Mountain States ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

06/16/10

Technical Report for

Colorado Oil & Gas, Brighton

COGCC, Brighton, CO

Lindell Complaint #200252458

Accutest Job Number: D13778

Sampling Date: 05/27/10

Report to:

COGCC

john.axelson@state.co.us

ATTN: John Axelson

Total number of pages in report: **43**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Jesse L. Smith

Jesse L. Smith
Laboratory Director

Client Service contact: Shea Greiner 303-425-6021

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

Test results relate only to samples analyzed.

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Accutest Laboratories

Sample Summary

Colorado Oil & Gas, Brighton

Job No: D13778

COGCC, Brighton, CO
Project No: Lindell Complaint #200252458

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D13778-1	05/27/10	15:00	JA	06/01/10	SO	Soil	WCR 17-SS1

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Colorado Oil & Gas, Brighton	**Job No**	D13778
Site:	COGCC, Brighton, CO	**Report Dat**	6/15/2010 10:10:17 AM

On 06/01/2010, 1 sample(s), 0 Trip Blank(s) and 0 Field Blank(s) was received at Accutest Mountain States (AMS) at a temperature of 4 °C. The sample was intact and properly preserved, unless noted below. An AMS Job Number of D13778 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix SO **Batch ID:** V5V430

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D13740-4MS and D13740-4MSD were used as the QC samples indicated.

Extractables by GCMS By Method SW846 8270C

Matrix SO **Batch ID:** OP1975

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Samples D13778-1MS and D13778-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8015B

Matrix SO **Batch ID:** GGB273

- All samples were analyzed within the recommended method holding time.
- Samples D13772-3MS and D13772-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846-8015B

Matrix SO **Batch ID:** OP1973

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Samples D13849-1MS and D13849-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM19 2540B M

Matrix SO **Batch ID:** GN4618

- The data for SM19 2540B M meets quality control requirements.

Wet Chemistry By Method SW846 9045C

Matrix SO	**Batch ID:** GN4611

- The following sample was run outside of holding time for method SW846 9045C: D13778-1

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846 8260B	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V08055.D	1	06/01/10	DC	n/a	n/a	V5V430
Run #2							

	Initial Weight
Run #1	1.00 g
Run #2	

VOA HSL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	110	55	ug/kg	
71-43-2	Benzene	ND	5.5	1.7	ug/kg	
75-27-4	Bromodichloromethane	ND	28	11	ug/kg	
75-25-2	Bromoform	ND	28	11	ug/kg	
108-90-7	Chlorobenzene	ND	28	11	ug/kg	
75-00-3	Chloroethane	ND	28	11	ug/kg	
67-66-3	Chloroform	ND	28	5.5	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	110	66	ug/kg	
75-15-0	Carbon disulfide	ND	28	11	ug/kg	
56-23-5	Carbon tetrachloride	ND	28	11	ug/kg	
75-34-3	1,1-Dichloroethane	ND	28	11	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	28	11	ug/kg	
107-06-2	1,2-Dichloroethane	ND	28	5.5	ug/kg	
78-87-5	1,2-Dichloropropane	ND	28	11	ug/kg	
124-48-1	Dibromochloromethane	ND	28	11	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	28	11	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	28	11	ug/kg	
541-73-1	m-Dichlorobenzene	ND	28	11	ug/kg	
95-50-1	o-Dichlorobenzene	ND	28	11	ug/kg	
106-46-7	p-Dichlorobenzene	ND	28	11	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	28	11	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	28	11	ug/kg	
100-41-4	Ethylbenzene	ND	11	2.2	ug/kg	
591-78-6	2-Hexanone	ND	110	17	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	110	17	ug/kg	
74-83-9	Methyl bromide	ND	28	11	ug/kg	
74-87-3	Methyl chloride	ND	28	11	ug/kg	
75-09-2	Methylene chloride	11.7	28	11	ug/kg	J
78-93-3	Methyl ethyl ketone	ND	110	22	ug/kg	
100-42-5	Styrene	ND	28	11	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	28	5.5	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	55	11	ug/kg	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846 8260B	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

VOA HSL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-00-5	1,1,2-Trichloroethane	ND	28	11	ug/kg	
127-18-4	Tetrachloroethylene	ND	28	11	ug/kg	
108-88-3	Toluene	ND	11	5.5	ug/kg	
79-01-6	Trichloroethylene	ND	28	5.5	ug/kg	
75-01-4	Vinyl chloride	ND	28	11	ug/kg	
108-05-4	Vinyl Acetate	ND	110	44	ug/kg	
1330-20-7	Xylene (total)	ND	11	3.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
2037-26-5	Toluene-D8	92%		70-130%
460-00-4	4-Bromofluorobenzene	83%		70-130%
17060-07-0	1,2-Dichloroethane-D4	87%		70-130%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846 8270C SW846 3540C	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G08034.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

