STATE OF COLORADO
OIL & GAS
CONSERVATION COMMISSION

DEPARTMENT OF NATURAL RESOURCES
Bill Ritter, Jr., Governor
1120 Lincoln St. Suite 801
Denver, CO 80203
Phone: (303) 894-2100
FAX: (303) 894-2109
www.colorado.gov/cogcc

December 28, 2010

Joe and Teena Kugler
40004 CR 129
New Raymer, CO 807742

RE: Groundwater Sampling
Section 11, Township 7 North – Range 58 West
Weld County, Colorado; COGCC Project No. 2090

Dear Mr. and Mrs. Kugler:

The Colorado Oil and Gas Conservation Commission (COGCC) conducted an investigation to examine groundwater quality in the domestic well on your property in northern Weld County. On October 20, 2010, Steven Lindblom of the COGCC met with you and collected groundwater samples from your water well (Permit #176698-A) in the Southwest Quarter of the Southwest Quarter of Section 11 in Township 7 North, Range 58 West. The water samples were analyzed by ALS Laboratories in Ft. Collins Colorado for organic and inorganic parameters, and the presence of bacteria. This letter summarizes the analytical laboratory results of the water samples collected on October 20, 2010.

A copy of the laboratory analytical report and photographs of bacterial testing samples are included as Attachment 1.

VOLATILE ORGANIC COMPOUNDS

The Water Quality Control Commission (WQCC) of the Colorado Department of Public Health and Environment (CDPHE) has established drinking water standards for volatile organic compounds for the protection of human health. The analytical results from the water samples have been compared to applicable ground water and/or drinking water standards and are discussed below.

Volatile Organic Compounds: Often, water well impacts due to oil and gas exploration and production activities would be evidenced by elevated levels of volatile organic compounds VOCs) including benzene, ethylbenzene, toluene, and xylenes (BTEX compounds). Some of these constituents have been classified by the U.S. Department of Health and Human Services as carcinogens while others have been shown to have other detrimental health effects.

None of the target list compounds were present above the laboratory reporting limit.

Semi-Volatile Organic Compounds (SVOCs): A target list of 66 semi-volatile organic compounds was utilized during analysis of water from your wells and surface water sample locations.

None of the target list compounds were present above the laboratory reporting limit.

BACTERIAL ANALYSIS

Samples were collected from your domestic water well to analyze for the presence of sulfate and slime bacteria. Samples were tested for the presence of sulfate reducing (SRB) and slime forming (SLYM)

bacteria using Biological Activity Reaction Test (BART) kits. The results of the tests are provided below and documented in photographs included in Attachment 1.

- Iron-Related Bacteria (IRB): Although not harmful, iron-related bacteria can become a nuisance by plugging the well pump, causing red staining on plumbing fixtures and laundered clothing, building up red, slimy accumulations on any surface the water touches, and causing what appears to be a sheen on standing water. Signs that may indicate an iron bacteria problem include "yellowish, red or orange colored water, rusty deposits in toilet tanks and strange smells resembling fuel oil, cucumbers or sewage. Sometimes the odor will only be apparent in the morning or after other extended periods of non-use" (CDPHE, Laboratory Services Division).

  IRB bacteria were detected in the water sample collected from your domestic water well. IRB are present when an orange cloudy layer, at the bottom of the IRB tube (red cap) and foam at the top develop.

- Sulfate-Reducing Bacteria (SRB): Sulfate reducing bacteria are serious nuisance organisms in water since they can cause severe taste and odor problems. These bacteria reduce sulfate that occurs naturally in the water and generate hydrogen sulfide (H2S) gas as they grow. In turn, the hydrogen sulfide (H2S) gas is a nuisance because it smells like rotten eggs, initiates corrosion on metal surfaces and reacts with dissolved metals such as iron to generate black sulfide deposits.

  SRB bacteria were not detected in the water sample collected from your domestic well. SRB are present when black particulates develop at the bottom of the sample vial.

- Slime Forming Bacteria (SLYM): Although not usually harmful, Slime Forming Bacteria (SFB) can become a nuisance by plugging well pumps and causing slimy accumulations on plumbing fixtures and standing water. Slimes are often gelatinous in nature and may range in color from white, to red, or black. As slime bacteria mats grow they create an environment in which complex associations of other strains of bacteria can develop.

  SLYM bacteria were not detected in the water sampls collected from your domestic well.

INORGANIC ANALYTICAL RESULTS

The WQCC has also established drinking water standards for inorganic constituents in groundwater. The analytical results from the water samples have been compared to applicable ground water and/or drinking water standards and are summarized below. Please keep in mind that these water standards were established for public drinking water supplies. People often use and consume ground water from private wells that can exceed these standards.

- Total Dissolved Solids (TDS): CDPHE has established a TDS standard for human drinking water of 500 milligrams per liter (mg/L). The standard is called the secondary maximum contaminant level (SMCL) and is based on the aesthetic quality of the water (such as taste and odor) and is intended as a guideline for public water supply systems and is not an enforceable standard. Although CDPHE does not have an agricultural standard for TDS, other agencies recommend concentrations below 2,000 mg/L for irrigation, and below 5,000 mg/L for most livestock watering. TDS concentrations are related to the presence of naturally occurring elements and chemical compounds such as chloride, sodium, potassium, calcium, magnesium, and sulfate.

The concentration of TDS measured in the water sample from your domestic well was 1,600 mg/L, which is above the CDPHE guideline of 500 mg/L.

- Sodium (Na): Although CDPHE does not have a standard for sodium, people on salt restricted diets should be aware of the sodium concentration in the water they drink. Drinking water with a concentration of sodium less than 20 mg/L is recommended by some for people on salt restricted diets or for people suffering from hypertension or heart disease. Sodium occurs naturally in ground water in many areas at concentrations that exceed the recommended level.

  The concentration of sodium measured in the water sample from your domestic well was 390 mg/L, which is above the CDPHE guideline of 20 mg/L.

- Chloride (Cl): The CDPHE chloride standard (SMCL) for drinking water is 250 mg/L. Chloride concentrations in excess of 250 mg/L usually produce a noticeable taste in drinking water.

  The concentration of chloride measured in the water sample from your domestic well was 63 mg/L, which is below the CDPHE guideline of 250 mg/L.

- Sulfate (SO_4): The CDPHE sulfate standard for drinking water is 250 mg/L (SMCL). Although CDPHE does not have an agricultural standard for sulfate, other agencies recommend a concentration below 1,500 mg/L for livestock watering. Waters containing high concentrations of sulfate, typically caused by the leaching of natural deposits of magnesium sulfate (Epsom salts) or sodium sulfate (Glauber's salt), may be undesirable because of their laxative effects. Sulfate occurs naturally in the ground water in many areas in Colorado at concentrations that exceed the drinking water standard.

  The concentration of sulfate measured in the water sample from your domestic well was 740 mg/L, which is above the CDPHE guideline of 250 mg/L.

- Total Nitrate (NO_3) + Nitrite (NO_2) as Nitrogen (N): The CDPHE total nitrate (NO_3) + nitrite (NO_2) as nitrogen (N) standard for human drinking water is 10 mg/L. Nitrate and nitrite are common contaminants in ground water from agricultural sources, such as fertilizer and animal, including human, wastes. They are known to cause infant cyanosis or "blue baby disease" in humans and, at concentrations greater than 100 mg/L as nitrogen, may be dangerous to livestock. High concentrations of nitrate and nitrite in ground water are known to occur in agricultural areas in Colorado.

  The concentration of nitrate/nitrite as nitrogen measured in the water sample from your domestic well was 0.04 mg/L, which is below the CDPHE guideline of 10 mg/L.

- Iron (Fe): The CDPHE standard for iron in human drinking water is 0.3 mg/L (SMCL). Small amounts of iron are common in ground water. Iron may produce a brownish-red color in laundered clothing, can leave reddish stains on fixtures, and impart a metallic taste to beverages and food made with it. After a period of time iron deposits can build up in pressure tanks, water heaters, and pipelines, reducing the effective flow rate and efficiency of the water supply.

  Dissolved iron was not detected in the sample from your domestic well.

- Selenium (Se): The CDPHE selenium standard for human drinking water is 0.05 mg/L. Excessive selenium (concentrations greater than 0.05 mg/L) can cause loss of hair and/or fingernails as well as

adverse effects on the central nervous system. Selenium occurs naturally in the ground water in many areas of Colorado at concentrations that exceed the drinking water standard.

Dissolved selenium was not detected in the sample from your domestic well.

- Fluoride (F): CDPHE has established a fluoride standard for human drinking water of 4.0 mg/L. Where fluoride concentrations are in the range of 0.7 mg/L to 1.2 mg/L, health benefits such as reduced dental decay have been observed. Consumption of fluoride at concentrations of greater than 2.0 mg/L can result in mottling of teeth. Consumption of fluoride at concentrations greater than 4.0 mg/L can increase the risk of skeletal fluorosis or other adverse health effects.

  The concentration of flouride measured in the sample from your domestic well was 0.35 mg/L, which is below the CDPHE established standard.

- Calcium (Ca), Magnesium (Mg), Manganese (Mn), Potassium (K), Bicarbonate (HCO_3), Carbonate (CO_3), pH, and Specific Conductance (Conductance) were also tested for in water from both wells. No primary standards exist for these parameters and a secondary standard (S) has only been established for manganese and pH. These results are summarized in the following table. Please note that Primary standard (P) is the CDPHE Human Health Standard and the Secondary standard (S) is the CDPHE secondary maximum contaminant level (SMCL).

Table 1. Kugler Water Samples, October 2010
Concentrations in mg/L

PARAMETER	Domestic well (Permit #176698-A)	CDPHE Standard P –Primary S-Secondary
Calcium	52	NS
Magnesium	22	NS
Manganese	0.015	0.05 (S)
Potassium	25	NS
pH	7.63	6.5-8.5 (S)
Conductance (umhos/cm)	2440	NS

NS – No standard
CDPHE – Colorado Department of Public Health and Environment

CONCLUSION

As noted in the discussion above and summarized in Table 1, the overall quality of water from samples collected from your water well appears acceptable. Although TDS and sulfate were detected above CDPHE established standards, these standards are secondary standards and are based on the aesthetic quality of the water (such as taste and odor) and is intended as a guideline for public water supply systems and is not an enforceable standard. No volatile or semivolatile compounds were detected in samples from your domestic well.

The Colorado Oil & Gas Conservation Commission has participated in the publication of a general information pamphlet on water supply wells which includes a simple well disinfection procedure to help control nuisance bacteria, should they ever become an issue. This brochure is available on the COGCC website (www.cogcc.state.co.us) on the Library Page under the heading Water Well

Related Reports and Papers. In addition, the National Groundwater Association has sponsored a website (http://www.wellowner.org/) with resources and information for water well owners.

If you have any questions or would like to discuss these matters further, please contact me at the COGCC in Denver via e-mail (steven.lindblom@state.co.us) or by phone at 303-894-2100, extension 5114.

Respectfully,

Steven R. Lindblom, P.G.
Environmental Supervisor - Eastern Colorado

Attachments

cc: Debbie Baldwin – COGCC
John Axelson – COGCC
Art Smith – Sterling Energy

ATTACHMENT 1

Laboratory Data and Bacterial Testing Results

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
Fort Collins, Colorado

GC/MS Semivolatiles

Case Narrative

Colorado Oil & Gas Conservation Commission

Kugler W. W.

Work Order Number: 1010310

1. This report consists of 1 water sample. The sample was received intact by ALS on 10/21/10 at a temperature of 10.2° C.

2. The sample was prepared and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was extracted using continuous liquid-liquid extractors, according to SW-846 Method 3520C utilizing SOP 617 Revision 13.

3. The extracts were analyzed using GC/MS with a DB-5.625 capillary column according to SOP 506 Revision 16 based on SW-846 Method 8270D. All positive results were quantitated against the initial calibration standards using the internal standard technique. The identification of positive results was achieved by a comparison of the retention time and mass spectrum of the sample versus the daily calibration standard.

4. All initial calibration criteria for SPCC's and CCC's were met. If average response factors were used in the initial calibration, %RSD was ≤15%. If linear or higher order regression calibrations were used in the initial calibration, the coefficient of determination (r^2) ≥0.99.

5. All initial calibration standards are verified by comparing a second source standard initial calibration verification (ICV) against the calibration curve. All target compounds in the second source verification had a %D of less than 25%.

6. All SPCC and CCC criteria were met in each of the daily (continuing) calibration verifications.

7. All method blank criteria were met.

8. All laboratory control sample and laboratory control sample duplicate criteria were met with the following exceptions:

Spiked Compound	QC Sample	Direction
Aniline	LCS	Low
Aniline	LCS/LCSD	RPD High
Pyridine	LCS/LCSD	RPD High
3,3'-Dichlorobenzidine	LCS/LCSD	RPD High

Because of the large number of target analytes reported by this method, the lab allows for sporadic marginal exceedances. No further action was taken.

9. Matrix spikes and matrix spike duplicates could not be performed because of insufficient sample. A laboratory control sample and laboratory control sample duplicate were performed instead.

10. The sample was extracted and analyzed within the established holding time.

11. All surrogate recoveries were within acceptance limits with the following exception:

Surrogate	Sample	Direction
2,4,6-Tribromophenol	LCSD	High

No further action was taken.

12. All internal standard recoveries were within acceptance criteria.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

SL
Sharon L. Jobes
Organics Primary Data Reviewer

11-25-10
Date

Joe Kwiatkowski
Organics Final Data Reviewer

November 24, 2010
Date

ALS
Data Qualifier Flags
Chromatography and Mass Spectrometry

U or ND:	**This flag indicates that the compound was analyzed for but not detected.**
J:	**This flag indicates an estimated value. This flag is used as follows: (1) when estimating a concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed; (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the reporting limit (RL) but greater than the method detection limit (MDL); (3) when the retention time data indicate the presence of a compound that meets the GC identification criteria, and the result is less than the RL but greater than the MDL; and (4) the reported value is estimated.**
B:	**This flag is used when the analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user. This flag shall be used for a tentatively identified compound (TIC) as well as for a positively identified target compound.**
E:	**This flag identifies compounds whose concentration exceeds the upper level of the calibration range.**
A:	**This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.**
X:	**This flag indicates that the analyte was diluted below an accurate quantitation level.**
***:**	**This flag indicates that a spike recovery is equal to or outside the control criteria used.**
+:	**This flag indicates that the relative percent difference (RPD) equals or exceeds the control criteria.**

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Kugler W. W.
Client Project Number:
Client PO Number: OE PHA 11000000014

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Kugler W.W.	1010310-1		WATER	20-Oct-10	12:40

Chain of Custody Record

Sampler ID _____

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

101031D

TAL-4124-280 (0508)

Client	Project Manager	Date	Chain of Custody Number
Colorado Oil & Gas Conservation Comm.	Steve Lindblom	10/20/2010	135379
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** _____ **of** _____
1120 Lincoln, Suite 801	(303) 894-2100 x5114 / (303) 894-2109		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Denver / CO / 80203	Lindblom		
Project Name and Location (State)	**Carrier/Waybill Number**		
Kugler LV WI			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 8270	2540C	~~Other~~	6010B	353.2	8260
Kugler LV W.	10/20/10	12 LV		X			X						2	1				
									X							1		
								X									1	
										X								W

Special Instructions/ Conditions of Receipt

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other STANDARD

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/21/10	1020	1. Received By	10-21-10	1020
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

5 of 8

DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample: PINK - Field Copy

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1010310

Project Manager: AW Initials: CDT Date: 10-21-10

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	(NO)
2. Are custody **seals** on **shipping containers** intact?	(NONE)	YES	NO
3. Are Custody seals on **sample containers** intact?	(NONE)	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		(YES)	NO
5. Are the **COC and bottle labels complete and legible**?		(YES)	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were **airbills / shipping documents** present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous **samples requiring preservation preserved correctly?** (excluding volatiles)	N/A	(YES)	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	(YES)	NO
10. Is there **sufficient sample** for the requested analyses?		(YES)	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		(YES)	NO
12. Are all samples within **holding times** for the requested analyses?		(YES)	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble:** ____ < green pea ____ > green pea	N/A	(YES)	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(N/A)	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	NO
17. Were the samples **shipped on ice**?		(YES)	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 (#4)	RAD ONLY	YES	(NO)

Cooler #: 1

Temperature (°C): 10.2

No. of custody seals on cooler: NA

DOT Survey/ Acceptance Information

External µR/hr reading: NA

Background µR/hr reading: NA

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO (NA) (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

Not Requested on COC but required analyses: pH, Conductivity, Chlorides AW 10/22/10

If applicable, was the client contacted? (YES) / NO / NA Contact: Steve Lindblom Date/Time: 10/22/10

Project Manager Signature / Date: 10/22/10

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

GC/MS Semi-volatiles

Method SW8270D

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: EX101027-7MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10
Prep Method: SW3520 Rev C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2678

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
110-86-1	PYRIDINE	1	10	10	U	
62-75-9	N-NITROSODIMETHYLAMINE	1	10	10	U	
62-53-3	ANILINE	1	10	10	U	
108-95-2	PHENOL	1	10	10	U	
111-44-4	BIS(2-CHLOROETHYL)ETHER	1	10	10	U	
95-57-8	2-CHLOROPHENOL	1	10	10	U	
541-73-1	1,3-DICHLOROBENZENE	1	10	10	U	
106-46-7	1,4-DICHLOROBENZENE	1	10	10	U	
95-50-1	1,2-DICHLOROBENZENE	1	10	10	U	
100-51-6	BENZYL ALCOHOL	1	10	10	U	
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	1	10	10	U	
95-48-7	2-METHYLPHENOL	1	10	10	U	
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	1	10	10	U	
108-39-4	3+4-METHYLPHENOL	1	10	10	U	
67-72-1	HEXACHLOROETHANE	1	10	10	U	
98-95-3	NITROBENZENE	1	10	10	U	
78-59-1	ISOPHORONE	1	10	10	U	
88-75-5	2-NITROPHENOL	1	10	10	U	
105-67-9	2,4-DIMETHYLPHENOL	1	10	10	U	
111-91-1	BIS(2-CHLOROETHOXY)METHANE	1	10	10	U	
120-83-2	2,4-DICHLOROPHENOL	1	10	10	U	
65-85-0	BENZOIC ACID	1	50	50	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	10	10	U	
91-20-3	NAPHTHALENE	1	10	10	U	
106-47-8	4-CHLOROANILINE	1	10	10	U	
87-68-3	HEXACHLOROBUTADIENE	1	10	10	U	
59-50-7	4-CHLORO-3-METHYLPHENOL	1	10	10	U	

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: EX101027-7MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10
Prep Method: SW3520 Rev C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2678

