1600		Bentonite
1.5' - 2.5'		SC	SC: Brown clayey sand 2.5 YR 6/4 Perched water @ 29.60 feet BGS during drilling. Measured from TOC @ 31.57' completed	Total Depth of Boring @ every 10' feet.	1.0'	ND / 2000		TD 30' Cement Grout 0'-2', Bentonite 2'-16', 20/40 Sand 16'-30', 0.010 Slot Screen 20'-30'
2.5' - 3.0'		CL	CL: Brown fat clay.		1.0'	ND / 2100		



# New Mexico Salt Water Disposal Co., Inc.

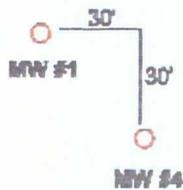
Station #11, Unit D Sec. 10, T10S - R34E

Lea County, New Mexico



**Proposed Monitor Well locations  
MW #4 and MW #5. Drill to 65 ft BGS**

Plot is to scale



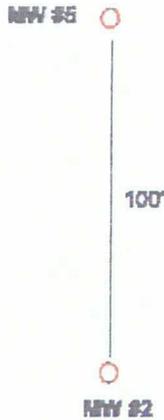
○ Monitor well

GeoScience Technologies  
Key Havenor, Ph.D., RPO  
Roswell, New Mexico  
November 18, 2008

# New Mexico Salt Water Disposal Co., Inc.

Station #11, Unit D Sec. 10, T10S - R34E

Lea County, New Mexico

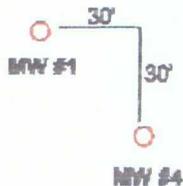


Proposed Monitor Well locations  
MW #4, MW #5 and MW #6 (?)  
Drill to 65 ft BGS

Plot is to scale



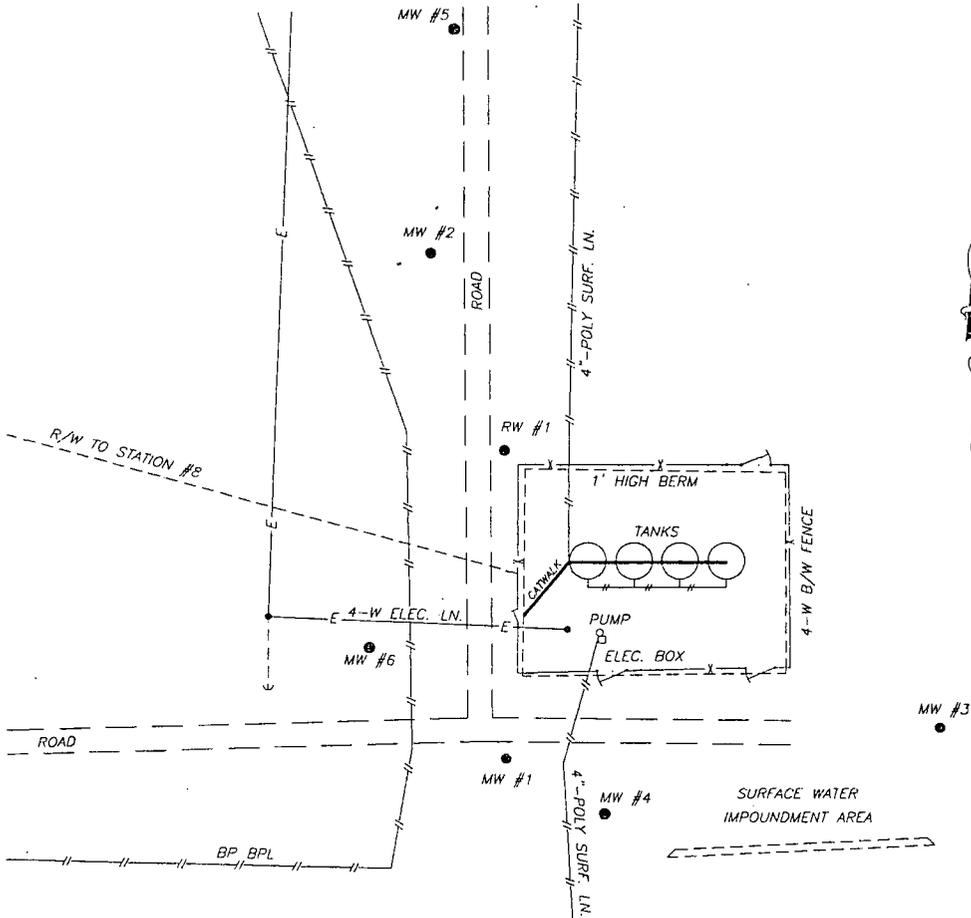
MW #6 may  
not be drilled



○ Monitor well

GeoScience Technologies  
Ray Havenor, Ph.D., RPS  
Roswell, New Mexico  
November 18, 2008