ABN HSL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	360	200	ug/kg	
95-57-8	2-Chlorophenol	ND	44	40	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	40	33	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	40	37	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	44	40	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	180	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	180	140	ug/kg	
95-48-7	2-Methylphenol	ND	44	40	ug/kg	
106-44-5	4-Methylphenol	ND	44	40	ug/kg	
88-75-5	2-Nitrophenol	ND	44	40	ug/kg	
100-02-7	4-Nitrophenol	ND	77	51	ug/kg	
87-86-5	Pentachlorophenol	ND	180	110	ug/kg	
108-95-2	Phenol	ND	77	55	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	40	34	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	40	35	ug/kg	
83-32-9	Acenaphthene	ND	40	32	ug/kg	
208-96-8	Acenaphthylene	ND	40	37	ug/kg	
120-12-7	Anthracene	ND	40	28	ug/kg	
56-55-3	Benzo(a)anthracene	ND	40	32	ug/kg	
50-32-8	Benzo(a)pyrene	ND	40	28	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	44	40	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	40	28	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	51	44	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	40	34	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	180	110	ug/kg	
100-51-6	Benzyl Alcohol	ND	77	48	ug/kg	
91-58-7	2-Chloronaphthalene	ND	40	32	ug/kg	
106-47-8	4-Chloroaniline	ND	51	44	ug/kg	
218-01-9	Chrysene	ND	51	44	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	77	36	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	40	33	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	92	ug/kg	

ND = Not detected   MDL - Method Detection Limit   J = Indicates an estimated value
RL = Reporting Limit   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846 8270C SW846 3540C	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

ABN HSL List

CAS No.	Compound	Result	RL	MDL	Units	Q
7005-72-3	4-Chlorophenyl phenyl ether	ND	51	44	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	55	44	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	40	35	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	40	34	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	66	55	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	66	55	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	77	44	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	44	33	ug/kg	
132-64-9	Dibenzofuran	ND	40	30	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	40	35	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	44	40	ug/kg	
84-66-2	Diethyl phthalate	ND	77	44	ug/kg	
131-11-3	Dimethyl phthalate	ND	77	44	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	180	110	ug/kg	
206-44-0	Fluoranthene	ND	77	40	ug/kg	
86-73-7	Fluorene	ND	44	37	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	110	ug/kg	
87-68-3	Hexachlorobutadiene	ND	40	34	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	180	110	ug/kg	
67-72-1	Hexachloroethane	ND	44	40	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	40	30	ug/kg	
78-59-1	Isophorone	ND	40	34	ug/kg	
91-57-6	2-Methylnaphthalene	ND	40	31	ug/kg	
88-74-4	2-Nitroaniline	ND	44	37	ug/kg	
99-09-2	3-Nitroaniline	ND	77	44	ug/kg	
100-01-6	4-Nitroaniline	ND	180	88	ug/kg	
91-20-3	Naphthalene	ND	77	37	ug/kg	
98-95-3	Nitrobenzene	ND	180	55	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	55	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	55	ug/kg	
85-01-8	Phenanthrene	ND	77	40	ug/kg	
129-00-0	Pyrene	ND	44	40	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	40	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	75%		10-138%
4165-62-2	Phenol-d5	79%		10-176%
118-79-6	2,4,6-Tribromophenol	88%		10-156%
4165-60-0	Nitrobenzene-d5	65%		10-193%

ND = Not detected   MDL - Method Detection Limit   J = Indicates an estimated value
RL = Reporting Limit   B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range   N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846 8270C SW846 3540C	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

ABN HSL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	68%		20-138%
1718-51-0	Terphenyl-d14	72%		17-174%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846 8015B	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB5017.D	1	06/10/10	DG	n/a	n/a	GGB273
Run #2							

	Initial Weight
Run #1	1.0 g
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.1	1.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	91%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
Method:	SW846-8015B SW846 3550B	**Percent Solids:**	90.7
Project:	COGCC, Brighton, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FE2800.D	1	06/08/10	CP	06/07/10	OP1973	GFE181
Run #2							

	Initial Weight	Final Volume
Run #1	30.1 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	262	15	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		63-130%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	WCR 17-SS1		
Lab Sample ID:	D13778-1	**Date Sampled:**	05/27/10
Matrix:	SO - Soil	**Date Received:**	06/01/10
		Percent Solids:	90.7
Project:	COGCC, Brighton, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Percent	90.7		%	1	06/02/10	SWT	SM19 2540B M
pH	9.22		su	1	06/01/10 15:15	JD	SW846 9045C

RL = Reporting Limit

4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

D13778

2235 Route 130, Dayton, NJ 08810
732-329-0200 FAX: 732-329-3499/3480

FED-EX Tracking # NA	Bottle Order Control #
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name	Colorado Oil & Gas Conservation Commission
Address	9203 E. 155th Drive
City / State / Zip	Brighton, CO 80602
Project Contact:	John Axelson
E-mail	
Phone #	303-637-7178
Samplers's Name	John Axelson

Project Information

Project Name:	Lindell Complaint #200252458
Street	WCR 17
City	Wellington
State	CO
Project #	200252458
Fax #	303-637-7179
Client Purchase Order #	

Requested Analysis

Accutest Sample #	Field ID / Point of Collection	SUMMA # / MEOH Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	8260 ☒ 624 ☐ 8021 ☐ 602 ☐ BTEX ☐ MTBE ☐ TBA☐ NAP ☐	8260 ☐ 624 ☐ TCL ☐ PPL ☐ STARS ☐ MTBE ☐ TBA ☐ NAP☐ +10 ☐ +15 ☐	8270 ☒ 625 ☐ TCL ☐ PPL ☐ STARS☐ ABN☐ AE☐ BN☐ PAH☐ +TICs☐	8015-M DRO & GRO	pH *	LAB USE ONLY
	WCR 17 - SS1		5/27/2010	15:00	JA	SO	5									X		X	X	X	01