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

91-57-6	2-METHYLNAPHTHALENE	1	10	10	U	
90-12-0	1-METHYLNAPHTHALENE	1	10	10	U	
77-47-4	HEXACHLOROCYCLOPENTADIENE	1	10	10	U	
88-06-2	2,4,6-TRICHLOROPHENOL	1	10	10	U	
95-95-4	2,4,5-TRICHLOROPHENOL	1	10	10	U	
91-58-7	2-CHLORONAPHTHALENE	1	10	10	U	
88-74-4	2-NITROANILINE	1	20	20	U	
131-11-3	DIMETHYL PHTHALATE	1	10	10	U	
606-20-2	2,6-DINITROTOLUENE	1	10	10	U	
208-96-8	ACENAPHTHYLENE	1	10	10	U	
99-09-2	3-NITROANILINE	1	20	20	U	
83-32-9	ACENAPHTHENE	1	10	10	U	
51-28-5	2,4-DINITROPHENOL	1	20	20	U	
100-02-7	4-NITROPHENOL	1	20	20	U	
132-64-9	DIBENZOFURAN	1	10	10	U	
121-14-2	2,4-DINITROTOLUENE	1	10	10	U	
84-66-2	DIETHYL PHTHALATE	1	10	10	U	
86-73-7	FLUORENE	1	10	10	U	
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	1	10	10	U	
100-01-6	4-NITROANILINE	1	20	20	U	
103-33-3	AZOBENZENE	1	10	10	U	
534-52-1	4,6-DINITRO-2-METHYLPHENOL	1	20	20	U	
86-30-6	N-NITROSODIPHENYLAMINE	1	10	10	U	
101-55-3	4-BROMOPHENYL PHENYL ETHER	1	10	10	U	
118-74-1	HEXACHLOROBENZENE	1	10	10	U	
58-90-2	2,3,4,6-TETRACHLOROPHENOL	1	10	10	U	
87-86-5	PENTACHLOROPHENOL	1	20	20	U	
85-01-8	PHENANTHRENE	1	10	10	U	
120-12-7	ANTHRACENE	1	10	10	U	

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: EX101027-7MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10
Prep Method: SW3520 Rev C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2678

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

86-74-8	CARBAZOLE	1	10	10	U	
84-74-2	DI-N-BUTYL PHTHALATE	1	10	10	U	
206-44-0	FLUORANTHENE	1	10	10	U	
129-00-0	PYRENE	1	10	10	U	
85-68-7	BUTYL BENZYL PHTHALATE	1	10	10	U	
56-55-3	BENZO(A)ANTHRACENE	1	10	10	U	
91-94-1	3,3'-DICHLOROBENZIDINE	1	10	10	U	
218-01-9	CHRYSENE	1	10	10	U	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1	10	10	U	
117-84-0	DI-N-OCTYL PHTHALATE	1	10	10	U	
205-99-2	BENZO(B)FLUORANTHENE	1	10	10	U	
207-08-9	BENZO(K)FLUORANTHENE	1	10	10	U	
50-32-8	BENZO(A)PYRENE	1	10	10	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	10	10	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	10	10	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	10	10	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	60.7		75	81	23 - 100
321-60-8	2-FLUOROBIPHENYL	39.5		50	79	21 - 106
367-12-4	2-FLUOROPHENOL	60		75	80	21 - 100
4165-60-0	NITROBENZENE-D5	38.2		50	76	34 - 111
4165-62-2	PHENOL-D5	60.3		75	80	15 - 104
1718-51-0	TERPHENYL-D14	45.2		50	90	33 - 111

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID:

Lab ID: EX101027-7MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: As Received

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Clean DF: 1
File Name: R2678

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
	3.82	OXYGENATED HYDROCARBON1	1	4.8	UG/L	J
	4.03	OXYGENATED HYDROCARBON2	1	9.3	UG/L	J

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Oct-10
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10
Prep Method: SW3520 Rev C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: As Received
File Name: R2681

Sample Aliquot: 1020 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
110-86-1	PYRIDINE	1	9.8	9.8	U	
62-75-9	N-NITROSODIMETHYLAMINE	1	9.8	9.8	U	
62-53-3	ANILINE	1	9.8	9.8	U	
108-95-2	PHENOL	1	9.8	9.8	U	
111-44-4	BIS(2-CHLOROETHYL)ETHER	1	9.8	9.8	U	
95-57-8	2-CHLOROPHENOL	1	9.8	9.8	U	
541-73-1	1,3-DICHLOROBENZENE	1	9.8	9.8	U	
106-46-7	1,4-DICHLOROBENZENE	1	9.8	9.8	U	
95-50-1	1,2-DICHLOROBENZENE	1	9.8	9.8	U	
100-51-6	BENZYL ALCOHOL	1	9.8	9.8	U	
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	1	9.8	9.8	U	
95-48-7	2-METHYLPHENOL	1	9.8	9.8	U	
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	1	9.8	9.8	U	
108-39-4	3+4-METHYLPHENOL	1	9.8	9.8	U	
67-72-1	HEXACHLOROETHANE	1	9.8	9.8	U	
98-95-3	NITROBENZENE	1	9.8	9.8	U	
78-59-1	ISOPHORONE	1	9.8	9.8	U	
88-75-5	2-NITROPHENOL	1	9.8	9.8	U	
105-67-9	2,4-DIMETHYLPHENOL	1	9.8	9.8	U	
111-91-1	BIS(2-CHLOROETHOXY)METHANE	1	9.8	9.8	U	
120-83-2	2,4-DICHLOROPHENOL	1	9.8	9.8	U	
65-85-0	BENZOIC ACID	1	49	49	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	9.8	9.8	U	
91-20-3	NAPHTHALENE	1	9.8	9.8	U	
106-47-8	4-CHLOROANILINE	1	9.8	9.8	U	
87-68-3	HEXACHLOROBUTADIENE	1	9.8	9.8	U	
59-50-7	4-CHLORO-3-METHYLPHENOL	1	9.8	9.8	U	

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Oct-10
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10
Prep Method: SW3520 Rev C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: As Received
File Name: R2681

Sample Aliquot: 1020 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

91-57-6	2-METHYLNAPHTHALENE	1	9.8	9.8	U	
90-12-0	1-METHYLNAPHTHALENE	1	9.8	9.8	U	
77-47-4	HEXACHLOROCYCLOPENTADIENE	1	9.8	9.8	U	
88-06-2	2,4,6-TRICHLOROPHENOL	1	9.8	9.8	U	
95-95-4	2,4,5-TRICHLOROPHENOL	1	9.8	9.8	U	
91-58-7	2-CHLORONAPHTHALENE	1	9.8	9.8	U	
88-74-4	2-NITROANILINE	1	20	20	U	
131-11-3	DIMETHYL PHTHALATE	1	9.8	9.8	U	
606-20-2	2,6-DINITROTOLUENE	1	9.8	9.8	U	
208-96-8	ACENAPHTHYLENE	1	9.8	9.8	U	
99-09-2	3-NITROANILINE	1	20	20	U	
83-32-9	ACENAPHTHENE	1	9.8	9.8	U	
51-28-5	2,4-DINITROPHENOL	1	20	20	U	
100-02-7	4-NITROPHENOL	1	20	20	U	
132-64-9	DIBENZOFURAN	1	9.8	9.8	U	
121-14-2	2,4-DINITROTOLUENE	1	9.8	9.8	U	
84-66-2	DIETHYL PHTHALATE	1	9.8	9.8	U	
86-73-7	FLUORENE	1	9.8	9.8	U	
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	1	9.8	9.8	U	
100-01-6	4-NITROANILINE	1	20	20	U	
103-33-3	AZOBENZENE	1	9.8	9.8	U	
534-52-1	4,6-DINITRO-2-METHYLPHENOL	1	20	20	U	
86-30-6	N-NITROSODIPHENYLAMINE	1	9.8	9.8	U	
101-55-3	4-BROMOPHENYL PHENYL ETHER	1	9.8	9.8	U	
118-74-1	HEXACHLOROBENZENE	1	9.8	9.8	U	
58-90-2	2,3,4,6-TETRACHLOROPHENOL	1	9.8	9.8	U	
87-86-5	PENTACHLOROPHENOL	1	20	20	U	
85-01-8	PHENANTHRENE	1	9.8	9.8	U	
120-12-7	ANTHRACENE	1	9.8	9.8	U	

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Oct-10
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10
Prep Method: SW3520 Rev C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: As Received
File Name: R2681

Sample Aliquot: 1020 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

86-74-8	CARBAZOLE	1	9.8	9.8	U	
84-74-2	DI-N-BUTYL PHTHALATE	1	9.8	9.8	U	
206-44-0	FLUORANTHENE	1	9.8	9.8	U	
129-00-0	PYRENE	1	9.8	9.8	U	
85-68-7	BUTYL BENZYL PHTHALATE	1	9.8	9.8	U	
56-55-3	BENZO(A)ANTHRACENE	1	9.8	9.8	U	
91-94-1	3,3'-DICHLOROBENZIDINE	1	9.8	9.8	U	
218-01-9	CHRYSENE	1	9.8	9.8	U	
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	1	9.8	9.8	U	
117-84-0	DI-N-OCTYL PHTHALATE	1	9.8	9.8	U	
205-99-2	BENZO(B)FLUORANTHENE	1	9.8	9.8	U	
207-08-9	BENZO(K)FLUORANTHENE	1	9.8	9.8	U	
50-32-8	BENZO(A)PYRENE	1	9.8	9.8	U	
193-39-5	INDENO(1,2,3-CD)PYRENE	1	9.8	9.8	U	
53-70-3	DIBENZO(A,H)ANTHRACENE	1	9.8	9.8	U	
191-24-2	BENZO(G,H,I)PERYLENE	1	9.8	9.8	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	63.9		73.5	87	23 - 100
321-60-8	2-FLUOROBIPHENYL	40.1		49	82	21 - 106
367-12-4	2-FLUOROPHENOL	62.6		73.5	85	21 - 100
4165-60-0	NITROBENZENE-D5	40.8		49	83	34 - 111
4165-62-2	PHENOL-D5	61.2		73.5	83	15 - 104
1718-51-0	TERPHENYL-D14	44.6		49	91	33 - 111

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-Oct-10
Date Extracted: 27-Oct-10
Date Analyzed: 31-Oct-10

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: As Received

Sample Aliquot: 1020 ml
Final Volume: 1 ml
Clean DF: 1
File Name: R2681

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
	4.04	OXYGENATED HYDROCARBON	1	12	UG/L	B,J

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: EX101027-7LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/27/2010
Date Analyzed: 10/31/2010
Prep Method: SW3520C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2679

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
110-86-1	PYRIDINE	60	19.2	10		32	10 - 108%
62-75-9	N-NITROSODIMETHYLAMINE	60	51.5	10		86	26 - 110%
62-53-3	ANILINE	60	7.51	10	J*	13	25 - 125%
108-95-2	PHENOL	60	50.2	10		84	49 - 101%
111-44-4	BIS(2-CHLOROETHYL)ETHER	60	54.5	10		91	37 - 110%
95-57-8	2-CHLOROPHENOL	60	52.5	10		87	37 - 106%
541-73-1	1,3-DICHLOROBENZENE	60	44	10		73	32 - 98%
106-46-7	1,4-DICHLOROBENZENE	60	43.1	10		72	32 - 98%
95-50-1	1,2-DICHLOROBENZENE	60	44	10		73	33 - 102%
100-51-6	BENZYL ALCOHOL	60	51	10		85	30 - 112%
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	60	52.6	10		88	26 - 131%
95-48-7	2-METHYLPHENOL	60	50.7	10		84	38 - 109%
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	60	51.7	10		86	34 - 128%
108-39-4	3+4-METHYLPHENOL	60	49.3	10		82	32 - 110%
67-72-1	HEXACHLOROETHANE	60	45.9	10		76	28 - 94%
98-95-3	NITROBENZENE	60	57.1	10		95	44 - 109%
78-59-1	ISOPHORONE	60	53.7	10		90	50 - 112%
88-75-5	2-NITROPHENOL	60	56.1	10		93	39 - 113%
105-67-9	2,4-DIMETHYLPHENOL	60	48.3	10		80	28 - 109%
111-91-1	BIS(2-CHLOROETHOXY)METHANE	60	52.6	10		88	46 - 107%
120-83-2	2,4-DICHLOROPHENOL	60	53.4	10		89	48 - 105%
65-85-0	BENZOIC ACID	100	75.3	50		75	10 - 125%
120-82-1	1,2,4-TRICHLOROBENZENE	60	44.7	10		75	37 - 107%
91-20-3	NAPHTHALENE	60	49.8	10		83	39 - 102%
106-47-8	4-CHLOROANILINE	60	36.7	10		61	15 - 109%
87-68-3	HEXACHLOROBUTADIENE	60	43.9	10		73	27 - 103%

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: EX101027-7LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/27/2010
Date Analyzed: 10/31/2010
Prep Method: SW3520C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2679

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
59-50-7	4-CHLORO-3-METHYLPHENOL	60	56.7	10		95	47 - 111%
91-57-6	2-METHYLNAPHTHALENE	60	45.3	10		76	46 - 104%
90-12-0	1-METHYLNAPHTHALENE	60	46.6	10		78	46 - 104%
77-47-4	HEXACHLOROCYCLOPENTADIENE	60	20	10		33	10 - 125%
88-06-2	2,4,6-TRICHLOROPHENOL	60	55.1	10		92	49 - 113%
95-95-4	2,4,5-TRICHLOROPHENOL	60	60.8	10		101	49 - 111%
91-58-7	2-CHLORONAPHTHALENE	60	48.4	10		81	36 - 137%
88-74-4	2-NITROANILINE	60	59.6	20		99	48 - 115%
131-11-3	DIMETHYL PHTHALATE	60	57.7	10		96	25 - 127%
606-20-2	2,6-DINITROTOLUENE	60	61	10		102	49 - 117%
208-96-8	ACENAPHTHYLENE	60	53.6	10		89	50 - 107%
99-09-2	3-NITROANILINE	60	59.4	20		99	19 - 126%
83-32-9	ACENAPHTHENE	60	52.9	10		88	47 - 108%
51-28-5	2,4-DINITROPHENOL	60	65	20		108	14 - 138%
100-02-7	4-NITROPHENOL	60	52.9	20		88	21 - 119%
132-64-9	DIBENZOFURAN	60	49.8	10		83	54 - 107%
121-14-2	2,4-DINITROTOLUENE	60	59.4	10		99	51 - 118%
84-66-2	DIETHYL PHTHALATE	60	60.5	10		101	41 - 118%
86-73-7	FLUORENE	60	54	10		90	50 - 112%
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	60	56.5	10		94	50 - 111%
100-01-6	4-NITROANILINE	60	55.1	20		92	36 - 118%
103-33-3	AZOBENZENE	60	53.2	10		89	21 - 137%
534-52-1	4,6-DINITRO-2-METHYLPHENOL	60	65.6	20		109	40 - 130%
86-30-6	N-NITROSODIPHENYLAMINE	60	39.9	10		67	48 - 111%
101-55-3	4-BROMOPHENYL PHENYL ETHER	60	52.5	10		88	52 - 113%
118-74-1	HEXACHLOROBENZENE	60	54.4	10		91	52 - 112%
58-90-2	2,3,4,6-TETRACHLOROPHENOL	100	97.7	10		98	23 - 112%

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: EX101027-7LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/27/2010
Date Analyzed: 10/31/2010
Prep Method: SW3520C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2679

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
87-86-5	PENTACHLOROPHENOL	60	60.5	20		101	38 - 117%
85-01-8	PHENANTHRENE	60	52.6	10		88	51 - 117%
120-12-7	ANTHRACENE	60	52.5	10		87	54 - 112%
86-74-8	CARBAZOLE	60	55.6	10		93	48 - 117%
84-74-2	DI-N-BUTYL PHTHALATE	60	60.7	10		101	54 - 116%
206-44-0	FLUORANTHENE	60	57.1	10		95	54 - 116%
129-00-0	PYRENE	60	52.2	10		87	49 - 128%
85-68-7	BUTYL BENZYL PHTHALATE	60	58.8	10		98	46 - 116%
56-55-3	BENZO(A)ANTHRACENE	60	56.5	10		94	56 - 109%
91-94-1	3,3'-DICHLOROBENZIDINE	60	11.2	10		19	19 - 111%
218-01-9	CHRYSENE	60	57.4	10		96	55 - 109%
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	60	58	10		97	42 - 126%
117-84-0	DI-N-OCTYL PHTHALATE	60	61.9	10		103	37 - 137%
205-99-2	BENZO(B)FLUORANTHENE	60	51	10		85	45 - 118%
207-08-9	BENZO(K)FLUORANTHENE	60	54.7	10		91	45 - 124%
50-32-8	BENZO(A)PYRENE	60	49.1	10		82	53 - 110%
193-39-5	INDENO(1,2,3-CD)PYRENE	60	55.9	10		93	43 - 125%
53-70-3	DIBENZO(A,H)ANTHRACENE	60	55.1	10		92	42 - 127%
191-24-2	BENZO(G,H,I)PERYLENE	60	55.8	10		93	38 - 123%

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: EX101027-7LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/27/2010
Date Analyzed: 10/31/2010
Prep Method: SW3520C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2680

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
110-86-1	PYRIDINE	60	41.6	10	+	69	20	74
62-75-9	N-NITROSODIMETHYLAMINE	60	50.8	10		85	20	1
62-53-3	ANILINE	60	44.6	10	+	74	20	142
108-95-2	PHENOL	60	49	10		82	20	2
111-44-4	BIS(2-CHLOROETHYL)ETHER	60	52.5	10		87	20	4
95-57-8	2-CHLOROPHENOL	60	51.3	10		85	20	2
541-73-1	1,3-DICHLOROBENZENE	60	43.3	10		72	20	2
106-46-7	1,4-DICHLOROBENZENE	60	42.4	10		71	20	2
95-50-1	1,2-DICHLOROBENZENE	60	44.3	10		74	20	1
100-51-6	BENZYL ALCOHOL	60	49.4	10		82	20	3
108-60-1	BIS(2-CHLOROISOPROPYL)ETHER	60	52.3	10		87	20	0
95-48-7	2-METHYLPHENOL	60	49.2	10		82	20	3
621-64-7	N-NITROSO-DI-N-PROPYLAMINE	60	50.7	10		84	20	2
108-39-4	3+4-METHYLPHENOL	60	48.9	10		82	20	1
67-72-1	HEXACHLOROETHANE	60	46	10		77	20	0
98-95-3	NITROBENZENE	60	54.8	10		91	20	4
78-59-1	ISOPHORONE	60	52.4	10		87	20	2
88-75-5	2-NITROPHENOL	60	53.8	10		90	20	4
105-67-9	2,4-DIMETHYLPHENOL	60	50.1	10		84	20	4
111-91-1	BIS(2-CHLOROETHOXY)METHANE	60	50.3	10		84	20	5
120-83-2	2,4-DICHLOROPHENOL	60	53	10		88	20	1
65-85-0	BENZOIC ACID	100	66.3	50		66	20	13
120-82-1	1,2,4-TRICHLOROBENZENE	60	43.6	10		73	20	3
91-20-3	NAPHTHALENE	60	49.2	10		82	20	1
106-47-8	4-CHLOROANILINE	60	43.6	10		73	20	17
87-68-3	HEXACHLOROBUTADIENE	60	43	10		72	20	2
59-50-7	4-CHLORO-3-METHYLPHENOL	60	55.4	10		92	20	2