SECTION 21, TOWNSHIP 10 SOUTH, RANGE 34 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO



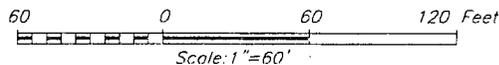
WELL NO.	STATE PLANE COORDINATES	NORTH SIDE ELEVATIONS	WELL NO.	STATE PLANE COORDINATES	NORTH SIDE ELEVATIONS
MW #1	Y=887815.1 N X=803033.6 E	4218.10' GROUND 4218.51' TOP OF CONCRETE 4221.12' TOP OF 2" PVC PIPE	MW #4	Y=887792.5 N X=803073.6 E	4217.86' GROUND 4218.14' TOP OF CONCRETE 4221.84' TOP OF 4" STL. LID
RW #1	Y=887941.7 N X=803032.8 E	4217.53' GROUND 4217.94' TOP OF CONCRETE 4220.13' TOP OF 4" PVC PIPE	MW #5	Y=888114.8 N X=803011.9 E	4217.72' GROUND 4217.83' TOP OF CONCRETE 4221.21' TOP OF 6" STL. LID
MW #2	Y=888022.4 N X=803002.7 E	4217.09' GROUND 4217.39' TOP OF CONCRETE 4220.14' TOP OF 2" PVC PIPE	MW #6	Y=887861.0 N X=802978.2 E	4218.22' GROUND 4218.47' TOP OF CONCRETE 4222.19' TOP OF 4" STL. LID
MW #3	Y=887828.2 N X=803210.2 E	4217.60' GROUND 4217.99' TOP OF CONCRETE 4220.54' TOP OF 2" PVC PIPE			

**LEGEND**

- DENOTES FENCE GATE
- DENOTES FENCE LINE
- DENOTES GUY DOWN

NOTE: COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.

I HEREBY CERTIFY THAT I HAVE DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY AND THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.



3239

*Ronald J. Eidsen* 7-14-09

CARY G. EIDSON, P.S. No. 12641  
RONALD J. EIDSON, P.S. No. 3239

PROVIDING SURVEYING SERVICES SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117

**NEW MEXICO SALT WATER DISPOSAL CO.**

SURVEY OF MONITOR WELLS AT DISPOSAL STATION #11 IN SECTION 21, TOWNSHIP 10 SOUTH, RANGE 34 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 07/02/09	Sheet 1 of 1 Sheets
W.O. Number: 09.11.0610	Dr. By: LA
Date: 07/13/09	09110610 Scale: 1"=100'

Project: Monitor Well Drilling & Installation Sheet: 1021  
 Location: NM SWD Station #11, Lea Co. NM  
 Client: New Mexico Salt Water Disposal Co. Job number: ES08 NM SWD. 01  
 Driller: IRTV Peterson Drilling, Charlie Jensen Total depth: \_\_\_\_\_  
 Drilling method: DIR Rotary Start/6 15/15 Boring diameter: 6"  
 Boring date: 04/14/2009 15:20 Logged by: CM Barshi II, PE  
 Water level: 60.22' BGS Date measured: 04/15/09