Matrix Codes
DW- Drinking Water
GW- Ground Water
WW- Water
SW- Surface Water
SO- Soil
SL-Sludge
OI-Oil
LIQ- Other Liquid
AIR- Air
SOL-Other Solid
WP-Wipe

Turnaround Time (Business days)

- [X] Std. 15 Business Days
- [ ] 10 Day RUSH
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [X] Commercial "A"
- [ ] Commercial "B"
- [ ] NJ Reduced
- [ ] NJ Full
- [X] Other Per 70
- [ ] FULL CLP
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format

Commercial "A" = Results Only

Comments / Remarks

Provide lab report and invoice to John Axelson at address listed above. Provide EDD via email: John.Axelson@state.co.us

* Run pH out of holding time.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1 [signature]	6/1/10 Date Time: 11:25	Received By: 1 Jacob Porter	11:30am 6/1/10	Relinquished By: 2	Date Time:	Received By: 2
Relinquished by: 3	Date Time:	Received By: 3		Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5		Custody Seal # N/A	Preserved where applicable ☐ N/A	On Ice ☑ Cooler Temp. 4.0

D13778: Chain of Custody
Page 1 of 1

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V430-MB1	5V08036.D	1	06/01/10	DC	n/a	n/a	V5V430

The QC reported here applies to the following samples: **Method:** SW846 8260B

D13778-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	100	50	ug/kg	
71-43-2	Benzene	ND	5.0	1.5	ug/kg	
75-27-4	Bromodichloromethane	ND	25	10	ug/kg	
75-25-2	Bromoform	ND	25	10	ug/kg	
108-90-7	Chlorobenzene	ND	25	10	ug/kg	
75-00-3	Chloroethane	ND	25	10	ug/kg	
67-66-3	Chloroform	ND	25	5.0	ug/kg	
110-75-8	2-Chloroethyl vinyl ether	ND	100	60	ug/kg	
75-15-0	Carbon disulfide	ND	25	10	ug/kg	
56-23-5	Carbon tetrachloride	ND	25	10	ug/kg	
75-34-3	1,1-Dichloroethane	ND	25	10	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	25	10	ug/kg	
107-06-2	1,2-Dichloroethane	ND	25	5.0	ug/kg	
78-87-5	1,2-Dichloropropane	ND	25	10	ug/kg	
124-48-1	Dibromochloromethane	ND	25	10	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	25	10	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	25	10	ug/kg	
541-73-1	m-Dichlorobenzene	ND	25	10	ug/kg	
95-50-1	o-Dichlorobenzene	ND	25	10	ug/kg	
106-46-7	p-Dichlorobenzene	ND	25	10	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	25	10	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	25	10	ug/kg	
100-41-4	Ethylbenzene	ND	10	2.0	ug/kg	
591-78-6	2-Hexanone	ND	100	15	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	100	15	ug/kg	
74-83-9	Methyl bromide	ND	25	10	ug/kg	
74-87-3	Methyl chloride	ND	25	10	ug/kg	
75-09-2	Methylene chloride	ND	25	10	ug/kg	
78-93-3	Methyl ethyl ketone	ND	100	20	ug/kg	
100-42-5	Styrene	ND	25	10	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	25	5.0	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	25	10	ug/kg	
127-18-4	Tetrachloroethylene	ND	25	10	ug/kg	
108-88-3	Toluene	ND	10	5.0	ug/kg	
79-01-6	Trichloroethylene	ND	25	5.0	ug/kg	

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V430-MB1	5V08036.D	1	06/01/10	DC	n/a	n/a	V5V430

The QC reported here applies to the following samples: **Method:** SW846 8260B

D13778-1

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	25	10	ug/kg	
108-05-4	Vinyl Acetate	ND	100	40	ug/kg	
1330-20-7	Xylene (total)	ND	10	3.5	ug/kg	

CAS No.	Surrogate Recoveries		Limits
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	86%	70-130%

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V430-BS1	5V08037.D	1	06/01/10	DC	n/a	n/a	V5V430