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: EX101027-7LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/27/2010
Date Analyzed: 10/31/2010
Prep Method: SW3520C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2680

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
91-57-6	2-METHYLNAPHTHALENE	60	44.6	10		74	20	2
90-12-0	1-METHYLNAPHTHALENE	60	45.9	10		77	20	1
77-47-4	HEXACHLOROCYCLOPENTADIENE	60	24.2	10		40	20	19
88-06-2	2,4,6-TRICHLOROPHENOL	60	54.8	10		91	20	0
95-95-4	2,4,5-TRICHLOROPHENOL	60	59	10		98	20	3
91-58-7	2-CHLORONAPHTHALENE	60	48.3	10		81	20	0
88-74-4	2-NITROANILINE	60	60.5	20		101	20	1
131-11-3	DIMETHYL PHTHALATE	60	55.9	10		93	20	3
606-20-2	2,6-DINITROTOLUENE	60	60.5	10		101	20	1
208-96-8	ACENAPHTHYLENE	60	53.8	10		90	20	0
99-09-2	3-NITROANILINE	60	59.2	20		99	20	0
83-32-9	ACENAPHTHENE	60	52.4	10		87	20	1
51-28-5	2,4-DINITROPHENOL	60	63.9	20		107	20	2
100-02-7	4-NITROPHENOL	60	52.1	20		87	20	1
132-64-9	DIBENZOFURAN	60	49.4	10		82	20	1
121-14-2	2,4-DINITROTOLUENE	60	59.8	10		100	20	1
84-66-2	DIETHYL PHTHALATE	60	60	10		100	20	1
86-73-7	FLUORENE	60	52.5	10		87	20	3
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	60	56.1	10		94	20	1
100-01-6	4-NITROANILINE	60	55.7	20		93	20	1
103-33-3	AZOBENZENE	60	52.4	10		87	20	2
534-52-1	4,6-DINITRO-2-METHYLPHENOL	60	63.3	20		105	20	4
86-30-6	N-NITROSODIPHENYLAMINE	60	39.5	10		66	20	1
101-55-3	4-BROMOPHENYL PHENYL ETHER	60	50.7	10		85	20	3
118-74-1	HEXACHLOROBENZENE	60	53.6	10		89	20	1
58-90-2	2,3,4,6-TETRACHLOROPHENOL	100	95.7	10		96	20	2
87-86-5	PENTACHLOROPHENOL	60	59.3	20		99	20	2

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: EX101027-7LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/27/2010
Date Analyzed: 10/31/2010
Prep Method: SW3520C

Prep Batch: EX101027-7
QCBatchID: EX101027-7-1
Run ID: SV101031-3
Cleanup: NONE
Basis: N/A
File Name: R2680

Sample Aliquot: 1000 ml
Final Volume: 1 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
85-01-8	PHENANTHRENE	60	50.9	10		85	20	3
120-12-7	ANTHRACENE	60	51.2	10		85	20	2
86-74-8	CARBAZOLE	60	55.1	10		92	20	1
84-74-2	DI-N-BUTYL PHTHALATE	60	58	10		97	20	5
206-44-0	FLUORANTHENE	60	56.2	10		94	20	1
129-00-0	PYRENE	60	49.8	10		83	20	5
85-68-7	BUTYL BENZYL PHTHALATE	60	55.4	10		92	20	6
56-55-3	BENZO(A)ANTHRACENE	60	55	10		92	20	3
91-94-1	3,3'-DICHLOROBENZIDINE	60	20.7	10	+	35	20	60
218-01-9	CHRYSENE	60	56	10		93	20	2
117-81-7	BIS(2-ETHYLHEXYL)PHTHALATE	60	55.8	10		93	20	4
117-84-0	DI-N-OCTYL PHTHALATE	60	60.9	10		101	20	2
205-99-2	BENZO(B)FLUORANTHENE	60	48.4	10		81	20	5
207-08-9	BENZO(K)FLUORANTHENE	60	52.4	10		87	20	4
50-32-8	BENZO(A)PYRENE	60	46.8	10		78	20	5
193-39-5	INDENO(1,2,3-CD)PYRENE	60	55.7	10		93	20	0
53-70-3	DIBENZO(A,H)ANTHRACENE	60	54.9	10		92	20	0
191-24-2	BENZO(G,H,I)PERYLENE	60	54.7	10		91	20	2

Data Package ID: *SV1010310-1*

GC/MS Semi-volatiles

Method SW8270D

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
118-79-6	2,4,6-TRIBROMOPHENOL	75	99		101	*	23 - 100
321-60-8	2-FLUOROBIPHENYL	50	82		81		21 - 106
367-12-4	2-FLUOROPHENOL	75	84		82		21 - 100
4165-60-0	NITROBENZENE-D5	50	83		78		34 - 111
4165-62-2	PHENOL-D5	75	85		83		15 - 104
1718-51-0	TERPHENYL-D14	50	92		87		33 - 111

Data Package ID: *SV1010310-1*

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\103110\R2678.D Vial: 4
Acq On : 31 Oct 2010 1:50 pm Operator: jk SOP 506 Rev
Sample : EX101027-7MB Inst : HPSV-3
Misc : WATER EX101027-7 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Oct 31 14:47 2010 Quant Results File: 101410S3.RES

Quant Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Last Update : Sun Oct 31 13:25:08 2010
Response via : Initial Calibration
DataAcq Meth : 101410S3

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.13	152	490623	40.00	ng/uL	0.00
25) Naphthalene-d8	7.35	136	1596657	40.00	ng/uL	0.00
42) Acenaphthene-d10	8.91	164	670983	40.00	ng/uL	0.00
69) Phenanthrene-d10	10.20	188	1223315	40.00	ng/uL	0.00
80) Chrysene-d12	12.51	240	1267999	40.00	ng/uL	-0.01
91) Perylene-d12	14.16	264	943583	40.00	ng/uL	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	4.69	112	914435	60.01	ng/uL	0.00
Spiked Amount 75.000	Range 21 - 100		Recovery = 80.01%			
6) 2-Chlorophenol-d4	5.90	132	925232	63.17	ng/uL	-0.01
Spiked Amount 75.000	Range 33 - 110		Recovery = 84.23%			
8) Phenol-d5	5.69	99	1181494	60.25	ng/uL	-0.01
Spiked Amount 75.000	Range 15 - 104		Recovery = 80.33%			
15) 1,2-Dichlorobenzene-d4	6.29	152	395124	37.67	ng/uL	0.00
Spiked Amount 50.000	Range 16 - 110		Recovery = 75.34%			
26) Nitrobenzene-d5	6.67	82	615279	38.18	ng/uL	0.00
Spiked Amount 50.000	Range 34 - 111		Recovery = 76.36%			
46) 2-Fluorobiphenyl	8.29	172	877469	39.53	ng/uL	0.00
Spiked Amount 50.000	Range 21 - 106		Recovery = 79.06%			
68) 2,4,6-Tribromophenol	9.59	330	171117	60.65	ng/uL	0.00
Spiked Amount 75.000	Range 23 - 100		Recovery = 80.87%			
83) p-Terphenyl-d14	11.53	244	1167325	45.16	ng/uL	0.00
Spiked Amount 50.000	Range 33 - 111		Recovery = 90.32%			

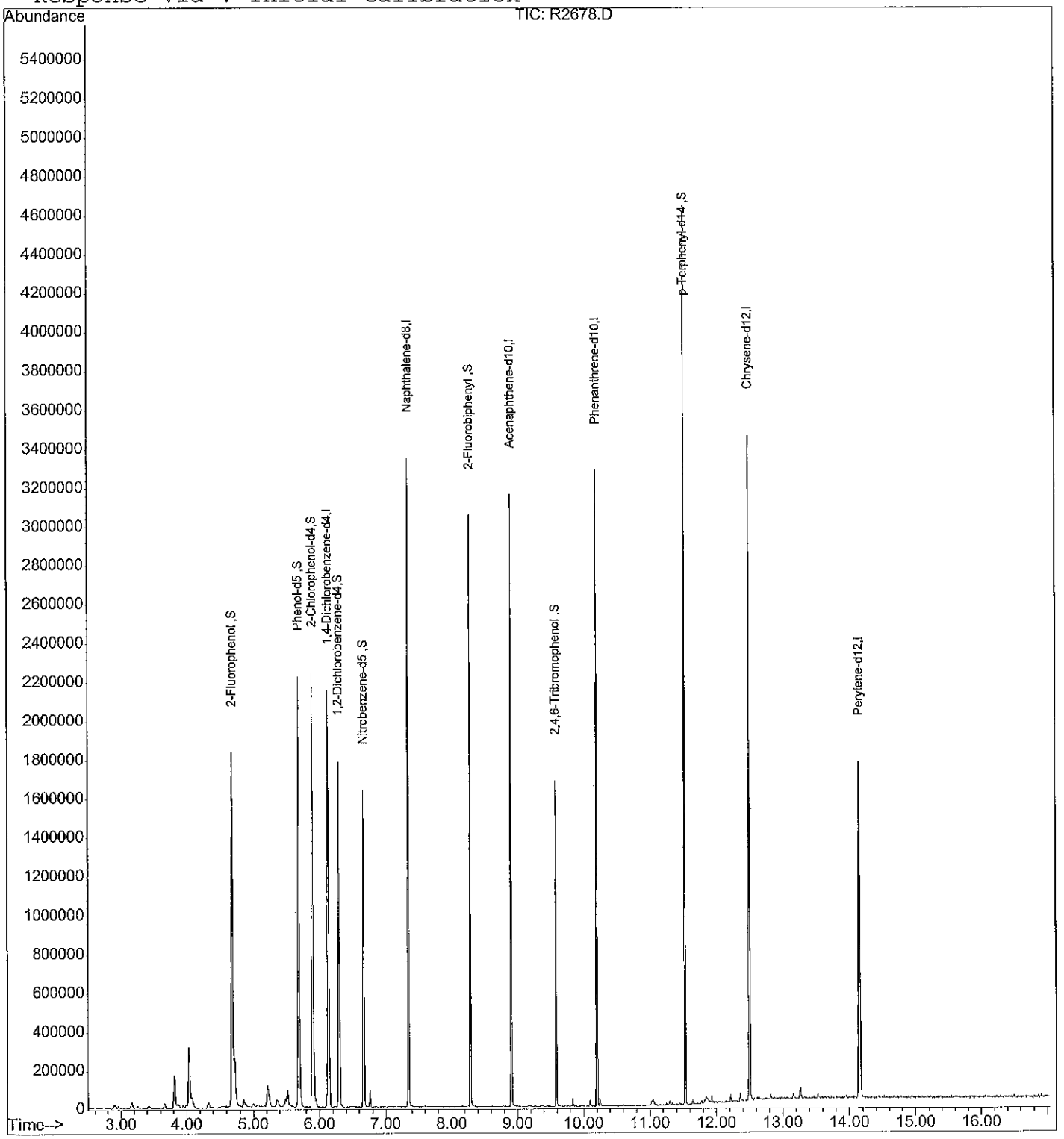
Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\103110\R2678.D Vial: 4
Acq On : 31 Oct 2010 1:50 pm Operator: jk SOP 506
Sample : EX101027-7MB Inst : HPSV-3
Misc : WATER EX101027-7 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Oct 31 14:47 2010 Quant Results File: 101410S3.RES

Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Last Update : Sun Oct 31 13:25:08 2010
Response via : Initial Calibration



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\103110\R2678.D
Acq On : 31 Oct 2010 1:50 pm
Sample : EX101027-7MB
Misc : WATER EX101027-7
MS Integration Params: LSCINT.P

Vial: 4
Operator: jk SOP 50
Inst : HPSV-3
Multiplr: 1.00

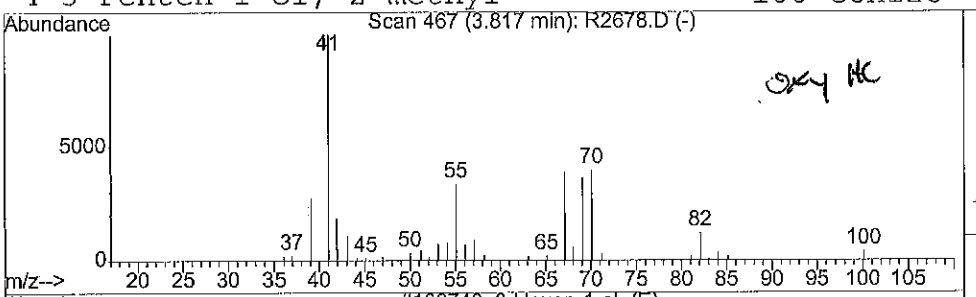
Quant Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Library : C:\DATABASE\nist98.l

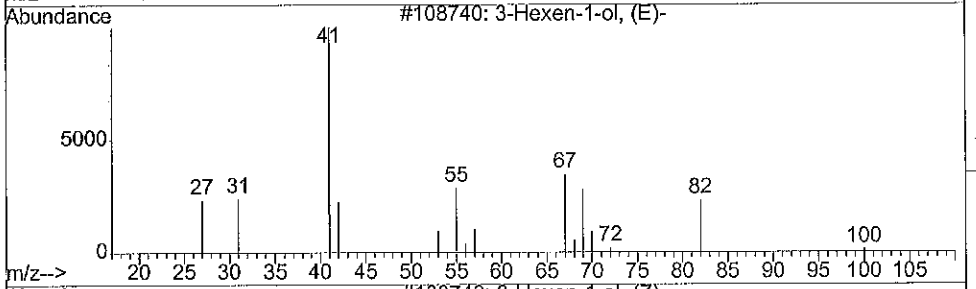
****

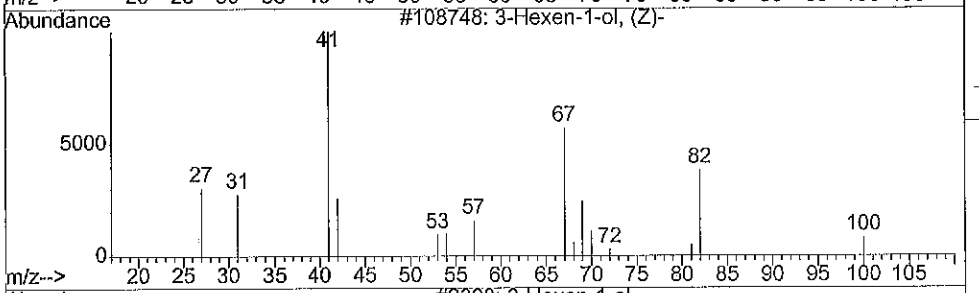
Peak Number 1 3-Hexen-1-ol, (E)- Concentration Rank 2

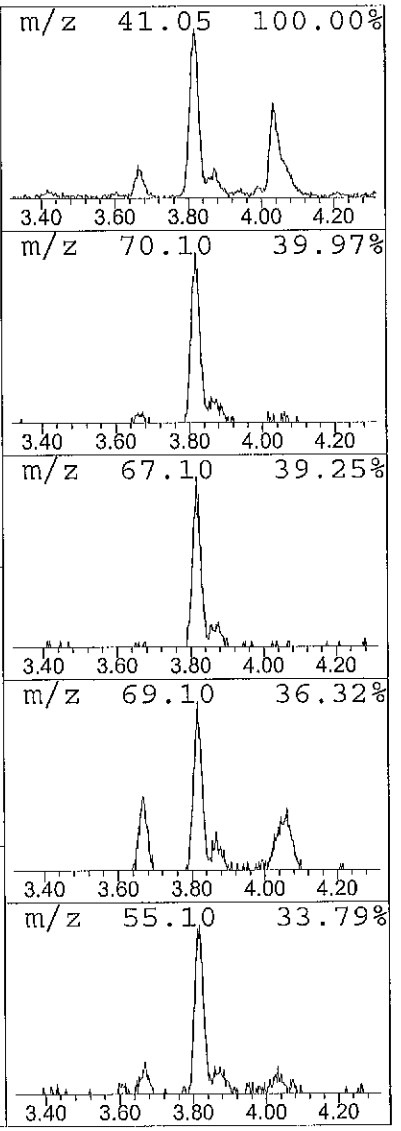
R.T.	EstConc	Area	Relative to ISTD	R.T.
3.82	4.83 ng/uL	344570	1,4-Dichlorobenzene-d4	6.13

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Hexen-1-ol, (E)-	100	C6H12O	000928-97-2	43
2	3-Hexen-1-ol, (Z)-	100	C6H12O	000928-96-1	37
3	3-Hexen-1-ol	100	C6H12O	000544-12-7	37
4	3-Penten-1-ol, 2-methyl-	100	C6H12O	062238-37-3	32









Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\103110\R2678.D Vial: 4
Acq On : 31 Oct 2010 1:50 pm Operator: jk SOP 50
Sample : EX101027-7MB Inst : HPSV-3
Misc : WATER EX101027-7 Multiplr: 1.00
MS Integration Params: LSCINT.P