depth (ft)	SAMPLE			standard penetration test results	SOIL DESCRIPTION Color, soil type, relative density or consistency, mineralogy, USGS classification moisture content	graphic log	COMMENTS Monitoring well installation, geotechnical properties, analytical tests, instrumentation
	interval	number	recovery (inches)				
0	0'-2'	0.5		Pushed	Tan 2.5 YR / 8/2 Hard - 2'-4" Colitic fine gr. sand / silt / colitic mixture	GM	Sampled 0'-2' @ 15:20 2x 402/6 / Jar / None BTex, TRH, mvd 805 CL - 300.0 GM/SM
10'	10'-12'	0.5		Pushed	Tan 2.5 YR / 8/2 Sand / silt / colitic mix fine gr. sand @ 15' Brown med gr. well sorted sand. 2.5 YR 6/4	SM	Sampled 10'-12' @ 15:30 2x 402/6 / Jar / None BTex / TRH, CL SW @ 15'
20'	20'-22'	1.0		Pushed	20'-22' @ 25' SC: clayey sand sand clay mixture Fatsy on bit @ 32'	SM	Sampled 20'-22' @ 15:40 2x 402/6 / Jar / None BTex, TRH, CL
30'	30'-32'	1.0		Pushed	set temporary mwe 30' - 10' screen 2045 sand (4' pack) 20/40 sand @ 16:00 20' riser	ML	Sampled 30'-32' @ 15:50 2x 402/6 / Jar / None BTex, TRH, CL
CL	30'-35'						
40				DRH	OB45 hole = 04/15/09 DRH Solimat WL TD = 30.30. H <sub>2</sub> O I.P. TD = 31.55 No H <sub>2</sub> O clayey silty sand - ml @ 47' 7.5 YR 6/6 sand - fine gr	SW	
50					@ 65' CH: clay T.O. 65' Screen 20' 65-45 (0.010) top sand 42.0 (40/20)	SW	T.O. DFW = 64.10 T.O. = 68.65 H <sub>2</sub> O = 60.22' T.O. 65.0
60							BGS

TD 65' @ 1300

CH @ 65'

CMB Environmental & Geological Services, Inc. Boring ID: MW-5

Project: MONITOR Well Drilling & Installation Sheet: 1 of 1  
 Location: NMSWD Station 11, Lea Co. NM  
 Client: New Mexico Salt Water Disposal Co. Job number: ES.08.NMSWD.01  
 Driller: JR 67 Peterson Drilling, Charlie Jackson Total depth: \_\_\_\_\_  
 Drilling method: Air Rotary started @ 11:30 hour Boring diameter: 6"  
 Boring date: 04/14/2009 13:30 Logged by: CMBarrhill, PL  
 Water level: 29.57' TD: 30.30' Date measured: 04/15/09

depth (ft)	SAMPLE			standard penetration test results	SOIL DESCRIPTION Color, soil type, relative density or consistency, mineralogy, USGS classification moisture content	graphic log	COMMENTS Monitoring well installation, geotechnical properties, analytical tests, instrumentation
	interval	number	recovery (inches)				
0	0'-2'		0.5	Pushed w/R16	Tan, 2.5 YR 8/2 Fine gr. Sand/Culike mixture to 2' BGS - 2' - 10' Fine gr. Sand.		Sampled 0'-2' @ 13:45 2x402/6/Jar/Nico TOP MID 8015 BTEx CL: 311.7 GM/SM
10	10'-12'		0.5	Pushed	Brown med gr. well sorted sand. 2.5 YR 6/4		Sampled 10'-12' @ 13:55 2x402/6/Jar/Nico TOP MID 8015 @ 15' SW CL: 300.0 BTEx SW/ML
20	20'-22'		1.0	Pushed	@ 20'-22' 2.5 YR 6/4 @ 22' clayey sand mixture SC	SW SC	@ 22' Sampled 20'-22' @ 14:15 2x402/6/Jar/Nico Fin TOP MID 8015 BTEx CL: 311.0
30	30'-32'		1.0	Pushed	30'-32' 2.5 YR 5/3 clayey sand - sand Clay mixture - fat clay in bits @ 32' Set 10' screen - 2 bags 20/40 #10 sand - 20' riser for temp. MW. @ 14:20 4' sand pack		CL Sampled 30'-32' @ 14:15 2x402/6/Jar/Nico TOP MID 8015 Chloride 301.7 BTEx
40							T.O. 30.30' Screen 30'-20' 0.010 TOP sand @ 16' 20/40 Bentonite 16' - 2' BGS Chips.
50							
60							