The QC reported here applies to the following samples: **Method:** SW846 8260B

D13778-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	27.5	55	34-130
71-43-2	Benzene	50	49.7	99	68-130
75-27-4	Bromodichloromethane	50	48.5	97	65-133
75-25-2	Bromoform	50	48.5	97	55-130
108-90-7	Chlorobenzene	50	51.3	103	70-130
75-00-3	Chloroethane	50	44.3	89	67-130
67-66-3	Chloroform	50	51.2	102	70-130
110-75-8	2-Chloroethyl vinyl ether	50	44.7	89	20-177
75-15-0	Carbon disulfide	50	51.1	102	23-130
56-23-5	Carbon tetrachloride	50	55.3	111	62-130
75-34-3	1,1-Dichloroethane	50	53.0	106	70-130
75-35-4	1,1-Dichloroethylene	50	53.0	106	70-130
107-06-2	1,2-Dichloroethane	50	48.1	96	70-130
78-87-5	1,2-Dichloropropane	50	50.8	102	70-130
124-48-1	Dibromochloromethane	50	51.7	103	65-130
156-59-2	cis-1,2-Dichloroethylene	50	55.4	111	70-130
10061-01-5	cis-1,3-Dichloropropene	50	50.5	101	66-130
541-73-1	m-Dichlorobenzene	50	47.0	94	70-130
95-50-1	o-Dichlorobenzene	50	46.4	93	70-130
106-46-7	p-Dichlorobenzene	50	45.7	91	70-130
156-60-5	trans-1,2-Dichloroethylene	50	54.0	108	70-130
10061-02-6	trans-1,3-Dichloropropene	50	46.1	92	70-130
100-41-4	Ethylbenzene	50	53.9	108	70-130
591-78-6	2-Hexanone	50	36.9	74	46-130
108-10-1	4-Methyl-2-pentanone	50	44.4	89	58-130
74-83-9	Methyl bromide	50	44.4	89	40-145
74-87-3	Methyl chloride	50	38.9	78	42-130
75-09-2	Methylene chloride	50	47.3	95	70-130
78-93-3	Methyl ethyl ketone	50	35.1	70	21-130
100-42-5	Styrene	50	47.7	95	38-130
71-55-6	1,1,1-Trichloroethane	50	50.2	100	68-130
79-34-5	1,1,2,2-Tetrachloroethane	50	44.1	88	70-130
79-00-5	1,1,2-Trichloroethane	50	47.5	95	70-130
127-18-4	Tetrachloroethylene	50	54.1	108	70-130
108-88-3	Toluene	50	53.7	107	70-130
79-01-6	Trichloroethylene	50	52.3	105	70-130

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V430-BS1	5V08037.D	1	06/01/10	DC	n/a	n/a	V5V430

The QC reported here applies to the following samples: **Method:** SW846 8260B

D13778-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
75-01-4	Vinyl chloride	50	40.3	81	55-130
108-05-4	Vinyl Acetate	50	57.2	114	54-130
1330-20-7	Xylene (total)	100	96.5	97	60-130

CAS No.	Surrogate Recoveries	BSP	Limits
2037-26-5	Toluene-D8	90%	70-130%
460-00-4	4-Bromofluorobenzene	98%	70-130%
17060-07-0	1,2-Dichloroethane-D4	86%	70-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D13740-4MS	5V08039.D	1	06/01/10	DC	n/a	n/a	V5V430
D13740-4MSD	5V08040.D	1	06/01/10	DC	n/a	n/a	V5V430
D13740-4	5V08038.D	1	06/01/10	DC	n/a	n/a	V5V430

The QC reported here applies to the following samples: **Method:** SW846 8260B

D13778-1

CAS No.	Compound	D13740-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		272	148	54	156	57	5	34-130/30
71-43-2	Benzene	ND		272	268	98	281	103	5	55-140/30
75-27-4	Bromodichloromethane	ND		272	257	94	271	100	5	50-146/30
75-25-2	Bromoform	ND		272	249	91	254	93	2	56-130/30
108-90-7	Chlorobenzene	ND		272	269	99	287	105	6	66-130/30
75-00-3	Chloroethane	ND		272	234	86	242	89	3	62-130/30
67-66-3	Chloroform	ND		272	269	99	285	105	6	70-130/30
110-75-8	2-Chloroethyl vinyl ether	ND		272	246	90	238	87	3	20-162/30
75-15-0	Carbon disulfide	ND		272	268	98	275	101	3	19-130/30
56-23-5	Carbon tetrachloride	ND		272	294	108	314	115	7	54-141/30
75-34-3	1,1-Dichloroethane	ND		272	275	101	291	107	6	70-130/30
75-35-4	1,1-Dichloroethylene	ND		272	276	101	291	107	5	70-140/30
107-06-2	1,2-Dichloroethane	ND		272	251	92	260	95	4	68-130/30
78-87-5	1,2-Dichloropropane	ND		272	260	95	280	103	7	70-130/30
124-48-1	Dibromochloromethane	ND		272	273	100	288	106	5	56-130/30
156-59-2	cis-1,2-Dichloroethylene	ND		272	278	102	298	109	7	70-130/30
10061-01-5	cis-1,3-Dichloropropene	ND		272	266	98	284	104	7	56-130/30
541-73-1	m-Dichlorobenzene	ND		272	252	93	260	95	3	70-130/30
95-50-1	o-Dichlorobenzene	ND		272	240	88	254	93	6	70-130/30
106-46-7	p-Dichlorobenzene	ND		272	244	90	258	95	6	70-130/30
156-60-5	trans-1,2-Dichloroethylene	ND		272	282	104	292	107	3	64-130/30
10061-02-6	trans-1,3-Dichloropropene	ND		272	249	91	258	95	4	53-130/30
100-41-4	Ethylbenzene	ND		272	281	103	301	111	7	56-139/30
591-78-6	2-Hexanone	ND		272	207	76	202	74	2	48-132/30
108-10-1	4-Methyl-2-pentanone	ND		272	252	93	249	91	1	58-138/30
74-83-9	Methyl bromide	ND		272	233	86	243	89	4	10-165/30
74-87-3	Methyl chloride	ND		272	200	73	209	77	4	35-130/30
75-09-2	Methylene chloride	ND		272	244	90	251	92	3	70-130/30
78-93-3	Methyl ethyl ketone	ND		272	194	71	207	76	6	20-130/30
100-42-5	Styrene	ND		272	249	91	264	97	6	33-130/30
71-55-6	1,1,1-Trichloroethane	ND		272	273	100	283	104	4	55-138/30
79-34-5	1,1,2,2-Tetrachloroethane	ND		272	231	85	232	85	0	69-130/30
79-00-5	1,1,2-Trichloroethane	ND		272	258	95	266	98	3	62-134/30
127-18-4	Tetrachloroethylene	ND		272	288	106	308	113	7	47-136/30
108-88-3	Toluene	ND		272	282	104	303	111	7	57-144/30
79-01-6	Trichloroethylene	ND		272	282	104	302	111	7	70-149/30