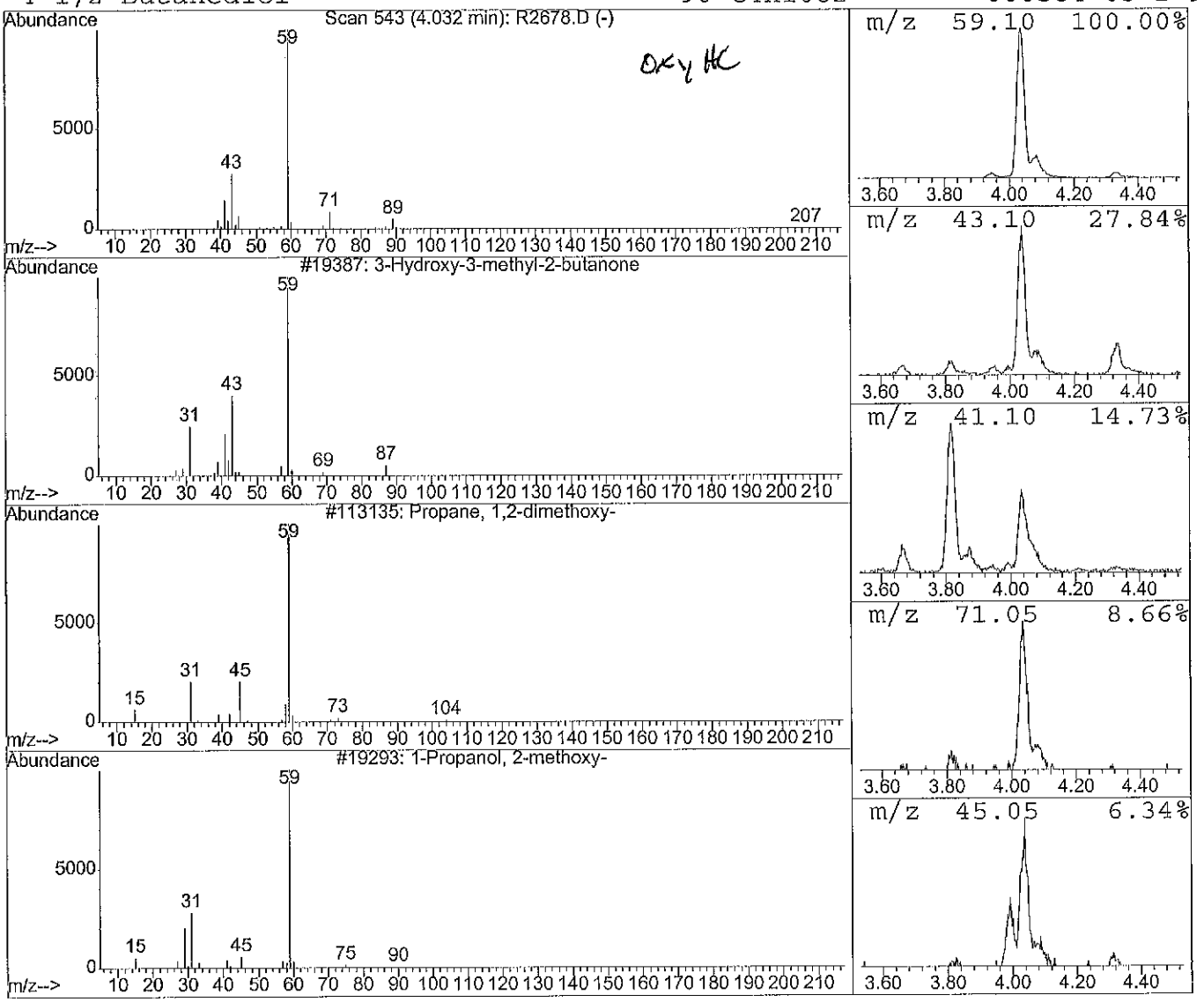
Quant Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Library : C:\DATABASE\nist98.l

****

Peak Number 2 3-Hydroxy-3-methyl-2-butanone Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.03	9.26 ng/uL	660995	1,4-Dichlorobenzene-d4	6.13

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	3-Hydroxy-3-methyl-2-butanone	102	C5H10O2	000115-22-0	64
2	Propane, 1,2-dimethoxy-	104	C5H12O2	007778-85-0	40
3	1-Propanol, 2-methoxy-	90	C4H10O2	001589-47-5	9
4	1,2-Butanediol	90	C4H10O2	000584-03-2	9



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\103110\R2681.D
Acq On : 31 Oct 2010 3:01 pm
Sample : 1010310-1
Misc : WATER EX101027-7
MS Integration Params: LSCINT.P
Quant Time: Nov 1 8:37 2010

Vial: 7
Operator: jk SOP 506 Rev
Inst : HPSV-3
Multiplr: 1.00
Quant Results File: 101410S3.RES

Quant Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Last Update : Sun Oct 31 13:25:08 2010
Response via : Initial Calibration
DataAcq Meth : 101410S3

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	6.13	152	494205	40.00	ng/uL	0.00
25) Naphthalene-d8	7.35	136	1495330	40.00	ng/uL	0.00
42) Acenaphthene-d10	8.91	164	635426	40.00	ng/uL	0.00
69) Phenanthrene-d10	10.20	188	1242977	40.00	ng/uL	0.00
80) Chrysene-d12	12.50	240	1314285	40.00	ng/uL	-0.01
91) Perylene-d12	14.15	264	894605	40.00	ng/uL	-0.01
System Monitoring Compounds						
5) 2-Fluorophenol	4.69	112	979793	63.83	ng/uL	0.00
Spiked Amount 75.000	Range 21 - 100		Recovery = 85.11%			
6) 2-Chlorophenol-d4	5.90	132	988053	66.97	ng/uL	0.00
Spiked Amount 75.000	Range 33 - 110		Recovery = 89.29%			
8) Phenol-d5	5.69	99	1233946	62.47	ng/uL	0.00
Spiked Amount 75.000	Range 15 - 104		Recovery = 83.29%			
15) 1,2-Dichlorobenzene-d4	6.29	152	426579	40.37	ng/uL	0.00
Spiked Amount 50.000	Range 16 - 110		Recovery = 80.74%			
26) Nitrobenzene-d5	6.67	82	627968	41.61	ng/uL	0.00
Spiked Amount 50.000	Range 34 - 111		Recovery = 83.22%			
46) 2-Fluorobiphenyl	8.29	172	858775	40.86	ng/uL	0.00
Spiked Amount 50.000	Range 21 - 106		Recovery = 81.72%			
68) 2,4,6-Tribromophenol	9.59	330	174222	65.21	ng/uL	0.00
Spiked Amount 75.000	Range 23 - 100		Recovery = 86.95%			
83) p-Terphenyl-d14	11.53	244	1218485	45.47	ng/uL	0.00
Spiked Amount 50.000	Range 33 - 111		Recovery = 90.94%			

Target Compounds Qvalue

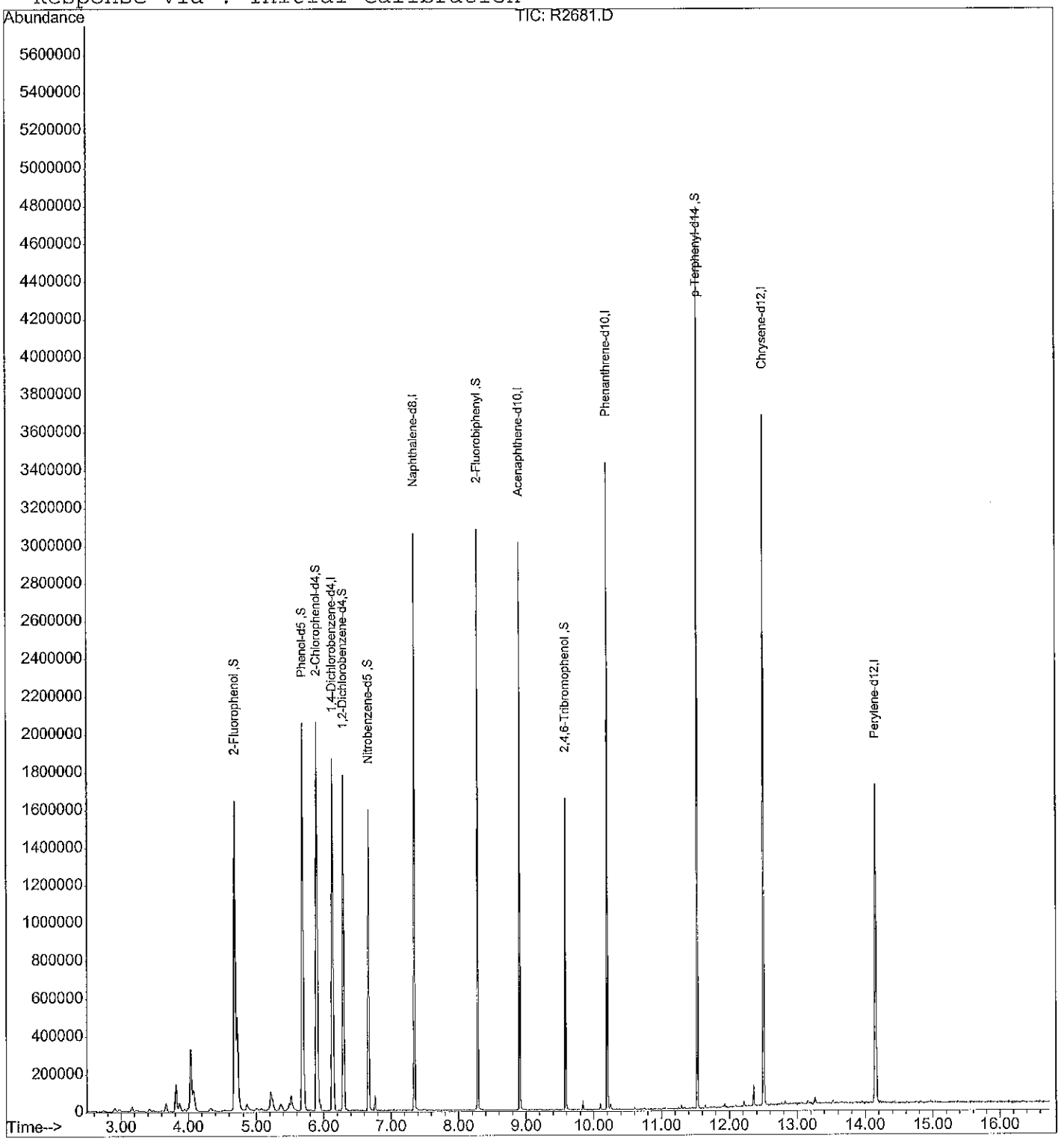
(#) = qualifier out of range (m) = manual integration
R2681.D 101410S3.M Mon Nov 01 08:37:58 2010

11-8-10

Quantitation Report

Data File : C:\HPCHEM\1\DATA\103110\R2681.D Vial: 7
Acq On : 31 Oct 2010 3:01 pm Operator: jk SOP 506
Sample : 1010310-1 Inst : HPSV-3
Misc : WATER EX101027-7 Multiplr: 1.00
MS Integration Params: LSCINT.P
Quant Time: Nov 1 8:37 2010 Quant Results File: 101410S3.RES

Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Last Update : Sun Oct 31 13:25:08 2010
Response via : Initial Calibration



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\103110\R2681.D
Acq On : 31 Oct 2010 3:01 pm
Sample : 1010310-1
Misc : WATER EX101027-7
MS Integration Params: LSCINT.P

Vial: 7
Operator: jk SOP 50
Inst : HPSV-3
Multiplr: 1.00

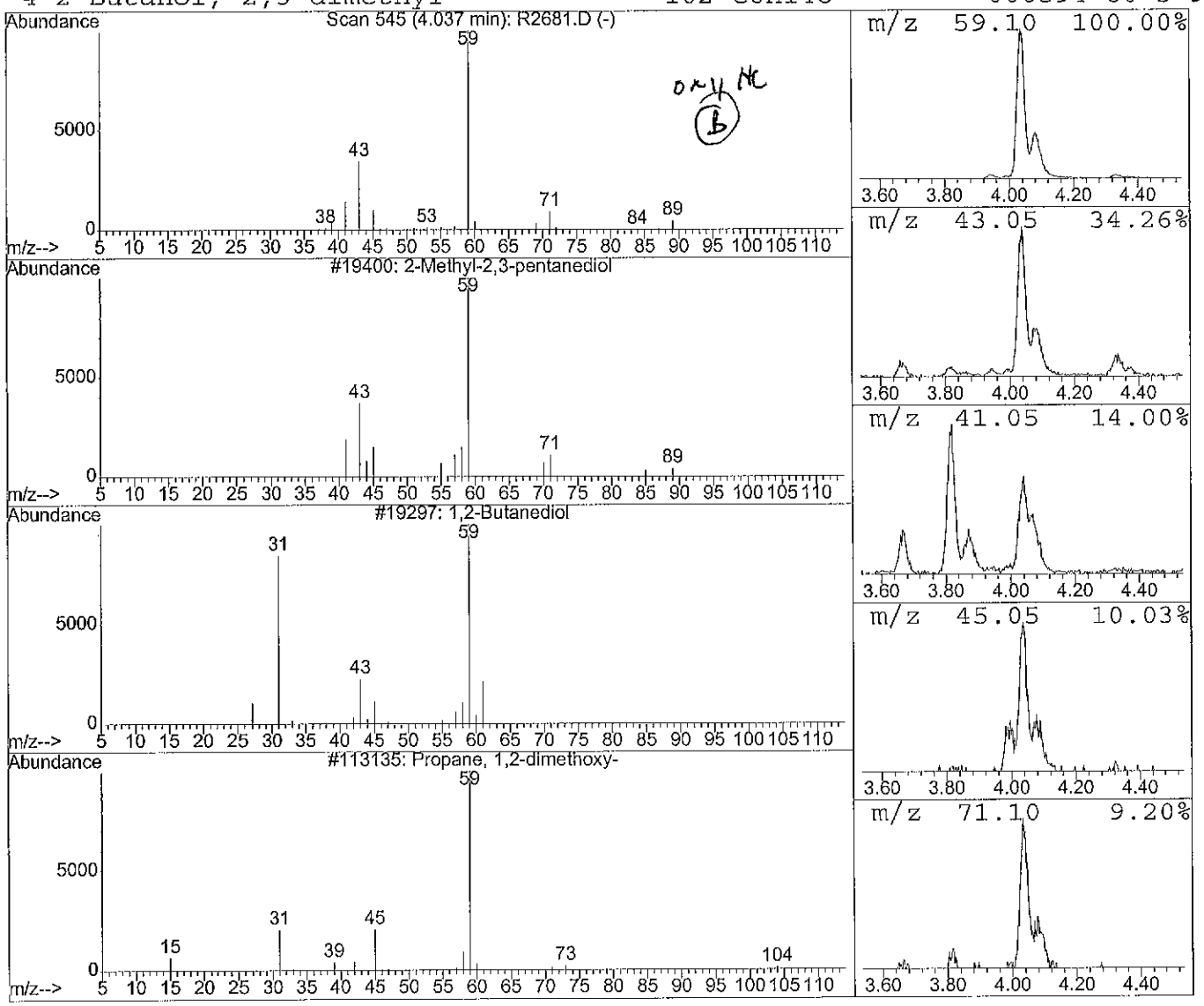
Quant Method : C:\HPCHEM\1\METHODS\101410S3.M (RTE Integrator)
Title : GC-MS Semivolatiles SOP no. 506
Library : C:\DATABASE\nist98.l

****

Peak Number 1 2-Methyl-2,3-pentanediol Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
4.04	12.14 ng/uL	856450	1,4-Dichlorobenzene-d4	6.13

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	2-Methyl-2,3-pentanediol	118	C6H14O2	007795-80-4	40
2	1,2-Butanediol	90	C4H10O2	000584-03-2	39
3	Propane, 1,2-dimethoxy-	104	C5H12O2	007778-85-0	9
4	2-Butanol, 2,3-dimethyl-	102	C6H14O	000594-60-5	9



ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
Fort Collins, Colorado

Metals

Case Narrative

Colorado Oil & Gas Conservation Commission

Kugler W. W.

Work Order Number: 1010310

1. This report consists of 1 water sample.

2. The sample was received intact at 10.2°C by ALS on 10/21/10.

3. The sample had a pH less than 2 upon receipt.

4. The sample was prepared for analysis based on Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures.

   Prior to analysis by Trace ICP, an ionization buffer was added to the sample and associated QC to improve the sodium and potassium quantitation.

   For analysis by Trace ICP and ICP-MS, the sample was digested following method 200.2 and SOP 806 Rev. 14.

5. The sample was analyzed following Methods for the Determination of Metals in Environmental Samples – Supplement 1 procedures.

   Analysis by Trace ICP followed method 200.7 and SOP 807 Rev. 12.

   The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution.

   During sample analysis concentrations are computed by the software and the results are printed in mg/L. The instrument software does not provide a printout which gives both intensity and concentration. The validity of the calibration equation is tested by analyzing the following solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2nd source standard solution with concentrations near the middle of the analytical range, a

Continuing Calibration Verification (CCV) standard with concentrations at two times those in the ICV, and a readback of the highest calibration standard.

These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

Analysis by ICP-MS followed method 200.8 and SOP 827 Rev. 7.

The relationship between intensity and concentration for each element is established using at least four standards, one of which is a blank solution. A calibration equation relating instrument response to concentration is developed by the instrument software. The equation is a higher order polynomial. This type of equation is used to improve quantitation accuracy at lower concentrations where the relationship between concentration and instrument response is non-linear.

During sample analysis concentrations are computed by the software and the results are printed in ug/L. The validity of the calibration equation is tested by analyzing the following solutions: a blank, a low level check solution with concentrations near the reporting limit, an Initial Calibration Verification (ICV) standard from a 2nd source standard solution with concentrations near the middle of the analytical range, a Continuing Calibration Verification (CCV) standard with concentrations near the middle of the analytical range but different than those in the ICV, and a readback of the highest calibration standard.

These solutions provide verification that the calibration equations are functioning properly throughout the analytical range of the instrument. During sample analysis dilutions are made for analytes found at concentrations above the highest calibration standard. No results are taken from extrapolations beyond the highest standard.

6. All standards and solutions are NIST traceable and were used within their recommended shelf life.

7. The sample was prepared and analyzed within the established hold times.

All in house quality control procedures were followed, as described below.

8. General quality control procedures.

- A preparation (method) blank and laboratory control samples were digested and analyzed with the samples in this digestion batch. The method blank and laboratory control samples were filtered and preserved prior to digestion due to the requirements of another work order in the batch. There were not more than 20 samples in this digestion batch.
- The preparation (method) blank associated with this digestion batch was below the reporting limit for the requested analytes.

- The laboratory control samples associated with this digestion batch were within the acceptance limits for the requested analytes.
- All initial and continuing calibration blanks associated with each analytical batch were below the practical quantitation limits for the requested analytes.
- All initial and continuing calibration verifications associated with each analytical batch were within the acceptance criteria for the requested analytes, with the exception of CCV4 for sodium. None of the samples associated with this work order were bracketed by this CCV.
- The interference check samples associated with Method 200.7 were within acceptance criteria.
- The interference check samples associated with Method 200.8 were analyzed, and the high standard readbacks were within acceptance criteria.

9. Matrix specific quality control procedures.

   Per method requirements, matrix QC was performed for each analysis. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

10. The sample required a dilution to bring sodium into the analytical range of the Trace ICP.

    It is a standard practice that samples for ICP-MS are analyzed at a dilution.

11. Sodium Adsorption Ratio (SAR) was determined by calculation based on a reference from the client. Calcium, magnesium, and sodium concentrations were determined by ICP, Method 200.7.

    $SAR = Na/(((Ca+Mg)/2)^{1/2})$

    The analyte results are the me/L concentrations based on conversions from their mg/L concentrations. Please note that the SAR value is unitless.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Emily Knodel
Inorganics Primary Data Reviewer

11-22-10
Date

Inorganics Final Data Reviewer

11-22-10
Date

Inorganic Data Reporting Qualifiers

The following qualifiers are used by the laboratory when reporting results of inorganic analyses.