Project: MONITOR well Drilling & Installation Sheet: 1 of 1  
 Location: NMSWD Station #11 Lea Co. NM  
 Client: New Mexico Salt Water Disposal Co. Job number: F508.NMSWD.01  
 Driller: Petersen Drilling, Charlie Johnson Total depth: \_\_\_\_\_  
 Drilling method: Air Rotary Boring diameter: 6"  
 Boring date: 04/14/2009 @ 14:30 hr. Logged by: C M Barabill  
 Water level: \_\_\_\_\_ Date measured: \_\_\_\_\_

depth (ft)	SAMPLE			standard penetration test results	SOIL DESCRIPTION Color, soil type, relative density or consistency, mineralogy, USGS classification moisture content	graphic log	COMMENTS Monitoring well installation, geotechnical properties, analytical tests, instrumentation
	interval	number	recovery (inches)				
0	0'-2'	0.3		pushed w/ rig	0'-2' Tan - Sand/silt Caliche mixture. Hard drilling 1.0'-2.0' 2.5 YR 6/2	GM/SM	Sample 0'-2' @ 14:30 2x4x2 (6' Jar) Pipe Full TPA/CL BTEX
10'	10'-12'	0.3		pushed	10'-12' Tan Sand Silt mixture. fine gr. Sand. 2.5 YR 6/2 @ 18' SW 2.5 YR 6/4	SW	10'-12' @ 14:40 2x4x2 (6' Jar) Pipe TPA/CL BTEX SWE 22'
20'	20'-22'	1.0		pushed	20'-22' Clayey Sand @ 22' Sand clay mixture. SL 2.5 YR 5/3	SW	Sample 6' 20'-22' @ 14:50 - 2x4x2 (6' Jar) Pipe Full TPA/CL BTEX
30'	30'-32'	1.0		pushed	30'-32' : Clayey Sand Clay - Cal - Clay @ 32' Sat Temp mw - 16' Screen 4' Sand Pack 2d/4g 20' Risk - @ 15:10	CL	@ 30' CL Sample @ 15:00 30'-32' 2x4x2 (6' Jar) Pipe Full TPA/CL BTEX
40'				TD	0850 hr. 30.50 Hvac 2d/4g 30-30' salinat Dry. no water 7.5 YR 6/6 Sand Fine gr. Well sorted	SW	Dry No H <sub>2</sub> O Sample 45'-42' @ 13:40 @ 43' Sand (SW)
50'					DTW TOL = 63.15 DTW BGS = 59.87 T.O. TOL = 67.0 T.O. BGS = 63.70'	SW	@ 14:55 @ 13:50 Sample 30'-52'
60'							Sample 60'-62' @ 14:00 - TO 65 @ 14:10 CL @ 64' BGS

CMB Environmental

NMSWD Company  
Station # 9  
Lea County, New Mexico

Monitor Wells 4,5, 6  
May 2009

<u>Well #</u>	<u>Depth to Phase Separated Hydrocarbon (PsH)</u>	<u>Depth to Water</u>	<u>Total Depth of Monitor Well</u>	<u>Date:</u>	<u>Time:</u>
MW-4	None	63.49'	69.20'	5/18/2009	12:25
MW-5	None	31.57'	32.50'	5/18/2009	12:00
MW-6	None	63.23'	67.25'	5/18/2009	13:00

# NEW MEXICO SALT WATER DISPOSAL COMPANY, INC.

400 N. Pennsylvania Ave.  
Suite 1000  
P.O. Box 1518 (88202)  
Roswell, NM 88201  
575/625-0277 Telephone  
575/622-8643 Fax

November 21, 2008

NMEMNRD, OCD  
Attention: Wayne Price, Environmental Bureau Chief  
1220 South St. Francis Drive  
Wendell Chino Building  
Santa Fe, NM 87505

RE: AP053  
New Mexico Salt Water Disposal Company, Inc.

Dear Mr. Price:

On behalf of my client, New Mexico Salt Water Disposal Company, Inc. (NMSWDCo) I am enclosing for your review, comments and response the following: a drilling and completion prognosis for two (2) new monitor wells and a scaled map showing the locations for those two (2) new monitor wells. This proposal is submitted in response to your letter dated October 9, 2008 and in particular reference to your paragraph titled **REQUIREMENT TO SUBMIT PHASE TWO OF STAGE 1 ABATEMENT PLAN.**

While NMSWDCo is still in the process of preparing its responses to the balance of the items listed within your above referenced letter, other than that one item (Item 13) that we have already addressed and phase two of its Stage 1 Abatement Plan, we are in agreement with the desire of the OCD to drill the additional monitor wells to obtain the data from that drilling and sampling and to demonstrate our intent to move this process forward. Therefore, we would appreciate receiving your concurrence to our desire to not delay this part of our response in order for us to be able to provide a more rapid complete response to the above referenced requirement.

Please note, that as soon as we receive your agreement to this proposal, we will contract for the drilling and will provide your office with our proposed schedule.