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D13740-4MS	5V08039.D	1	06/01/10	DC	n/a	n/a	V5V430
D13740-4MSD	5V08040.D	1	06/01/10	DC	n/a	n/a	V5V430
D13740-4	5V08038.D	1	06/01/10	DC	n/a	n/a	V5V430

The QC reported here applies to the following samples: **Method:** SW846 8260B

D13778-1

CAS No.	Compound	D13740-4 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
75-01-4	Vinyl chloride	ND		272	207	76	216	79	4	59-131/30
108-05-4	Vinyl Acetate	ND		272	185	68	188	69	2	20-141/30
1330-20-7	Xylene (total)	ND		545	506	93	539	99	6	51-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D13740-4	Limits
2037-26-5	Toluene-D8	91%	91%	90%	70-130%
460-00-4	4-Bromofluorobenzene	98%	99%	84%	70-130%
17060-07-0	1,2-Dichloroethane-D4	87%	81%	89%	70-130%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-MB	1G08033.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	330	180	ug/kg	
95-57-8	2-Chlorophenol	ND	40	37	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	37	30	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	37	33	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	40	37	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	130	ug/kg	
95-48-7	2-Methylphenol	ND	40	37	ug/kg	
106-44-5	4-Methylphenol	ND	40	37	ug/kg	
88-75-5	2-Nitrophenol	ND	40	37	ug/kg	
100-02-7	4-Nitrophenol	ND	70	47	ug/kg	
87-86-5	Pentachlorophenol	ND	170	100	ug/kg	
108-95-2	Phenol	ND	70	50	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	37	31	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	37	32	ug/kg	
83-32-9	Acenaphthene	ND	37	29	ug/kg	
208-96-8	Acenaphthylene	ND	37	33	ug/kg	
120-12-7	Anthracene	ND	37	25	ug/kg	
56-55-3	Benzo(a)anthracene	ND	37	29	ug/kg	
50-32-8	Benzo(a)pyrene	ND	37	25	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	40	37	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	37	25	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	47	40	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	37	31	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	170	100	ug/kg	
100-51-6	Benzyl Alcohol	ND	70	43	ug/kg	
91-58-7	2-Chloronaphthalene	ND	37	29	ug/kg	
106-47-8	4-Chloroaniline	ND	47	40	ug/kg	
218-01-9	Chrysene	ND	47	40	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	70	33	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	37	30	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	83	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	47	40	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	50	40	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	37	32	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	37	31	ug/kg	

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-MB	1G08033.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Compound	Result	RL	MDL	Units	Q
121-14-2	2,4-Dinitrotoluene	ND	60	50	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	60	50	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	70	40	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	40	30	ug/kg	
132-64-9	Dibenzofuran	ND	37	27	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	37	32	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	40	37	ug/kg	
84-66-2	Diethyl phthalate	ND	70	40	ug/kg	
131-11-3	Dimethyl phthalate	ND	70	40	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	170	100	ug/kg	
206-44-0	Fluoranthene	ND	70	37	ug/kg	
86-73-7	Fluorene	ND	40	33	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	100	ug/kg	
87-68-3	Hexachlorobutadiene	ND	37	31	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	170	100	ug/kg	
67-72-1	Hexachloroethane	ND	40	37	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	37	27	ug/kg	
78-59-1	Isophorone	ND	37	31	ug/kg	
91-57-6	2-Methylnaphthalene	ND	37	28	ug/kg	
88-74-4	2-Nitroaniline	ND	40	33	ug/kg	
99-09-2	3-Nitroaniline	ND	70	40	ug/kg	
100-01-6	4-Nitroaniline	ND	170	80	ug/kg	
91-20-3	Naphthalene	ND	70	33	ug/kg	
98-95-3	Nitrobenzene	ND	170	50	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	170	50	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	50	ug/kg	
85-01-8	Phenanthrene	ND	70	37	ug/kg	
129-00-0	Pyrene	ND	40	37	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	37	31	ug/kg	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	85%	10-138%
4165-62-2	Phenol-d5	93%	10-176%
118-79-6	2,4,6-Tribromophenol	91%	10-156%

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-MB	1G08033.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	76%	10-193%
321-60-8	2-Fluorobiphenyl	77%	20-138%
1718-51-0	Terphenyl-d14	79%	17-174%