- Result qualifier -- If the analyte was analyzed for but not detected a “U” is entered.
- QC qualifier -- Specified entries and their meanings are as follows:

  E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.

  M - Duplicate injection precision was not met.

  N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.

  Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.

  * - Duplicate analysis (relative percent difference) not within control limits.

ALS Environmental -- FC

Sample Number s Cross-Reference Table

Paragon OrderNum: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Kugler W. W.
Client Project Number:
Client PO Number: OE PHA 11000000014

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Kugler W.W.	1010310-1		WATER	20-O t-10	12:40

Chain of Custody Record

Sampler ID _____

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

TestAmerica 101031D

THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124-280 (0508)

Client	Project Manager	Date	Chain of Custody Number
Colorado Oil & Gas Conservation Comm.	Steve Lindblom	10/20/2010	135379
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** _____ **of** _____
1120 Lincoln, Suite 801	(303) 894-2100 x5114 / (303) 894-2109		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Denver / CO / 80203	Lindblom		
Project Name and Location (State)	**Carrier/Waybill Number**		
Kugler LN WI			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 8270	2540C	[illegible]	6010B	353.2	8260	Special Instructions/ Conditions of Receipt
Kugler LN W.	10/20/10	12 LW		X			X						2	1					
									X							1			
								X									1		
										X								W	

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other STANDARD

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
[signature]	10/20/10	1520	C Humble	10-21-10	1020
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

6 of 13

DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample: PINK - Field Copy

ALS Laboratory Group - Fort Collins

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1010310

Project Manager: AW Initials: CDT Date: 10-21-10

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	(NO)
2. Are custody **seals** on **shipping containers** intact?	(NONE)	YES	NO
3. Are Custody seals on **sample containers** intact?	(NONE)	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		(YES)	NO
5. Are the **COC and bottle labels complete and legible**?		(YES)	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were **airbills / shipping documents** present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous **samples requiring preservation preserved correctly?** (excluding volatiles)	N/A	(YES)	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	(YES)	NO
10. Is there **sufficient sample** for the requested analyses?		(YES)	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		(YES)	NO
12. Are all samples within **holding times** for the requested analyses?		(YES)	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble:** ____ < green pea ____ > green pea	N/A	(YES)	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(N/A)	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	NO
17. Were the samples **shipped on ice**?		(YES)	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 (#4)	RAD ONLY	YES	(NO)

Cooler #: 1

Temperature (°C): 10.2

No. of custody seals on cooler: NA

DOT Survey/ Acceptance Information

External µR/hr reading: NA

Background µR/hr reading: NA

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO (NA) (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

Not Requested on COC but required analyses: pH, Conductivity, Cyanide
AW 10/22/10

If applicable, was the client contacted? (YES) / NO / NA Contact: Steve Lindblom Date/Time: 10/22/10

Project Manager Signature / Date: 10/22/10

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

Total Recoverable Metals by 200.7

Method EPA200.7 Revision .

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 26-O t-10
Date Analyzed: 27-O t-10
Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP101026-1
QCBatchID: IP101026-1-6
Run ID: IT101027-2A4
Cleanup: NONE
Basis: As Re eived
File Name: 101027A.

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.002	0.002	U	
7440-42-8	BORON	1	0.35	0.1		
7440-70-2	CALCIUM	1	52	1		
7440-47-3	CHROMIUM	1	0.01	0.01	U	
7439-89-6	IRON	1	0.1	0.1	U	
7439-93-2	LITHIUM	1	0.081	0.01		
7439-95-4	MAGNESIUM	1	22	1		
7440-02-0	NICKEL	1	0.02	0.02	U	
7440-09-7	POTASSIUM	1	25	1		
7440-21-3	SILICON	1	4.2	0.05		
7440-23-5	SODIUM	5	390	5		
	SODIUM ADSORPTION RATIO	5	11	0.85		
7440-62-2	VANADIUM	1	0.01	0.01	U	

Data Package ID: *1010310-1*

Total Recoverable Metals by 200.8

Method EPA200.8 Revision .

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 26-O t-10
Date Analyzed: 27-O t-10
Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP101026-1
QCBatchID: IP101026-1-5
Run ID: IM101027-10A2
Cleanup: NONE
Basis: As Re eived
File Name: 033SMPL.

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	0.05	0.05	U	
7440-36-0	ANTIMONY	10	0.0003	0.0003	U	
7440-38-2	ARSENIC	10	0.002	0.002	U	
7440-39-3	BARIUM	10	0.0089	0.001		
7440-43-9	CADMIUM	10	0.0003	0.0003	U	
7440-48-4	COBALT	10	0.001	0.001	U	
7440-50-8	COPPER	10	0.01	0.01	U	
7439-92-1	LEAD	10	0.0005	0.0005	U	
7439-96-5	MANGANESE	10	0.015	0.002		
7439-98-7	MOLYBDENUM	10	0.0053	0.001		
7782-49-2	SELENIUM	10	0.001	0.001	U	
7440-22-4	SILVER	10	0.0001	0.0001	U	
7440-24-6	STRONTIUM	10	1.5	0.001		
7440-28-0	THALLIUM	10	0.0002	0.0002	U	
7440-61-1	URANIUM	10	0.00044	0.0001		
7440-66-6	ZINC	10	0.02	0.02	U	

Data Package ID: *1010310-1*

Metals by 200.7

Method EPA200.7 Revision .

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: F101025-1MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 26-O t-10
Date Analyzed: 27-O t-10
Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP101026-1
QCBatchID: IP101026-1-6
Run ID: IT101027-2A4
Cleanup: NONE
Basis: N/A
File Name: 101027A.

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7440-41-7	BERYLLIUM	1	0.002	0.002	U	
7440-42-8	BORON	1	0.1	0.1	U	
7440-70-2	CALCIUM	1	1	1	U	
7440-47-3	CHROMIUM	1	0.01	0.01	U	
7439-89-6	IRON	1	0.1	0.1	U	
7439-93-2	LITHIUM	1	0.01	0.01	U	
7439-95-4	MAGNESIUM	1	1	1	U	
7440-02-0	NICKEL	1	0.02	0.02	U	
7440-09-7	POTASSIUM	1	1	1	U	
7440-21-3	SILICON	1	0.05	0.05	U	
7440-23-5	SODIUM	1	1	1	U	
7440-62-2	VANADIUM	1	0.01	0.01	U	

Data Package ID: *1010310-1*

Metals by 200.7

Method EPA200.7 Revision .

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: F101025-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/26/2010
Date Analyzed: 10/27/2010
Prep Method: EPA200.22.8

Prep Batch: IP101026-1
QCBatchID: IP101026-1-6
Run ID: IT101027-2A4
Cleanup: NONE
Basis: N/A
File Name: 101027A.

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7440-41-7	BERYLLIUM	0.05	0.0484	0.002		97	85 - 115%
7440-42-8	BORON	1	0.946	0.1		95	85 - 115%
7440-70-2	CALCIUM	40	40.1	1		100	85 - 115%
7440-47-3	CHROMIUM	0.2	0.188	0.01		94	85 - 115%
7439-89-6	IRON	1	0.902	0.1		90	85 - 115%
7439-93-2	LITHIUM	0.5	0.492	0.01		98	85 - 115%
7439-95-4	MAGNESIUM	40	39.5	1		99	85 - 115%
7440-02-0	NICKEL	0.5	0.479	0.02		96	85 - 115%
7440-09-7	POTASSIUM	40	39.1	1		98	85 - 115%
7440-21-3	SILICON	2	1.93	0.05		97	85 - 115%
7440-23-5	SODIUM	40	37.7	1		94	85 - 115%
7440-62-2	VANADIUM	0.5	0.472	0.01		94	85 - 115%

Data Package ID: *1010310-1*

Metals by 200.8

Method EPA200.8 Revision .

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: F101025-1MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 26-O t-10
Date Analyzed: 27-O t-10
Prep Method: EPA200.2 Rev 2.8

Prep Batch: IP101026-1
QCBatchID: IP101026-1-5
Run ID: IM101027-10A2
Cleanup: NONE
Basis: N/A
File Name: 016SMPL.

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
7429-90-5	ALUMINUM	10	0.05	0.05	U	
7440-36-0	ANTIMONY	10	0.0003	0.0003	U	
7440-38-2	ARSENIC	10	0.002	0.002	U	
7440-39-3	BARIUM	10	0.001	0.001	U	
7440-43-9	CADMIUM	10	0.0003	0.0003	U	
7440-48-4	COBALT	10	0.001	0.001	U	
7440-50-8	COPPER	10	0.01	0.01	U	
7439-92-1	LEAD	10	0.0005	0.0005	U	
7439-96-5	MANGANESE	10	0.002	0.002	U	
7439-98-7	MOLYBDENUM	10	0.001	0.001	U	
7782-49-2	SELENIUM	10	0.001	0.001	U	
7440-22-4	SILVER	10	0.0001	0.0001	U	
7440-24-6	STRONTIUM	10	0.001	0.001	U	
7440-28-0	THALLIUM	10	0.0002	0.0002	U	
7440-61-1	URANIUM	10	0.0001	0.0001	U	
7440-66-6	ZINC	10	0.02	0.02	U	

Data Package ID: *1010310-1*

Metals by 200.8

Method EPA200.8 Revision .

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: FM101025-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/26/2010
Date Analyzed: 10/27/2010
Prep Method: EPA200.22.8

Prep Batch: IP101026-1
QCBatchID: IP101026-1-5
Run ID: IM101027-10A2
Cleanup: NONE
Basis: N/A
File Name: 017SMPL.

Sample Aliquot: 50 g
Final Volume: 50 g
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
7429-90-5	ALUMINUM	5	5.19	0.05		104	85 - 115%
7440-36-0	ANTIMONY	0.03	0.0303	0.0003		101	85 - 115%
7440-38-2	ARSENIC	0.1	0.104	0.002		104	85 - 115%
7440-39-3	BARIUM	0.1	0.103	0.001		103	85 - 115%
7440-43-9	CADMIUM	0.03	0.0326	0.0003		109	85 - 115%
7440-48-4	COBALT	0.1	0.102	0.001		102	85 - 115%
7440-50-8	COPPER	1	1.04	0.01		104	85 - 115%
7439-92-1	LEAD	0.05	0.0525	0.0005		105	85 - 115%
7439-96-5	MANGANESE	0.2	0.216	0.002		108	85 - 115%
7439-98-7	MOLYBDENUM	0.1	0.105	0.001		105	85 - 115%
7782-49-2	SELENIUM	0.1	0.111	0.001		111	85 - 115%
7440-22-4	SILVER	0.01	0.0104	0.0001		104	85 - 115%
7440-24-6	STRONTIUM	0.5	0.51	0.001		102	85 - 115%
7440-28-0	THALLIUM	0.001	0.00106	0.0002		106	85 - 115%
7440-61-1	URANIUM	0.01	0.0105	0.0001		105	85 - 115%
7440-66-6	ZINC	2	2.19	0.02		109	85 - 115%

Data Package ID: *1010310-1*

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division
Fort Collins, Colorado

Inorgani s
Case Narrative

Colorado Oil Gas Conservation Commission
Kugler W. W.

Wor Order Number: 1010310

1. T is re ort onsists of 1 ater sam le.

2. T e sam le as re eived inta t at 10.2° Celsius by ALS on 10/21/10.

3. T e sam le ad been orre tly reserved for t e re uested analyses.

4. T e sam le as re ared for analysis based on Met ods for t e C emi al Analysis of Waters and Wastes (MCAWW), May 1994 ro edures and Environmental Monitoring Systems Laboratory (EMSL) Rev 2.1 ro edures.

5. T e sam le as analy ed follo ing MCAWW and EMSL ro edures for t e follo ing met ods:

Analyte	Met od	SOP
Nitrate/nitrite as N	353.2 Revision 2.0	1127 Rev 7
H	150.1	1126 Rev 17
S e ifi ondu tan e	120.1	1128 Rev 9
TDS	160.1	1101 Rev 10
Bromide	300.0 Revision 2.1	1113 Rev 11
C loride	300.0 Revision 2.1	1113 Rev 11
Fluoride	300.0 Revision 2.1	1113 Rev 11
Sulfate	300.0 Revision 2.1	1113 Rev 11

6. All standards and solutions ere used it in t eir re ommended s elf life.

7. T e sam le as re ared and analy ed it in t e establis ed old time for ea analysis.

All in ouse uality ontrol ro edures ere follo ed, as des ribed belo .

8. General uality ontrol ro edures.

- A preparation (method) blank and laboratory control sample (LCS) were prepared and analyzed with the samples in each applicable preparation batch. There were not more than 20 samples in each preparation batch.
- The method blank associated with each applicable batch was below the reporting limit for the requested analytes. This indicates that no contaminants were introduced to the samples during preparation and analysis.
- The LCS was within the acceptance limits for each applicable analysis.
- All initial and continuing calibration blanks (ICB/CCB) associated with each applicable analytical batch were below the reporting limit for the requested analytes.
- All initial and continuing calibration verifications (ICV/CCV) associated with each applicable analytical batch were within the acceptance criteria for the requested analytes. This indicates a valid calibration and stable instrument conditions.

9. Matrix specific quality control procedures.

   Per method requirements, matrix QC was performed for each analysis. Since a sample from this order number was not the selected quality control (QC) sample, matrix specific QC results are not included in this report.

10. Electrical conductivity screening indicated that the concentration of dissolved salts was high in the sample. Therefore, it was necessary to dilute the sample prior to injection into the ion chromatograph in order to minimize the amount of salts loaded into the analytical column.

    It was necessary to further dilute the sample in order to bring the chloride and sulfate concentrations into the analytical range of the ion chromatograph (IC).

    Reduced aliquots were taken of the sample for the alkalinity, bicarbonate, and carbonate analysis. Reporting limits were elevated accordingly.

11. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in SOP 939 Revision 3.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Megan Johnson — 11/9/10
Megan Johnson
Inorganics Primary Data Reviewer
Date

Inorganics Final Data Reviewer — 11/9/10
Date

Inorganic Data Reporting Qualifiers

T e follo ing ualifiers are used by t e laboratory en re orting results of inorgani analyses.

- Con entration ualifier -- If t e analyte as analy ed for but not dete ted a U is entered.
- C ualifier -- S e ified entries and t eir meanings are as follo s:

  N - S i ed sam le re overy not it in ontrol limits.

  * - Du li ate analysis (relative er ent differen e) not it in ontrol limits.

  Z - Calibration s i e re overy not it in ontrol limits.

ALS Environmental -- FC

Sample Number s Cross-Reference Table

Paragon OrderNum: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Kugler W. W.
Client Project Number:
Client PO Number: OE PHA 11000000014

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Kugler W.W.	1010310-1		WATER	20-O t-10	12:40

Chain of Custody Record

Sampler ID _____

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

101031D

TAL-4124-280 (0508)

Client	Project Manager	Date	Chain of Custody Number
Colorado Oil & Gas Conservation Comm.	Steve Lindblom	10/20/2010	135379
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** _____ **of** _____
1120 Lincoln, Suite 801	(303) 894-2100 x5114 / (303) 894-2109		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Denver / CO / 80203	Lindblom		
Project Name and Location (State)	**Carrier/Waybill Number**		
Kugler LV W.			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 8270	2540C	~~Other~~	6010B	353.2	8260	Special Instructions/ Conditions of Receipt
Kugler LV W.	10/20/10	12 LV	X				X						2	1					
									X							1			
								X									1		
										X								W	

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other STANDARD

QC Requirements (Specify)

1. Relinquished By	Date	Time	1. Received By	Date	Time
	10/20/10	1220	C Humble	10-21-10	1020
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

5 of 7

DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample: PINK - Field Copy

ALS Laboratory Group - Fort Collins

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1010310

Project Manager: AW Initials: CDT Date: 10-21-10

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	(NO)
2. Are custody **seals** on **shipping containers** intact?	(NONE)	YES	NO
3. Are Custody seals on **sample containers** intact?	(NONE)	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		(YES)	NO
5. Are the **COC and bottle labels complete and legible**?		(YES)	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were **airbills / shipping documents** present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous **samples requiring preservation preserved correctly?** (excluding volatiles)	N/A	(YES)	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	(YES)	NO
10. Is there **sufficient sample** for the requested analyses?		(YES)	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		(YES)	NO
12. Are all samples within **holding times** for the requested analyses?		(YES)	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble:** ____ < green pea ____ > green pea	N/A	(YES)	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(N/A)	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	NO
17. Were the samples **shipped on ice**?		(YES)	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 (#4)	RAD ONLY	YES	(NO)

Cooler #: 1

Temperature (°C): 10.2

No. of custody seals on cooler: NA

DOT Survey/ Acceptance Information

External µR/hr reading: NA

Background µR/hr reading: NA

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO (NA) (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

Not Requested on COC but required analyses: pH, Conductivity, Chlorides
dw 10/22/10

If applicable, was the client contacted? (YES) / NO / NA Contact: Steve Lindblom Date/Time: 10/22/10

Project Manager Signature / Date: 10/22/10

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

Form 201r22.xls (6/1/09)

Nitrate/Nitrite as N

Method EPA .2 Revision 2.0

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 26-O t-10
Date Analyzed: 26-O t-10
Prep Method: NONE

Prep Batch: NN101026-2
QCBatchID: NN101026-2-1
Run ID: NN101026-1A
Cleanup: NONE
Basis: As Re eived
File Name: 1026NOX.FDT

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
1-005	NITRATE/NITRITE AS N	1	0.04	0.01		

Data Package ID: *1010310-1*

p

Method EPA 0.

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 22-O t-10
Date Analyzed: 22-O t-10
Prep Method: NONE

Prep Batch: PH101022-1
QCBatchID: PH101022-1-1
Run ID: 101022-1a
Cleanup: NONE
Basis: As Re eived
File Name:

Sample Aliquot: 20 ml
Final Volume: 20 ml
Result Units: H
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-29-7	PH AnalysisTime: 13:45	1	7.63	0.1		

Data Package ID: *1010310-1*

Specific Conductance in Water

Method EPA 20.

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 22-O t-10
Date Analyzed: 22-O t-10
Prep Method: NONE

Prep Batch: SC101022-1
QCBatchID: SC101022-1-1
Run ID: s 101022-1a
Cleanup: NONE
Basis: As Re eived
File Name:

Sample Aliquot: 45 ml
Final Volume: 45 ml
Result Units: um os/ m
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-34-4	SPECIFIC CONDUCTIVITY AnalysisTime: 12:30	1	2440	1		

Data Package ID: *1010310-1*

Total Dissolved Solids

Method EPA 0.