Yours Sincerely,



Rory McMinn  
Sage Service Group, LLC as consultant to and for:  
New Mexico Salt Water Disposal Company, Inc.

cc: NMSWDCo OCD files  
Charles B. Read  
Gary Larson, Hinkle Law Firm  
Thaddeus Kostrubala, SLO Environmental Engineer

Drilling and Completion Prognosis  
New Mexico Salt Water Disposal Company, Inc.  
November 21, 2008  
Station #11, Unit D, Section 10, T10S,-R34E  
Lea County, New Mexico

Drill two 2 inch diameter (completed diameter) monitor wells to 65 feet below ground surface.

- Proposed monitor well #4 will be located approximately 30 feet east and 30 feet south of the existing monitor well #1.
- Proposed monitor well #5 will be located approximately 100' due north of existing monitor well #2.

PROGNOSIS:

- Hollow stem auger drilling method will be utilized for both wells. Upon reaching total depth, 15 feet of 0.010 slotted screen will be set from total depth, 65 feet BGS to 50 feet BGS.
- Sand filter pack (16/30) will be from 65' feet to two foot above the top of the slotted screen at 48 feet BGS.
- A minimum two foot bentonite seal will be set a 48'-46 feet BGS, and then cement-bentonite seal from 46 feet to ground surface.
- A four foot concrete pad and 4' foot steel stick up well protector will be covering and protecting the monitor well.

SAMPLING:

Beginning at the surface to total depth, samples will be taken at least every 10 feet until the final sample from total depth. Sampling of captured fluids will include the following at both 30 feet BGS to 32 feet BGS and 60 feet BGS to 62 feet BGS: TPH Mod 8015 GRO/DRO, TPH 418.1, and Chloride

Should ground water be encountered, the monitor wells will subsequently be developed by the drilling contractor, all purged water will be stored on site drums, a minimum of three well volumes will be extracted and a groundwater sample taken and analyzed for total water chemistry which will include silica.

Drill cuttings will be placed on plastic sheeting or drummed until lab analysis results are completed and will then be disposed of in an approved site.



pit was not constructed and never has been used as a disposal pit, and (ii) I have corrected the improper designation that appears on the plat submitted by CMB.

6. Neither Mr. McMinn nor any other representative of NMSWD informed me prior to conducting my survey that there is a disposal pit at the Station # 11 site. Rather, I assumed that the area I identified as a pit on the plat was a disposal pit based on my observation that the area had been excavated and bermed.

7. Mr. McMinn recently informed me that the excavated area in the southeastern corner of the Station #11 site is not and never has been a disposal pit, but, instead, is a surface water impoundment that NMSWD constructed for the benefit of the grazing lessee, specifically for purposes of watering his cattle.

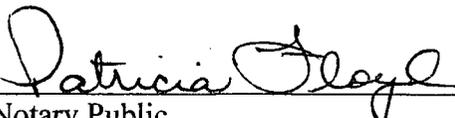
8. Based on my personal observation of the Station #11 site, I am informed and believe that Mr. McMinn's description of the excavated area as a surface water impoundment is accurate. Therefore, I should not have identified the excavated area as a pit on the plat.

9. I have prepared an amended survey plat that properly identifies the rectangular-shaped area in the southeast corner of the Station #11 site as a surface water impoundment area. The amended plat is attached hereto as Exhibit A.

FURTHER AFFIANT SAYETH NOT.

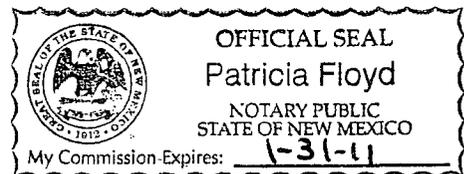
  
\_\_\_\_\_  
Ronald J. Eidson

SUBSCRIBED AND SWORN TO before me this 12th day of November, 2008, by Ronald J. Eidson.