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-BS	1G07998.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
65-85-0	Benzoic Acid	1670	839	50	10-130
95-57-8	2-Chlorophenol	1670	1330	80	29-130
59-50-7	4-Chloro-3-methyl phenol	1670	1400	84	38-133
120-83-2	2,4-Dichlorophenol	1670	1240	74	35-130
105-67-9	2,4-Dimethylphenol	1670	1120	67	31-130
51-28-5	2,4-Dinitrophenol	1670	1470	88	17-141
534-52-1	4,6-Dinitro-o-cresol	1670	1500	90	24-146
95-48-7	2-Methylphenol	1670	1240	74	35-130
106-44-5	4-Methylphenol	1670	1340	80	32-130
88-75-5	2-Nitrophenol	1670	1500	90	35-130
100-02-7	4-Nitrophenol	1670	1530	92	24-141
87-86-5	Pentachlorophenol	1670	1450	87	11-136
108-95-2	Phenol	1670	1260	76	32-130
95-95-4	2,4,5-Trichlorophenol	1670	1480	89	35-133
88-06-2	2,4,6-Trichlorophenol	1670	1400	84	35-131
83-32-9	Acenaphthene	1670	1350	81	40-136
208-96-8	Acenaphthylene	1670	1400	84	42-139
120-12-7	Anthracene	1670	1430	86	40-141
56-55-3	Benzo(a)anthracene	1670	1400	84	38-143
50-32-8	Benzo(a)pyrene	1670	1450	87	39-145
205-99-2	Benzo(b)fluoranthene	1670	1450	87	38-151
191-24-2	Benzo(g,h,i)perylene	1670	1570	94	35-136
207-08-9	Benzo(k)fluoranthene	1670	1400	84	38-147
101-55-3	4-Bromophenyl phenyl ether	1670	1590	95	35-150
85-68-7	Butyl benzyl phthalate	1670	1460	88	28-169
100-51-6	Benzyl Alcohol	1670	1350	81	39-136
91-58-7	2-Chloronaphthalene	1670	1330	80	40-134
106-47-8	4-Chloroaniline	1670	1340	80	42-130
218-01-9	Chrysene	1670	1370	82	39-137
111-91-1	bis(2-Chloroethoxy)methane	1670	1280	77	38-136
111-44-4	bis(2-Chloroethyl)ether	1670	1190	71	23-130
108-60-1	bis(2-Chloroisopropyl)ether	1670	1170	70	17-145
7005-72-3	4-Chlorophenyl phenyl ether	1670	1370	82	40-138
95-50-1	1,2-Dichlorobenzene	1670	1130	68	32-130
541-73-1	1,3-Dichlorobenzene	1670	1140	68	31-130
106-46-7	1,4-Dichlorobenzene	1670	1130	68	31-130

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-BS	1G07998.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
121-14-2	2,4-Dinitrotoluene	1670	1590	95	40-154
606-20-2	2,6-Dinitrotoluene	1670	1650	99	42-153
91-94-1	3,3'-Dichlorobenzidine	1670	1430	86	34-152
53-70-3	Dibenzo(a,h)anthracene	1670	1520	91	35-139
132-64-9	Dibenzofuran	1670	1340	80	40-134
84-74-2	Di-n-butyl phthalate	1670	1460	88	36-150
117-84-0	Di-n-octyl phthalate	1670	1460	88	28-157
84-66-2	Diethyl phthalate	1670	1510	91	39-152
131-11-3	Dimethyl phthalate	1670	1560	94	42-142
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1510	91	24-174
206-44-0	Fluoranthene	1670	1430	86	34-132
86-73-7	Fluorene	1670	1390	83	41-136
118-74-1	Hexachlorobenzene	1670	1500	90	38-145
87-68-3	Hexachlorobutadiene	1670	1100	66	34-136
77-47-4	Hexachlorocyclopentadiene	1670	779	47	14-130
67-72-1	Hexachloroethane	1670	1140	68	29-131
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1540	92	31-144
78-59-1	Isophorone	1670	1400	84	38-130
91-57-6	2-Methylnaphthalene	1670	1230	74	40-131
88-74-4	2-Nitroaniline	1670	1600	96	41-141
99-09-2	3-Nitroaniline	1670	1540	92	40-145
100-01-6	4-Nitroaniline	1670	1420	85	41-154
91-20-3	Naphthalene	1670	1130	68	36-130
98-95-3	Nitrobenzene	1670	1310	79	40-135
621-64-7	N-Nitroso-di-n-propylamine	1670	1290	77	32-137
86-30-6	N-Nitrosodiphenylamine	1670	1290	77	27-152
85-01-8	Phenanthrene	1670	1380	83	40-135
129-00-0	Pyrene	1670	1390	83	29-157
120-82-1	1,2,4-Trichlorobenzene	1670	1140	68	38-132

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	66%	10-138%
4165-62-2	Phenol-d5	73%	10-176%
118-79-6	2,4,6-Tribromophenol	89%	10-156%