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 22-O t-10
Date Analyzed: 25-O t-10
Prep Method: METHOD

Prep Batch: TD101022-1
QCBatchID: TD101022-1-1
Run ID: td101025-1a
Cleanup: NONE
Basis: As Re eived
File Name: Manual Entry

Sample Aliquot: 50 ml
Final Volume: 50 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	1600	40		

Data Package ID: *1010310-1*

Ion Chromatography

Method EPA 00.0 Revision 2.

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 22-O t-10
Date Analyzed: 22-O t-10
Prep Method: NONE

Prep Batch: IC101022-1
QCBatchID: IC101022-1-1
Run ID: IC101022-1A
Cleanup: NONE
Basis: As Re eived
File Name: 01022 020.DXD

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE AnalysisTime: 14:33	2	0.35	0.2		
16887-00-6	CHLORIDE AnalysisTime: 15:06	20	63	4		
24959-67-9	BROMIDE AnalysisTime: 14:33	2	0.76	0.4		
14808-79-8	SULFATE AnalysisTime: 15:06	20	740	20		

Data Package ID: *1010310-1*

Nitrate/Nitrite as N

Method EPA .2 Revision 2.0

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: NN101026-2MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 26-O t-10
Date Analyzed: 26-O t-10
Prep Method: NONE

Prep Batch: NN101026-2
QCBatchID: NN101026-2-1
Run ID: NN101026-1A
Cleanup: NONE
Basis: N/A
File Name: 1026NOX.FDT

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
1-005	NITRATE/NITRITE AS N	1	0.01	0.01	U	

Data Package ID: *1010310-1*

Nitrate/Nitrite as N

Method EPA .2 Revision 2.0

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: NN101026-2LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/26/2010
Date Analyzed: 10/26/2010
Prep Method: NONE

Prep Batch: NN101026-2
QCBatchID: NN101026-2-1
Run ID: NN101026-1A
Cleanup: NONE
Basis: N/A
File Name: 1026NOX.FDT

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
1-005	NITRATE/NITRITE AS N	0.5	0.51	0.01		102	90 - 110%

Data Package ID: *1010310-1*

Total Dissolved Solids

Method EPA 0.

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: TD101022-1MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 22-O t-10
Date Analyzed: 25-O t-10
Prep Method: METHOD

Prep Batch: TD101022-1
QCBatchID: TD101022-1-1
Run ID: td101025-1a
Cleanup: NONE
Basis: N/A
File Name: Manual Entry

Sample Aliquot: 100 ml
Final Volume: 100 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
10-33-3	TOTAL DISSOLVED SOLIDS	1	20	20	U	

Data Package ID: *1010310-1*

Total Dissolved Solids

Method EPA 0.

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: TD101022-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/22/2010
Date Analyzed: 10/25/2010
Prep Method: METHOD

Prep Batch: TD101022-1
QCBatchID: TD101022-1-1
Run ID: td101025-1a
Cleanup: NONE
Basis: N/A
File Name: Manual Entry

Sample Aliquot: 100 ml
Final Volume: 100 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
10-33-3	TOTAL DISSOLVED SOLIDS	400	424	20		106	85 - 115%

Data Package ID: *1010310-1*

Ion Chromatography

Method EPA 00.0 Revision 2.

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: IC101022-1MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 22-O t-10
Date Analyzed: 22-O t-10
Prep Method: NONE

Prep Batch: IC101022-1
QCBatchID: IC101022-1-1
Run ID: IC101022-1A
Cleanup: NONE
Basis: N/A
File Name: 01022 012.DXD

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
16984-48-8	FLUORIDE	1	0.1	0.1	U	
16887-00-6	CHLORIDE	1	0.2	0.2	U	
24959-67-9	BROMIDE	1	0.2	0.2	U	
14808-79-8	SULFATE	1	1	1	U	

Data Package ID: *1010310-1*

Ion Chromatography

Method EPA 00.0 Revision 2.

Laboratory Control Sample

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: IC101022-1LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 10/22/2010
Date Analyzed: 10/22/2010
Prep Method: NONE

Prep Batch: IC101022-1
QCBatchID: IC101022-1-1
Run ID: IC101022-1A
Cleanup: NONE
Basis: N/A
File Name: 01022 013.DXD

Sample Aliquot: 5 ml
Final Volume: 5 ml
Result Units: MG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
16984-48-8	FLUORIDE	2.5	2.38	0.1		95	90 - 110%
16887-00-6	CHLORIDE	5	5.34	0.2		107	90 - 110%
24959-67-9	BROMIDE	5	4.93	0.2		99	90 - 110%
14808-79-8	SULFATE	25	24.7	1		99	90 - 110%

Data Package ID: *1010310-1*

GC/MS Volatiles

Case Narrative

Colorado Oil Gas Conservation Commission

Kugler W. W.

Wor Order Number: 1010310

1. T is re ort onsists of 1 ater sam le. T e sam le as re eived inta t by ALS on 10/21/10 at 10.2° Celsius. T e a ueous sam le as free of eads a e rior to analysis.

2. T e sam le as re ared a ording to SW-846, 3rd Edition ro edures. S e ifi ally, t e ater sam le as re ared by urging 10 mL using urge and tra ro edures based on Met od 5030C.

3. T e sam le as analy ed using GC/MS it an RTX-624, RTX-VMS, or e uivalent a illary olumn a ording to SOP 525 Revision 14 based on SW-846 Met od 8260. All ositive results ere uantitated against t e initial alibration standards using t e internal standard te ni ue. T e identifi ation of ositive results as a ieved by a om arison of t e retention time and mass s e trum of t e sam le versus t e daily alibration standard.

4. All initial alibration riteria ere met.

5. All initial alibrations are verified by om aring a se ond sour e standard alibration verifi ation (ICV) against t e alibration urve. All riteria for initial alibration verifi ation ere met.

6. All riteria ere met in daily (ontinuing) alibration verifi ations (CCV).

7. Met ylene loride, a etone and 2-butanone are ommon laboratory ontaminants. In order to minimi e t e levels of t ese om ounds dete ted in t e g /ms analysis, ALS as designated its volatile laboratory as a restri ted a ess area. In addition, t e laboratory as been e ui ed it a dedi ated, air inta e and e aust system t at o erates under ositive ressure in order to minimi e ross ontamination of t ese om ounds. Due to flu tuations in ambient laboratory onditions, re orted sam le values for ommon laboratory ontaminants may be due to lab ontamination even if t e om ound in uestion is not dete ted in t e asso iated met od blan .

   All met od blan riteria ere met.

8. All laboratory control sample and laboratory control sample duplicate recoveries and RPDs were within the acceptance criteria.

9. A matrix spike and matrix spike duplicate were not performed because of insufficient sample. A laboratory control sample and laboratory control sample duplicate were performed instead.

10. The sample was analyzed within the established holding time.

11. All surrogate recoveries were within acceptable limits with the following exception:

Surrogate	Sample	Direction
Dibromofluoromethane	1	High

All target compounds were less than the reporting limit. No further action was taken. See NCR #12518.

12. All internal standard recoveries were within acceptance criteria.

13. Manual integrations are performed when needed to provide consistent and defensible data following the guidelines in SOP 939 Revision 3.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

SLJ
Sharon L. Jobes
Organics Primary Data Reviewer

11-16-10
Date

Tyler Mankel
Organics Final Data Reviewer

11-16-10
Date

ALS
Data Qualifier Flags
Chromatography and Mass Spectrometry

U or ND:	**This flag indicates that the compound as analyzed for but not detected.**
:	**This flag indicates an estimated value. This flag is used as follo s : hen estimating a concentration for tentatively identified compounds TICs here a : response is assumed 2 hen the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria and the result is less than the reporting limit RL but greater than the method detection limit MDL hen the retention time data indicate the presence of a compound that meets the GC identification criteria and the result is less than the RL but greater than the MDL and the reported value is estimated.**
B:	**This flag is used hen the analyte is detected in the associated method blank as ell as in the sample. It indicates probable blank contamination and arns the data user. This flag shall be used for a tentatively identified compound TIC as ell as for a positively identified target compound.**
E:	**This flag identifies compounds hose concentration exceeds the upper level of the calibration range.**
A:	**This flag indicates that a tentatively identified compound is a suspected aldol-condensation product.**
:	**This flag indicates that the analyte as diluted belo an accurate quantitation level.**
:	**This flag indicates that a spike recovery is equal to or outside the control criteria used.**
:	**This flag indicates that the relative percent difference RPD equals or exceeds the control criteria.**

ALS Environmental -- FC

Sample Number s Cross-Reference Table

Paragon OrderNum: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
Client Project Name: Kugler W. W.
Client Project Number:
Client PO Number: OE PHA 11000000014

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Kugler W.W.	1010310-1		WATER	20-O t-10	12:40

Chain of Custody Record

Sampler ID _____

Temperature on Receipt _____

Drinking Water? Yes ☒ No ☐

TestAmerica THE LEADER IN ENVIRONMENTAL TESTING

101031D

TAL-4124-280 (0508)

Client	Project Manager	Date	Chain of Custody Number
Colorado Oil & Gas Conservation Comm.	Steve Lindblom	10/20/2010	135379
Address	**Telephone Number (Area Code)/Fax Number**	**Lab Number**	**Page** _____ **of** _____
1120 Lincoln, Suite 801	(303) 894-2100 x5114 / (303) 894-2109		
City / **State** / **Zip Code**	**Site Contact**	**Lab Contact**	
Denver / CO / 80203	Lindblom		
Project Name and Location (State)	**Carrier/Waybill Number**		
Kugler LV WI			
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis: 8270	2540C	~~Other~~	6010B	353.2	8260
Kugler LV W.	10/20/10	12 LV		X			X						2	1				
									X							1		
								X									1	
										X								W

Special Instructions/ Conditions of Receipt

Possible Hazard Identification

☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal

☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

(A fee may be assessed if samples are retained longer than 1 month)

Turn Around Time Required

☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☒ Other STANDARD

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By	10/21/10	1020	1. Received By	10-21-10	1020
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

5 of 8

DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample: PINK - Field Copy

CONDITION OF SAMPLE UPON RECEIPT FORM

Client: COGCC Workorder No: 1010310

Project Manager: AW Initials: CDT Date: 10-21-10

1. Does this project require any **special handling** in addition to standard Paragon procedures?		YES	(NO)
2. Are custody **seals** on **shipping containers** intact?	(NONE)	YES	NO
3. Are Custody seals on **sample containers** intact?	(NONE)	YES	NO
4. Is there a **COC (Chain-of-Custody) present** or other representative documents?		(YES)	NO
5. Are the **COC and bottle labels complete and legible**?		(YES)	NO
6. Is the **COC in agreement** with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		(YES)	NO
7. Were **airbills / shipping documents** present and/or removable?	(DROP OFF)	YES	NO
8. Are all aqueous **samples requiring preservation preserved correctly?** (excluding volatiles)	N/A	(YES)	NO
9. Are all aqueous **non-preserved samples pH 4-9**?	N/A	(YES)	NO
10. Is there **sufficient sample** for the requested analyses?		(YES)	NO
11. Were all samples placed in the **proper containers** for the requested analyses?		(YES)	NO
12. Are all samples within **holding times** for the requested analyses?		(YES)	NO
13. Were all sample containers received **intact**? (not broken or leaking, etc.)		(YES)	NO
14. Are all samples requiring **no** headspace (**VOC, GRO, RSK/MEE, Rx CN/S, radon**) headspace free? **Size of bubble:** ____ < green pea ____ > green pea	N/A	(YES)	NO
15. Do perchlorate LCMS-MS samples **have** headspace? (at least 1/3 of container required)	(N/A)	YES	NO
16. Were samples checked for and free from the presence of **residual chlorine?** (Applicable when PM has indicated samples are from a chlorinated water source; note if field preservation with sodium thiosulfate was not observed.)	(N/A)	YES	NO
17. Were the samples **shipped on ice**?		(YES)	NO
18. Were cooler temperatures measured at 0.1-6.0°C? **IR gun used*:** #2 (#4)	RAD ONLY	YES	(NO)

Cooler #: 1

Temperature (°C): 10.2

No. of custody seals on cooler: NA

DOT Survey/ Acceptance Information

External µR/hr reading: NA

Background µR/hr reading: NA

Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO (NA) (If no, see Form 008.)

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16

Not Requested on COC but required analyses: pH, Conductivity, Chlorides AW 10/22/10

If applicable, was the client contacted? (YES) / NO / NA Contact: Steve Lindblom Date/Time: 10/22/10

Project Manager Signature / Date: 10/22/10

*IR Gun #2: Oakton, SN 29922500201-0066 *IR Gun #4: Oakton, SN 2372220101-0002

GC/MS Volatiles

Method SW82 0 2 C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: VL101102-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10
Prep Method: SW5030 Rev C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25478

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	DF	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROET	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	1	1	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: VL101102-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10
Prep Method: SW5030 Rev C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25478

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	1	1	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Method Blank

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: VL101102-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10
Prep Method: SW5030 Rev C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25478

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	24.8		25	99	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	24.1		25	97	84 - 118
2037-26-5	TOLUENE-D8	24.6		25	98	85 - 115

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID:

Lab ID: VL101102-3MB

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: As Re eived

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: C25478

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10
Prep Method: SW5030 Rev C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: As Re eived
File Name: C25495

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Dilution Factor	Result	Reporting Limit	Result Qualifier	EPA Qualifier
75-71-8	DICHLORODIFLUOROMETHANE	1	1	1	U	
74-87-3	CHLOROMETHANE	1	1	1	U	
75-01-4	VINYL CHLORIDE	1	1	1	U	
74-83-9	BROMOMETHANE	1	1	1	U	
75-00-3	CHLOROETHANE	1	1	1	U	
75-69-4	TRICHLOROFLUOROMETHANE	1	1	1	U	
75-35-4	1,1-DICHLOROETHENE	1	1	1	U	
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	1	1	1	U	
67-64-1	ACETONE	1	10	10	U	
74-88-4	IODOMETHANE	1	1	1	U	
75-15-0	CARBON DISULFIDE	1	1	1	U	
75-09-2	METHYLENE CHLORIDE	1	1	1	U	
156-60-5	TRANS-1,2-DICHLOROETHENE	1	1	1	U	
1634-04-4	METHYL TERTIARY BUTYL ETHER	1	1	1	U	
75-34-3	1,1-DICHLOROETHANE	1	1	1	U	
108-05-4	VINYL ACETATE	1	2	2	U	
156-59-2	CIS-1,2-DICHLOROETHENE	1	1	1	U	
78-93-3	2-BUTANONE	1	10	10	U	
74-97-5	BROMOCHLOROMETHANE	1	1	1	U	
67-66-3	CHLOROFORM	1	1	1	U	
71-55-6	1,1,1-TRICHLOROETHANE	1	1	1	U	
594-20-7	2,2-DICHLOROPROPANE	1	1	1	U	
56-23-5	CARBON TETRACHLORIDE	1	1	1	U	
563-58-6	1,1-DICHLOROPROPENE	1	1	1	U	
107-06-2	1,2-DICHLOROETHANE	1	1	1	U	
71-43-2	BENZENE	1	1	1	U	
79-01-6	TRICHLOROETHENE	1	1	1	U	

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Sample Results

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10
Prep Method: SW5030 Rev C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: As Re eived
File Name: C25495

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

78-87-5	1,2-DICHLOROPROPANE	1	1	1	U	
74-95-3	DIBROMOMETHANE	1	1	1	U	
75-27-4	BROMODICHLOROMETHANE	1	1	1	U	
10061-01-5	CIS-1,3-DICHLOROPROPENE	1	1	1	U	
108-10-1	4-METHYL-2-PENTANONE	1	10	10	U	
108-88-3	TOLUENE	1	1	1	U	
10061-02-6	TRANS-1,3-DICHLOROPROPENE	1	1	1	U	
79-00-5	1,1,2-TRICHLOROETHANE	1	1	1	U	
591-78-6	2-HEXANONE	1	10	10	U	
127-18-4	TETRACHLOROETHENE	1	1	1	U	
142-28-9	1,3-DICHLOROPROPANE	1	1	1	U	
124-48-1	DIBROMOCHLOROMETHANE	1	1	1	U	
106-93-4	1,2-DIBROMOETHANE	1	1	1	U	
544-10-5	1-CHLOROHEXANE	1	1	1	U	
108-90-7	CHLOROBENZENE	1	1	1	U	
630-20-6	1,1,1,2-TETRACHLOROETHANE	1	1	1	U	
100-41-4	ETHYLBENZENE	1	1	1	U	
136777-61-2	M+P-XYLENE	1	1	1	U	
95-47-6	O-XYLENE	1	1	1	U	
100-42-5	STYRENE	1	1	1	U	
75-25-2	BROMOFORM	1	1	1	U	
98-82-8	ISOPROPYLBENZENE	1	1	1	U	
96-18-4	1,2,3-TRICHLOROPROPANE	1	1	1	U	
79-34-5	1,1,2,2-TETRACHLOROETHANE	1	1	1	U	
108-86-1	BROMOBENZENE	1	1	1	U	
103-65-1	N-PROPYLBENZENE	1	1	1	U	
95-49-8	2-CHLOROTOLUENE	1	1	1	U	
108-67-8	1,3,5-TRIMETHYLBENZENE	1	1	1	U	
106-43-4	4-CHLOROTOLUENE	1	1	1	U	

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Sample Results

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10
Prep Method: SW5030 Rev C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: As Re eived
File Name: C25495

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

98-06-6	TERT-BUTYLBENZENE	1	1	1	U	
95-63-6	1,2,4-TRIMETHYLBENZENE	1	1	1	U	
135-98-8	SEC-BUTYLBENZENE	1	1	1	U	
541-73-1	1,3-DICHLOROBENZENE	1	1	1	U	
99-87-6	P-ISOPROPYLTOLUENE	1	1	1	U	
106-46-7	1,4-DICHLOROBENZENE	1	1	1	U	
104-51-8	N-BUTYLBENZENE	1	1	1	U	
95-50-1	1,2-DICHLOROBENZENE	1	1	1	U	
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	1	2	2	U	
120-82-1	1,2,4-TRICHLOROBENZENE	1	1	1	U	
87-68-3	HEXACHLOROBUTADIENE	1	1	1	U	
91-20-3	NAPHTHALENE	1	1	1	U	
87-61-6	1,2,3-TRICHLOROBENZENE	1	1	1	U	

Surrogate Recovery

CASNO	Surrogate Analyte	Result	Flag	Spike Amount	Percent Recovery	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25.6		25	103	85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	30.6	*	25	122	84 - 118
2037-26-5	TOLUENE-D8	24.4		25	98	85 - 115

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2

Tentatively Identified Compounds

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Field ID: Kugler W.W.
Lab ID: 1010310-1

Sample Matrix: WATER
% Moisture: N/A
Date Collected: 20-O t-10
Date Extracted: 02-Nov-10
Date Analyzed: 02-Nov-10

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: As Re eived

Sample Aliquot: 10 ml
Final Volume: 10 ml
Clean DF: 1
File Name: C25495

CASNO	Retention Time	Target Analyte	Dilution Factor	Result	Units	Qualifier
		NONE DETECTED	1			U

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC

Work Order Number: 1010310

Client Name: Colorado Oil & Gas Conservation Commission

ClientProject ID: Kugler W. W.