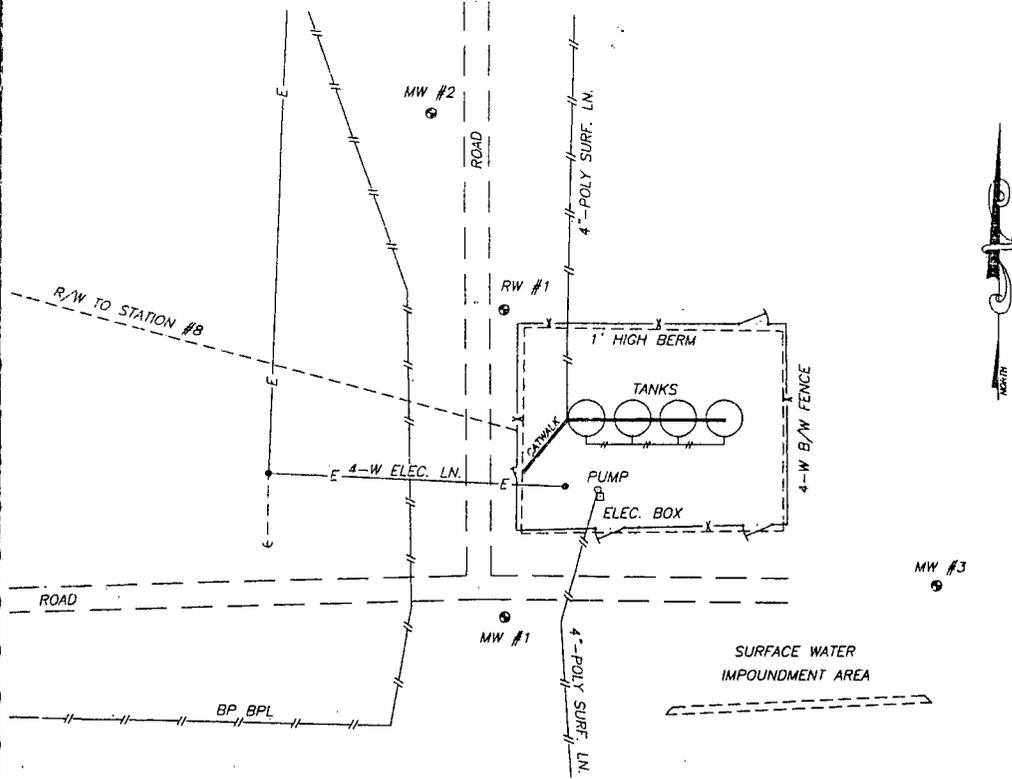
  
\_\_\_\_\_  
Notary Public

My Commission Expires:

1-31-11



SECTION 21, TOWNSHIP 10 SOUTH, RANGE 34 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO

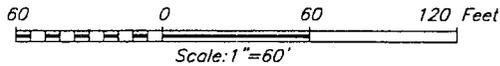


WELL NO.	STATE PLANE COORDINATES	NORTH SIDE ELEVATIONS
MW #1	Y=887815.1 N X=803033.6 E	4218.10' GROUND 4218.51' TOP OF CONCRETE 4221.12' TOP OF 2" PVC PIPE
RW #1	Y=887941.7 N X=803032.8 E	4217.53' GROUND 4217.94' TOP OF CONCRETE 4220.13' TOP OF 4" PVC PIPE
MW #2	Y=888022.4 N X=803002.7 E	4217.09' GROUND 4217.39' TOP OF CONCRETE 4220.14' TOP OF 2" PVC PIPE
MW #3	Y=887828.2 N X=803210.2 E	4217.60' GROUND 4217.99' TOP OF CONCRETE 4220.54' TOP OF 2" PVC PIPE

**LEGEND**

- DENOTES FENCE GATE
- DENOTES FENCE LINE
- DENOTES GUY DOWN

NOTE: COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.



I HEREBY CERTIFY THAT I DIRECTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

*Ronald J. Eidsom* 11/09/08  
GARY G. EIDSON, N.M. P.S. No. 12641  
RONALD J. EIDSON, N.M. P.S. No. 3239

PROVIDING SURVEYING SERVICES SINCE 1946  
**JOHN WEST SURVEYING COMPANY**  
412 N. DAL PASO  
HOBBS, N.M. 88240  
(505) 393-3117

**NEW MEXICO SALT WATER DISPOSAL CO.**

SURVEY OF DISPOSAL STATION #11 IN  
SECTION 21, TOWNSHIP 10 SOUTH, RANGE 34 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

Survey Date: 07/02/07	Sheet 1 of 1 Sheets
W.O. Number: 07.11.0830	Dr By: J.R. Rev: 11/17/08 JC
Date: 07/16/07	07110830 Scale: 1"=100'