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-BS	1G07998.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	71%	10-193%
321-60-8	2-Fluorobiphenyl	68%	20-138%
1718-51-0	Terphenyl-d14	77%	17-174%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-MS	1G08000.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247
OP1975-MSD	1G08001.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247
D13778-1	1G08034.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Compound	D13778-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
65-85-0	Benzoic Acid	ND		1830	1390	76	1300	71	7	10-141/30
95-57-8	2-Chlorophenol	ND		1830	1660	91	1490	81	11	16-136/30
59-50-7	4-Chloro-3-methyl phenol	ND		1830	1660	91	1380	75	18	17-147/30
120-83-2	2,4-Dichlorophenol	ND		1830	1570	86	1330	73	17	13-144/30
105-67-9	2,4-Dimethylphenol	ND		1830	1340	73	1100	60	20	10-135/30
51-28-5	2,4-Dinitrophenol	ND		1830	1920	105	1670	91	14	10-156/30
534-52-1	4,6-Dinitro-o-cresol	ND		1830	1730	94	1510	83	14	10-158/30
95-48-7	2-Methylphenol	ND		1830	1460	80	1320	72	10	10-144/30
106-44-5	4-Methylphenol	ND		1830	1570	86	1410	77	11	14-138/30
88-75-5	2-Nitrophenol	ND		1830	1930	105	1680	92	14	10-176/30
100-02-7	4-Nitrophenol	ND		1830	1730	94	1540	84	12	10-138/30
87-86-5	Pentachlorophenol	ND		1830	1740	95	1470	80	17	10-185/30
108-95-2	Phenol	ND		1830	1500	82	1360	74	10	20-129/30
95-95-4	2,4,5-Trichlorophenol	ND		1830	1670	91	1430	78	15	10-189/30
88-06-2	2,4,6-Trichlorophenol	ND		1830	1670	91	1410	77	17	10-152/30
83-32-9	Acenaphthene	ND		1830	1550	85	1300	71	18	20-151/30
208-96-8	Acenaphthylene	ND		1830	1640	90	1350	74	19	23-156/30
120-12-7	Anthracene	ND		1830	1610	88	1320	72	20	25-149/30
56-55-3	Benzo(a)anthracene	ND		1830	1610	88	1340	73	18	22-157/30
50-32-8	Benzo(a)pyrene	ND		1830	1650	90	1370	75	19	23-153/30
205-99-2	Benzo(b)fluoranthene	ND		1830	1610	88	1390	76	15	22-161/30
191-24-2	Benzo(g,h,i)perylene	ND		1830	1800	98	1510	83	18	20-158/30
207-08-9	Benzo(k)fluoranthene	ND		1830	1590	87	1320	72	19	17-161/30
101-55-3	4-Bromophenyl phenyl ether	ND		1830	1720	94	1430	78	18	10-176/30
85-68-7	Butyl benzyl phthalate	ND		1830	1780	97	1470	80	19	11-205/30
100-51-6	Benzyl Alcohol	ND		1830	1630	89	1460	80	11	13-168/30
91-58-7	2-Chloronaphthalene	ND		1830	1560	85	1270	69	20	21-149/30
106-47-8	4-Chloroaniline	ND		1830	1560	85	1320	72	17	10-143/30
218-01-9	Chrysene	ND		1830	1590	87	1320	72	19	16-159/30
111-91-1	bis(2-Chloroethoxy)methane	ND		1830	1600	87	1320	72	19	16-155/30
111-44-4	bis(2-Chloroethyl)ether	ND		1830	1420	78	1300	71	9	16-130/30
108-60-1	bis(2-Chloroisopropyl)ether	ND		1830	1440	79	1270	69	13	10-156/30
7005-72-3	4-Chlorophenyl phenyl ether	ND		1830	1560	85	1300	71	18	19-155/30
95-50-1	1,2-Dichlorobenzene	ND		1830	1410	77	1270	69	10	18-145/30
541-73-1	1,3-Dichlorobenzene	ND		1830	1410	77	1260	69	11	15-146/30
106-46-7	1,4-Dichlorobenzene	ND		1830	1420	78	1260	69	12	17-142/30