Lab ID: VL101102-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 11/02/2010
Date Analyzed: 11/02/2010
Prep Method: SW5030C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25475

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
75-71-8	DICHLORODIFLUOROMETHANE	10	10	1		100	63 - 125%
74-87-3	CHLOROMETHANE	10	9.64	1		96	73 - 122%
75-01-4	VINYL CHLORIDE	10	10.1	1		101	72 - 123%
74-83-9	BROMOMETHANE	10	9.86	1		99	68 - 123%
75-00-3	CHLOROETHANE	10	10.7	1		107	74 - 124%
75-69-4	TRICHLOROFLUOROMETHANE	10	10.2	1		102	74 - 124%
75-35-4	1,1-DICHLOROETHENE	10	9.76	1		98	77 - 119%
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	10.1	1		101	79 - 122%
67-64-1	ACETONE	40	40.7	10		102	62 - 142%
74-88-4	IODOMETHANE	10	10.2	1		102	72 - 126%
75-15-0	CARBON DISULFIDE	10	10.1	1		101	76 - 121%
75-09-2	METHYLENE CHLORIDE	10	9.56	1		96	71 - 130%
156-60-5	TRANS-1,2-DICHLOROETHENE	10	9.82	1		98	82 - 117%
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	19.8	1		99	77 - 119%
75-34-3	1,1-DICHLOROETHANE	10	10.1	1		101	83 - 119%
108-05-4	VINYL ACETATE	10	10.8	2		108	76 - 121%
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.78	1		98	83 - 117%
78-93-3	2-BUTANONE	40	40.6	10		102	70 - 135%
74-97-5	BROMOCHLOROMETHANE	10	10.3	1		103	83 - 121%
67-66-3	CHLOROFORM	10	9.53	1		95	82 - 119%
71-55-6	1,1,1-TRICHLOROETHANE	10	9.92	1		99	80 - 120%
594-20-7	2,2-DICHLOROPROPANE	10	10.4	1		104	83 - 125%
56-23-5	CARBON TETRACHLORIDE	10	10.2	1		102	77 - 122%
563-58-6	1,1-DICHLOROPROPENE	10	10.2	1		102	84 - 118%
107-06-2	1,2-DICHLOROETHANE	10	10.1	1		101	74 - 128%
71-43-2	BENZENE	10	9.91	1		99	83 - 117%

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: VL101102-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 11/02/2010
Date Analyzed: 11/02/2010
Prep Method: SW5030C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25475

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
79-01-6	TRICHLOROETHENE	10	10.2	1		102	83 - 117%
78-87-5	1,2-DICHLOROPROPANE	10	10	1		100	84 - 120%
74-95-3	DIBROMOMETHANE	10	9.83	1		98	79 - 122%
75-27-4	BROMODICHLOROMETHANE	10	10	1		100	76 - 122%
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	9.91	1		99	81 - 120%
108-10-1	4-METHYL-2-PENTANONE	40	39.5	10		99	73 - 125%
108-88-3	TOLUENE	10	9.56	1		96	82 - 113%
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	9.72	1		97	81 - 114%
79-00-5	1,1,2-TRICHLOROETHANE	10	9.67	1		97	78 - 116%
591-78-6	2-HEXANONE	40	36.9	10		92	71 - 124%
127-18-4	TETRACHLOROETHENE	10	10.1	1		101	84 - 117%
142-28-9	1,3-DICHLOROPROPANE	10	9.5	1		95	80 - 115%
124-48-1	DIBROMOCHLOROMETHANE	10	9.69	1		97	82 - 118%
106-93-4	1,2-DIBROMOETHANE	10	9.39	1		94	79 - 114%
544-10-5	1-CHLOROHEXANE	10	9.83	1		98	80 - 117%
108-90-7	CHLOROBENZENE	10	9.41	1		94	81 - 113%
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	9.54	1		95	78 - 113%
100-41-4	ETHYLBENZENE	10	9.71	1		97	81 - 113%
136777-61-2	M+P-XYLENE	20	19.2	1		96	82 - 115%
95-47-6	O-XYLENE	10	9.68	1		97	81 - 115%
100-42-5	STYRENE	10	9.87	1		99	78 - 118%
75-25-2	BROMOFORM	10	9.14	1		91	70 - 120%
98-82-8	ISOPROPYLBENZENE	10	9.7	1		97	80 - 113%
96-18-4	1,2,3-TRICHLOROPROPANE	10	9.45	1		95	78 - 117%
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	9.44	1		94	75 - 121%
108-86-1	BROMOBENZENE	10	9.28	1		93	81 - 114%
103-65-1	N-PROPYLBENZENE	10	9.67	1		97	79 - 116%

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: VL101102-3LCS

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 11/02/2010
Date Analyzed: 11/02/2010
Prep Method: SW5030C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25475

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCS Result	Reporting Limit	Result Qualifier	LCS % Rec.	Control Limits
95-49-8	2-CHLOROTOLUENE	10	9.44	1		94	79 - 116%
108-67-8	1,3,5-TRIMETHYLBENZENE	10	9.58	1		96	78 - 116%
106-43-4	4-CHLOROTOLUENE	10	9.16	1		92	78 - 115%
98-06-6	TERT-BUTYLBENZENE	10	9.49	1		95	76 - 120%
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.64	1		96	80 - 117%
135-98-8	SEC-BUTYLBENZENE	10	9.48	1		95	78 - 115%
541-73-1	1,3-DICHLOROBENZENE	10	9.37	1		94	79 - 115%
99-87-6	P-ISOPROPYLTOLUENE	10	9.76	1		98	77 - 116%
106-46-7	1,4-DICHLOROBENZENE	10	9.49	1		95	82 - 114%
104-51-8	N-BUTYLBENZENE	10	9.72	1		97	79 - 117%
95-50-1	1,2-DICHLOROBENZENE	10	9.44	1		94	82 - 114%
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.06	2		91	73 - 125%
120-82-1	1,2,4-TRICHLOROBENZENE	10	9.68	1		97	75 - 120%
87-68-3	HEXACHLOROBUTADIENE	10	9.74	1		97	71 - 124%
91-20-3	NAPHTHALENE	10	9.65	1		96	71 - 131%
87-61-6	1,2,3-TRICHLOROBENZENE	10	9.45	1		94	70 - 131%

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: VL101102-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 11/02/2010
Date Analyzed: 11/02/2010
Prep Method: SW5030C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25476

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
75-71-8	DICHLORODIFLUOROMETHANE	10	10.3	1		103	20	3
74-87-3	CHLOROMETHANE	10	9.93	1		99	20	3
75-01-4	VINYL CHLORIDE	10	10.4	1		104	20	3
74-83-9	BROMOMETHANE	10	9.87	1		99	20	0
75-00-3	CHLOROETHANE	10	10.4	1		104	20	2
75-69-4	TRICHLOROFLUOROMETHANE	10	10.2	1		102	20	0
75-35-4	1,1-DICHLOROETHENE	10	9.88	1		99	20	1
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHA	10	10.5	1		105	20	4
67-64-1	ACETONE	40	47.1	10		118	30	15
74-88-4	IODOMETHANE	10	10.3	1		103	20	1
75-15-0	CARBON DISULFIDE	10	10.3	1		103	20	2
75-09-2	METHYLENE CHLORIDE	10	9.64	1		96	20	1
156-60-5	TRANS-1,2-DICHLOROETHENE	10	10	1		100	20	2
1634-04-4	METHYL TERTIARY BUTYL ETHER	20	19.2	1		96	20	3
75-34-3	1,1-DICHLOROETHANE	10	10	1		100	20	1
108-05-4	VINYL ACETATE	10	10.4	2		104	20	4
156-59-2	CIS-1,2-DICHLOROETHENE	10	9.78	1		98	20	0
78-93-3	2-BUTANONE	40	41	10		103	30	1
74-97-5	BROMOCHLOROMETHANE	10	10.3	1		103	20	0
67-66-3	CHLOROFORM	10	9.56	1		96	20	0
71-55-6	1,1,1-TRICHLOROETHANE	10	10.1	1		101	20	2
594-20-7	2,2-DICHLOROPROPANE	10	10.3	1		103	20	1
56-23-5	CARBON TETRACHLORIDE	10	10.2	1		102	20	0
563-58-6	1,1-DICHLOROPROPENE	10	10.1	1		101	20	1
107-06-2	1,2-DICHLOROETHANE	10	9.88	1		99	20	2
71-43-2	BENZENE	10	10.1	1		101	20	2
79-01-6	TRICHLOROETHENE	10	9.98	1		100	20	2

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: VL101102-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 11/02/2010
Date Analyzed: 11/02/2010
Prep Method: SW5030C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25476

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
78-87-5	1,2-DICHLOROPROPANE	10	9.86	1		99	20	2
74-95-3	DIBROMOMETHANE	10	10	1		100	20	2
75-27-4	BROMODICHLOROMETHANE	10	9.85	1		98	20	2
10061-01-5	CIS-1,3-DICHLOROPROPENE	10	10	1		100	20	1
108-10-1	4-METHYL-2-PENTANONE	40	39.7	10		99	30	0
108-88-3	TOLUENE	10	9.55	1		95	20	0
10061-02-6	TRANS-1,3-DICHLOROPROPENE	10	9.69	1		97	20	0
79-00-5	1,1,2-TRICHLOROETHANE	10	9.77	1		98	20	1
591-78-6	2-HEXANONE	40	37.7	10		94	30	2
127-18-4	TETRACHLOROETHENE	10	10.1	1		101	20	0
142-28-9	1,3-DICHLOROPROPANE	10	9.6	1		96	20	1
124-48-1	DIBROMOCHLOROMETHANE	10	9.34	1		93	20	4
106-93-4	1,2-DIBROMOETHANE	10	9.78	1		98	20	4
544-10-5	1-CHLOROHEXANE	10	9.86	1		99	20	0
108-90-7	CHLOROBENZENE	10	9.63	1		96	20	2
630-20-6	1,1,1,2-TETRACHLOROETHANE	10	9.77	1		98	20	2
100-41-4	ETHYLBENZENE	10	9.7	1		97	20	0
136777-61-2	M+P-XYLENE	20	19.3	1		96	20	0
95-47-6	O-XYLENE	10	9.65	1		96	20	0
100-42-5	STYRENE	10	9.68	1		97	20	2
75-25-2	BROMOFORM	10	9.03	1		90	20	1
98-82-8	ISOPROPYLBENZENE	10	9.71	1		97	20	0
96-18-4	1,2,3-TRICHLOROPROPANE	10	9.9	1		99	20	5
79-34-5	1,1,2,2-TETRACHLOROETHANE	10	9.43	1		94	20	0
108-86-1	BROMOBENZENE	10	9.68	1		97	20	4
103-65-1	N-PROPYLBENZENE	10	10	1		100	20	4
95-49-8	2-CHLOROTOLUENE	10	9.76	1		98	20	3

Data Package ID: *V 1010310-1*

GC/MS Volatiles

Method SW82 0 2 C

Laboratory Control Sample and Laboratory Control Sample Duplicate

Lab Name: ALS Environmental -- FC
Work Order Number: 1010310
Client Name: Colorado Oil & Gas Conservation Commission
ClientProject ID: Kugler W. W.

Lab ID: VL101102-3LCSD

Sample Matrix: WATER
% Moisture: N/A
Date Collected: N/A
Date Extracted: 11/02/2010
Date Analyzed: 11/02/2010
Prep Method: SW5030C

Prep Batch: VL101102-3
QCBatchID: VL101102-3-1
Run ID: VL101102-3A
Cleanup: NONE
Basis: N/A
File Name: C25476

Sample Aliquot: 10 ml
Final Volume: 10 ml
Result Units: UG/L
Clean DF: 1

CASNO	Target Analyte	Spike Added	LCSD Result	Reporting Limit	Result Qualifier	LCSD % Rec.	RPD Limit	RPD
108-67-8	1,3,5-TRIMETHYLBENZENE	10	10	1		100	20	5
106-43-4	4-CHLOROTOLUENE	10	9.97	1		100	20	9
98-06-6	TERT-BUTYLBENZENE	10	9.78	1		98	20	3
95-63-6	1,2,4-TRIMETHYLBENZENE	10	9.83	1		98	20	2
135-98-8	SEC-BUTYLBENZENE	10	9.86	1		99	20	4
541-73-1	1,3-DICHLOROBENZENE	10	9.46	1		95	20	1
99-87-6	P-ISOPROPYLTOLUENE	10	9.86	1		99	20	1
106-46-7	1,4-DICHLOROBENZENE	10	9.73	1		97	20	3
104-51-8	N-BUTYLBENZENE	10	10.4	1		104	20	7
95-50-1	1,2-DICHLOROBENZENE	10	9.75	1		97	20	3
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	10	9.52	2		95	20	5
120-82-1	1,2,4-TRICHLOROBENZENE	10	10.3	1		103	20	6
87-68-3	HEXACHLOROBUTADIENE	10	10.3	1		103	20	6
91-20-3	NAPHTHALENE	10	10.5	1		105	20	8
87-61-6	1,2,3-TRICHLOROBENZENE	10	10.3	1		103	20	8

Surrogate Recovery LCS/LCSD

CASNO	Target Analyte	Spike Added	LCS % Rec.	LCS Flag	LCSD % Rec.	LCSD Flag	Control Limits
460-00-4	4-BROMOFLUOROBENZENE	25	97		100		85 - 115
1868-53-7	DIBROMOFLUOROMETHANE	25	101		100		84 - 118
2037-26-5	TOLUENE-D8	25	103		100		91 - 107

Data Package ID: *V 1010310-1*

Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\110210\C25478.D Vial: 8
Acq On : 2 Nov 2010 10:17 Operator: twk-sop525r14
Sample : VL101102-3MB Inst : CSS Instr
Misc : 10mL un-heated purge (water) Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Nov 3 10:24 2010 Quant Results File: 110110W.RES

Quant Method : C:\HPCHEM\1\METHODS\110110W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Wed Nov 03 10:19:18 2010
Response via : Initial Calibration
DataAcq Meth : 110110W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.00	96	624093	25.00	ppb	0.00
57) Chlorobenzene-d5	12.20	82	232551	25.00	ppb	0.00
77) 1,4-Dichlorobenzene-d4	14.22	152	168660	25.00	ppb	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	8.19	113	168372	24.15	ppb	0.00
Spiked Amount 25.000	Range 80 - 124		Recovery = 96.60%			
41) 1,2-dichloroethane-d4	8.66	65	137291	25.23	ppb	0.00
Spiked Amount 25.000	Range 62 - 139		Recovery = 100.92%			
58) Toluene-d8	10.74	98	739800	24.57	ppb	0.00
Spiked Amount 25.000	Range 81 - 119		Recovery = 98.28%			
78) 4-Bromofluorobenzene	13.25	95	252813	24.79	ppb	0.00
Spiked Amount 25.000	Range 78 - 129		Recovery = 99.16%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.22	85	1190	Below Cal	#	42
18) Acetonitrile	5.93	40	1042	Below Cal	#	1
19) Methylene chloride	6.02	84	2468	Below Cal		97
56) 4-Methyl-2-Pentanone	10.74	43	4088	Below Cal	#	1

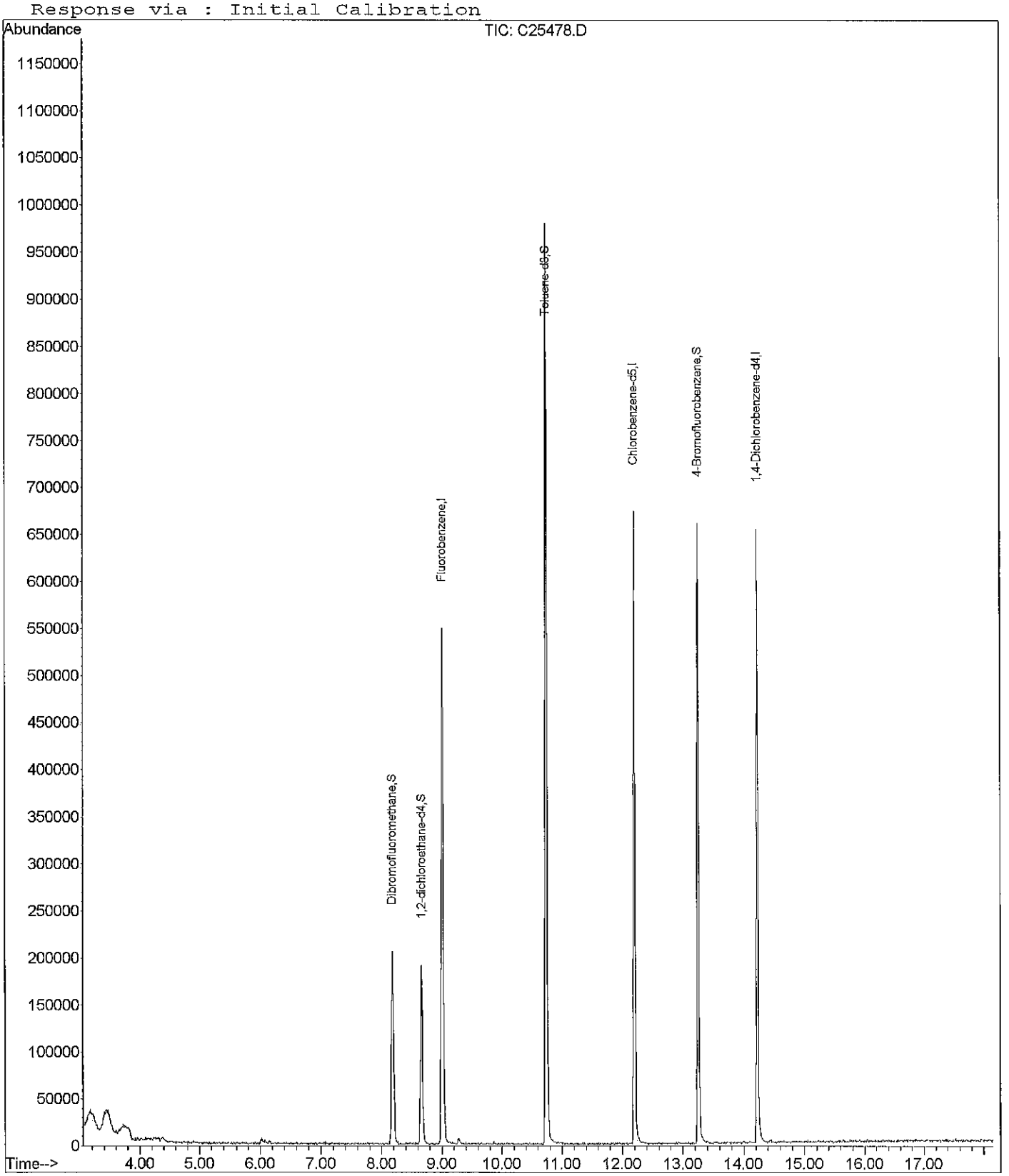
11/3/10

(#) = qualifier out of range (m) = manual integration
C25478.D 110110W.M Wed Nov 03 10:24:06 2010 Page 21 of 28

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110210\C25478.D Vial: 8
Acq On : 2 Nov 2010 10:17 Operator: twk-sop525r14
Sample : VL101102-3MB Inst : CSS Instr
Misc : 10mL un-heated purge (water) Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Nov 3 10:24 2010 Quant Results File: 110110W.RES

Method : C:\HPCHEM\1\METHODS\110110W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Wed Nov 03 10:19:18 2010
Response via : Initial Calibration



Library Search Compound Report

Data File : C:\HPCHEM\1\DATA\110210\C25478.D Vial: 8
Acq On : 2 Nov 2010 10:17 Operator: twk-sop525r14
Sample : VL101102-3MB Inst : CSS Instr
Misc : 10mL un-heated purge (water) Multiplr: 1.00
MS Integration Params: ETTICS.P

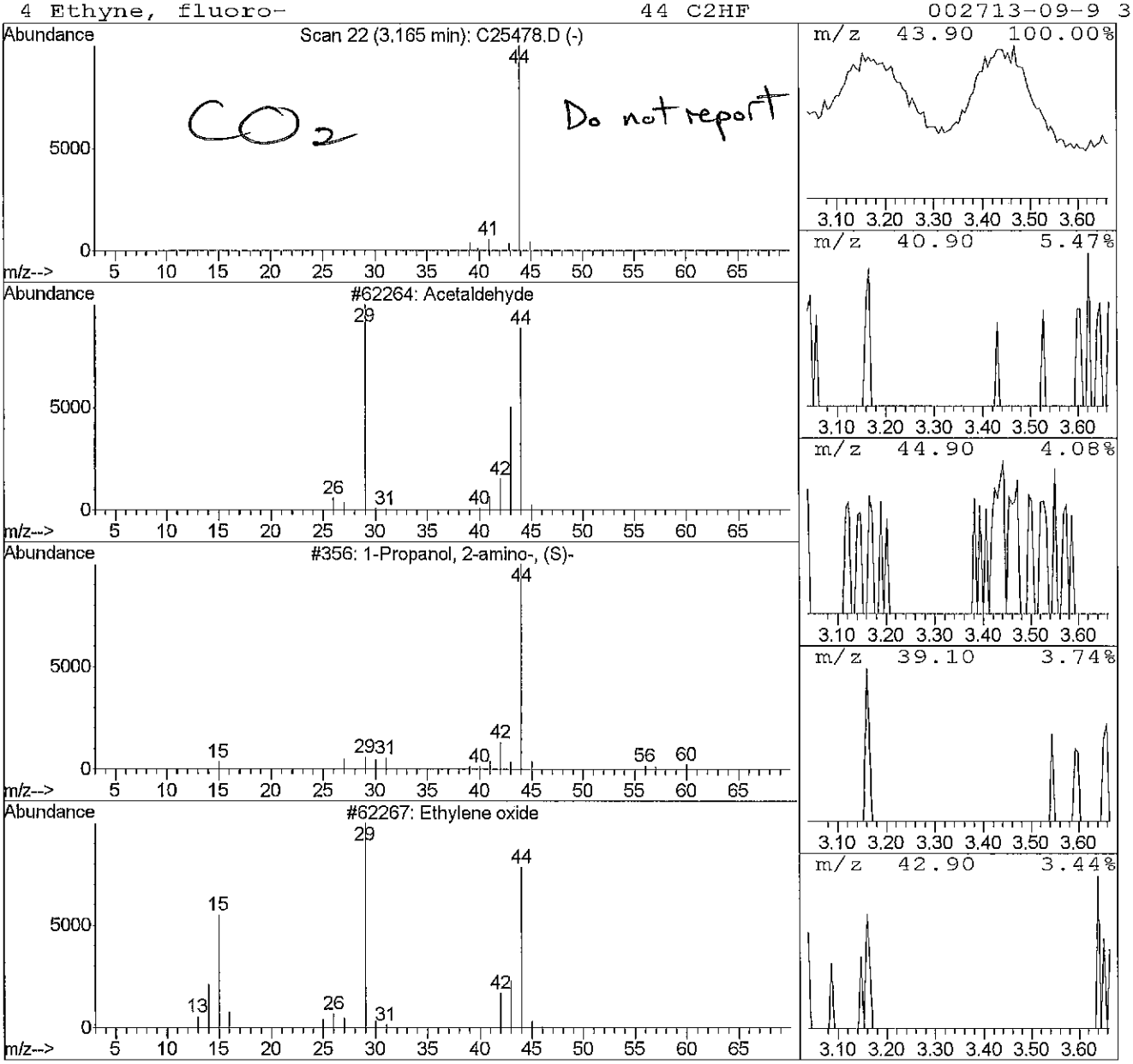
Quant Method : C:\HPCHEM\1\METHODS\110110W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Library : C:\DATABASE\NBS75K.L

****

Peak Number 1 Acetaldehyde Concentration Rank 1

R.T.	EstConc	Area	Relative to ISTD	R.T.
3.17	3.32 ppb	170099	Fluorobenzene	9.00

Hit# of 5	Tentative ID	MW	MolForm	CAS#	Qual
1	Acetaldehyde	44	C2H4O	000075-07-0	5
2	1-Propanol, 2-amino-, (S)-	75	C3H9NO	002749-11-3	4
3	Ethylene oxide	44	C2H4O	000075-21-8	3
4	Ethyne, fluoro-	44	C2HF	002713-09-9	3

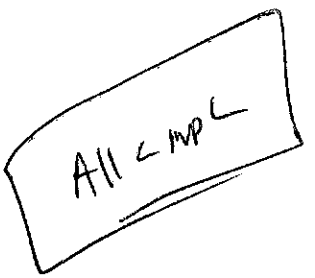


Quantitation Report (Not Reviewed)

Data File : C:\HPCHEM\1\DATA\110210\C25495.D Vial: 25
Acq On : 2 Nov 2010 16:55 Operator: twk-sop525r14
Sample : 1010310-1 Inst : CSS Instr
Misc : 10mL un-heated purge (water) Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Nov 3 10:25 2010 Quant Results File: 110110W.RES

Quant Method : C:\HPCHEM\1\METHODS\110110W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Wed Nov 03 10:19:18 2010
Response via : Initial Calibration
DataAcq Meth : 110110W

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Fluorobenzene	9.01	96	577199	25.00	ppb	0.00
57) Chlorobenzene-d5	12.21	82	218995	25.00	ppb	0.00
77) 1,4-Dichlorobenzene-d4	14.23	152	152472	25.00	ppb	0.00
System Monitoring Compounds						
36) Dibromofluoromethane	8.19	113	197298	30.59	ppb	0.00
Spiked Amount 25.000	Range 80 - 124		Recovery = 122.36%			
41) 1,2-dichloroethane-d4	8.66	65	132444	26.31	ppb	0.00
Spiked Amount 25.000	Range 62 - 139		Recovery = 105.24%			
58) Toluene-d8	10.74	98	691380	24.39	ppb	0.00
Spiked Amount 25.000	Range 81 - 119		Recovery = 97.56%			
78) 4-Bromofluorobenzene	13.25	95	236298	25.63	ppb	0.00
Spiked Amount 25.000	Range 78 - 129		Recovery = 102.52%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	3.22	85	1077	Below Cal	#	42
18) Acetonitrile	5.83	40	1016	Below Cal	#	1
56) 4-Methyl-2-Pentanone	10.73	43	3969	Below Cal	#	1



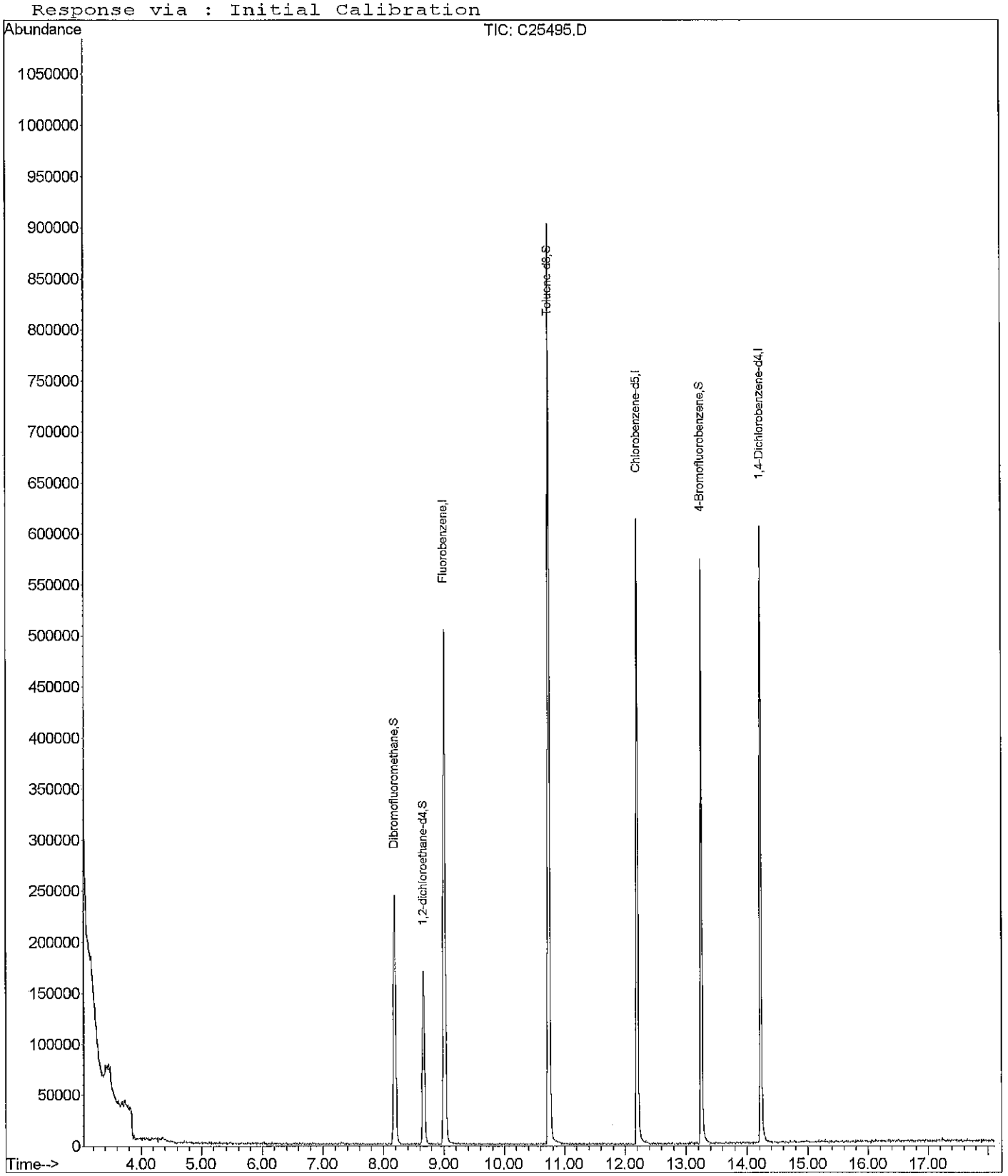
m 11/3/10

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\HPCHEM\1\DATA\110210\C25495.D Vial: 25
Acq On : 2 Nov 2010 16:55 Operator: twk-sop525r14
Sample : 1010310-1 Inst : CSS Instr
Misc : 10mL un-heated purge (water) Multiplr: 1.00
MS Integration Params: ettics.p
Quant Time: Nov 3 10:25 2010 Quant Results File: 110110W.RES

Method : C:\HPCHEM\1\METHODS\110110W.M (RTE Integrator)
Title : GC/MS Volatiles (S.O.P. 525)
Last Update : Wed Nov 03 10:19:18 2010
Response via : Initial Calibration



Tentatively Identified Compound (LSC) summary

Operator ID: twk-sop525r14 Date Acquired: 2 Nov 2010 16:55
Data File: C:\HPCHEM\1\DATA\110210\C25495.D
Name: 1010310-1
Misc: 10mL un-heated purge (water)
Method: C:\HPCHEM\1\METHODS\110110W.M (RTE Integrator)
Title: GC/MS Volatiles (S.O.P. 525)
Library Searched: C:\DATABASE\NBS75K.L

TIC Top Hit name	RT	EstConc	Units	Area	IntStd	ISRT	ISArea	ISConc

C25495.D 110810S.M Fri Nov 12 09:53:03 2010

NCR : 12518

CONTROLLED
NON-CONFORMANCE REPORT

Non-Conformance

Initiated By: Tyler W. Knaebel on 11/12/2010

Event Type: Lab C Criteria Not Met -- Surrogate

Event Explanation: Dibromofluoromet ane (surrogate) as ig in t e asso iated sam les for 8260C analysis. All target om ounds ere less t an t e re orting limit. No furt er a tion as ta en.

Action To Prevent Reccurence: Not A li able

Corrective Action

Corrective Action: Do ument in Narrative
Department Manager Approval: Roy Fren
Approval Date: 11/16/2010
Corrective Action Comments:

Workorders Affected

Wor order -- Pro edure		A roved By	A roval Date
1010464 -- SW 8260 25	No lient onta t information.	PENDING	
1010400 -- SW 8260 25 1010401 -- SW 8260 25 1010425 -- SW 8260 25 1010426 -- SW 8260 25 1010429 -- SW 8260 25	Linda S ry Orour e as onta ted on 11/10/2010	Amy R. Wolf	11/15/2010
1010310 -- SW 8260 25	Steve Lindblom as onta ted on 11/10/2010	Amy R. Wolf	11/15/2010

Associated Batches

T e sam les ere originally asso iated it t e follo ing Bat (es):

VL101110-2A reated on 11/10/2010
VL101102-3A reated on 11/2/2010

All re or as om leted in t e follo ing Bat (es):

Not Applicable

NCR Approval

Date Printed: Tuesday, November 16, 2010

ALS USA, Corp
Part of t e ALS Laboratory Group
225 Commer e Drive Ft. Collins, Colorado 80524
Phone 70 0- Fa (970) 490-1522 .alsenviro. om

NCR : 12518

CONTROLLED
NON-CONFORMANCE REPORT

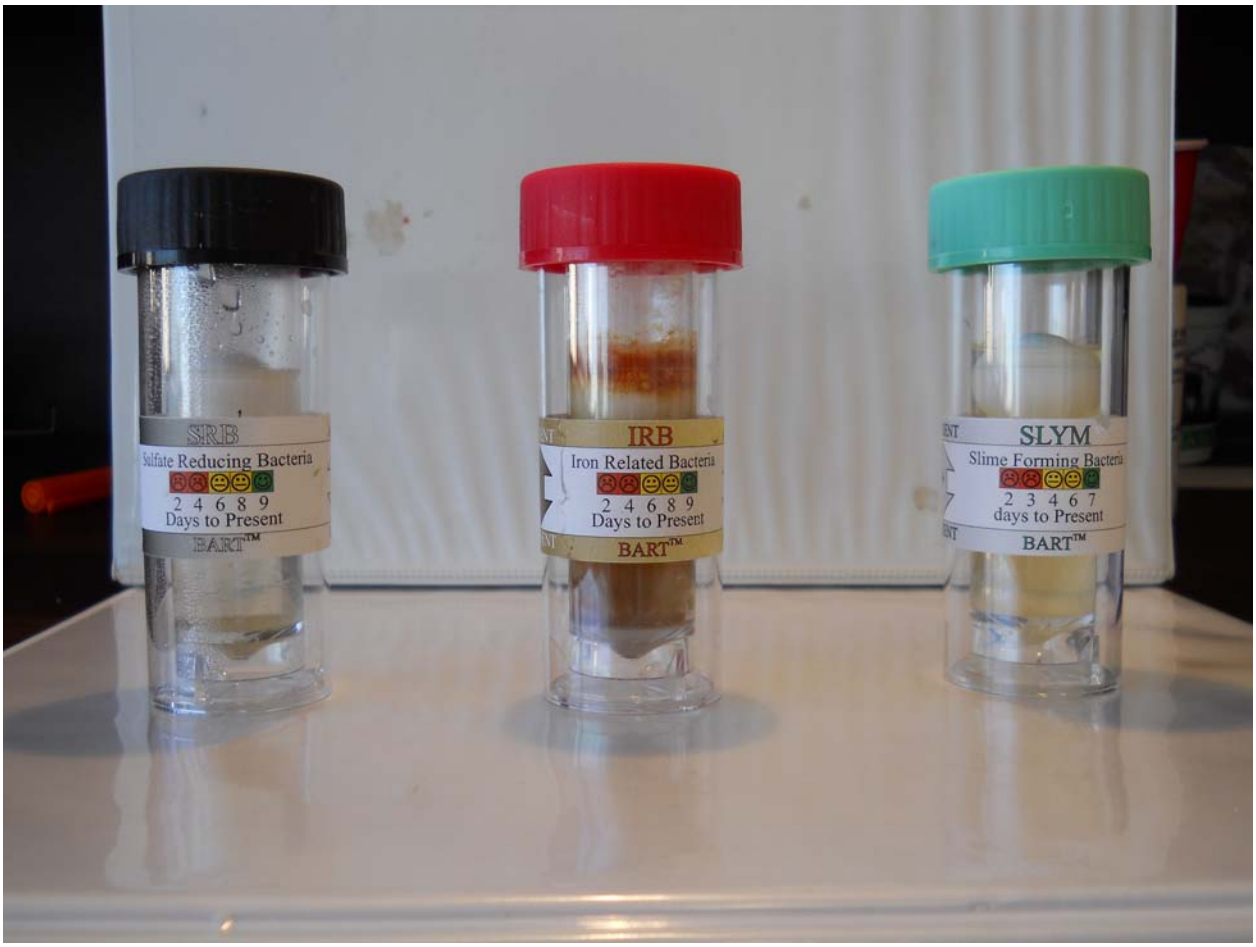
Project Manager Approval:

ARW on 11/15/2010

Department Manager Approval: Roy Fren on 11/16/2010

QA Manager Approval:

ALS USA, Corp
Part of t e ALS Laboratory Group
225 Commer e Drive Ft. Collins, Colorado 80524
Phone 70 0- Fa (970) 490-1522 .alsenviro. om



Bacterial Testing Samples - Kugler Water Well. Collected 10/20/2010