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-MS	1G08000.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247
OP1975-MSD	1G08001.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247
D13778-1	1G08034.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Compound	D13778-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
121-14-2	2,4-Dinitrotoluene	ND		1830	1870	102	1590	87	16	10-218/30
606-20-2	2,6-Dinitrotoluene	ND		1830	1880	103	1640	90	14	10-208/30
91-94-1	3,3'-Dichlorobenzidine	ND		1830	1660	91	1400	76	17	10-158/30
53-70-3	Dibenzo(a,h)anthracene	ND		1830	1720	94	1440	79	18	21-154/30
132-64-9	Dibenzofuran	ND		1830	1520	83	1280	70	17	21-150/30
84-74-2	Di-n-butyl phthalate	ND		1830	1630	87	1360	72	18	22-161/30
117-84-0	Di-n-octyl phthalate	ND		1830	1750	96	1470	80	17	10-218/30
84-66-2	Diethyl phthalate	ND		1830	1750	96	1440	79	19	16-171/30
131-11-3	Dimethyl phthalate	ND		1830	1720	94	1450	79	17	10-184/30
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1830	1800	98	1490	81	19	15-195/30
206-44-0	Fluoranthene	ND		1830	1600	87	1350	74	17	16-140/30
86-73-7	Fluorene	ND		1830	1570	86	1310	72	18	15-153/30
118-74-1	Hexachlorobenzene	ND		1830	1640	90	1360	74	19	22-155/30
87-68-3	Hexachlorobutadiene	ND		1830	1440	79	1260	69	13	19-143/30
77-47-4	Hexachlorocyclopentadiene	ND		1830	832	45	658	36	23	10-130/30
67-72-1	Hexachloroethane	ND		1830	1420	78	1310	72	8	10-180/30
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1830	1830	100	1490	81	20	21-159/30
78-59-1	Isophorone	ND		1830	1640	90	1350	74	19	21-136/30
91-57-6	2-Methylnaphthalene	ND		1830	1500	82	1250	68	18	10-181/30
88-74-4	2-Nitroaniline	ND		1830	1850	101	1580	86	16	10-207/30
99-09-2	3-Nitroaniline	ND		1830	1760	96	1470	80	18	19-152/30
100-01-6	4-Nitroaniline	ND		1830	1600	87	1360	74	16	17-166/30
91-20-3	Naphthalene	ND		1830	1400	76	1210	66	15	10-176/30
98-95-3	Nitrobenzene	ND		1830	1660	91	1430	78	15	16-155/30
621-64-7	N-Nitroso-di-n-propylamine	ND		1830	1490	81	1330	73	11	10-199/30
86-30-6	N-Nitrosodiphenylamine	ND		1830	1390	76	1150	63	19	12-168/30
85-01-8	Phenanthrene	ND		1830	1560	85	1280	70	20	22-152/30
129-00-0	Pyrene	ND		1830	1770	97	1400	76	23	10-200/30
120-82-1	1,2,4-Trichlorobenzene	ND		1830	1450	79	1250	68	15	20-142/30

CAS No.	Surrogate Recoveries	MS	MSD	D13778-1	Limits
367-12-4	2-Fluorophenol	75%	67%	75%	10-138%
4165-62-2	Phenol-d5	81%	73%	79%	10-176%
118-79-6	2,4,6-Tribromophenol	96%	80%	88%	10-156%

6.3.1

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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1975-MS	1G08000.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247
OP1975-MSD	1G08001.D	1	06/11/10	TMB	06/08/10	OP1975	E1G247
D13778-1	1G08034.D	1	06/12/10	TMB	06/08/10	OP1975	E1G248

The QC reported here applies to the following samples: **Method:** SW846 8270C

D13778-1

CAS No.	Surrogate Recoveries	MS	MSD	D13778-1	Limits
4165-60-0	Nitrobenzene-d5	83%	71%	65%	10-193%
321-60-8	2-Fluorobiphenyl	72%	59%	68%	20-138%
1718-51-0	Terphenyl-d14	85%	69%	72%	17-174%

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB273-MB	GB5009.D	1	06/09/10	DG	n/a	n/a	GGB273

The QC reported here applies to the following samples: **Method:** SW846 8015B

D13778-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	1.0	1.0	mg/kg	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	92%	60-140%

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB273-BS	GB5010.D	1	06/09/10	DG	n/a	n/a	GGB273

The QC reported here applies to the following samples: **Method:** SW846 8015B

D13778-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	11	9.72	88	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	110%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D13772-3MS	GB5012.D	1	06/10/10	DG	n/a	n/a	GGB273
D13772-3MSD	GB5013.D	1	06/10/10	DG	n/a	n/a	GGB273
D13772-3	GB5011.D	1	06/09/10	DG	n/a	n/a	GGB273

The QC reported here applies to the following samples: **Method:** SW846 8015B

D13778-1

CAS No.	Compound	D13772-3 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		13	9.76	75	10.1	78	3	62-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D13772-3	Limits
120-82-1	1,2,4-Trichlorobenzene	99%	105%	88%	60-140%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1973-MB	FE2793.D	1	06/08/10	CP	06/07/10	OP1973	GFE181

The QC reported here applies to the following samples: **Method:** SW846-8015B

D13778-1

CAS No.	Compound	Result	RL	Units	Q
	TPH-DRO (C10-C28)	ND	13	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	80%	63-130%

Blank Spike Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1973-BS	FE2794.D	1	06/08/10	CP	06/07/10	OP1973	GFE181

The QC reported here applies to the following samples: **Method:** SW846-8015B

D13778-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-DRO (C10-C28)	667	582	87	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	85%	63-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D13778
Account: COGCCCOB Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1973-MS	FE2796.D	1	06/08/10	CP	06/07/10	OP1973	GFE181
OP1973-MSD	FE2797.D	1	06/08/10	CP	06/07/10	OP1973	GFE181
D13849-1	FE2795.D	1	06/08/10	CP	06/07/10	OP1973	GFE181

The QC reported here applies to the following samples: **Method:** SW846-8015B

D13778-1

CAS No.	Compound	D13849-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	47.6		757	747	92	745	92	0	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D13849-1	Limits
84-15-1	o-Terphenyl	89%	87%	78%	63-130%

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D13778
Account: COGCCCOB - Colorado Oil & Gas, Brighton
Project: COGCC, Brighton, CO

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
pH	GN4611			su	8.00	7.95	99.4	99.3-100.7%

Associated Samples:
Batch GN4611: D13778-1
(*) Outside of QC limits

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