

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

## ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

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Tel: (303)736-0100

TestAmerica Job ID: 280-95101-1

Client Project/Site: Morton Water Well -Complaint200402859

For:

Colorado Oil&Gas Conservation Commission  
1120 Lincoln St.  
Suite 801  
Denver, Colorado 80203

Attn: Chris Canfield



Authorized for release by:  
4/13/2017 1:13:06 PM

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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# Case Narrative

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

**Job ID: 280-95101-1**

**Laboratory: TestAmerica Denver**

**Narrative**

## CASE NARRATIVE

**Client: Colorado Oil&Gas Conservation Commission**

**Project: Morton Water Well -Complaint 200402859**

**Report Number: 280-95101-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

### **RECEIPT**

The sample was received on 3/22/2017 at 3:58 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 12.1° C. The samples were delivered to the laboratory directly after collection.

### **VOLATILE ORGANIC COMPOUNDS (GC-MS)**

Sample MORTON WATER WELL (280-95101-1) was analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/30/2017.

The spike recovery for Vinyl chloride (145%, limits 40-137%) exceeded the recovery criteria in LCS 280-367349/4. This analyte was biased high in the LCS and was not detected in the associated sample; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **SEMIVOLATILE ORGANIC COMPOUNDS (GC-MS)**

Sample MORTON WATER WELL (280-95101-1) was analyzed for semivolatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 03/28/2017 and 04/07/2017 and analyzed on 04/04/2017 and 04/10/2017.

Several analytes were outside the recovery criteria in the LCS and LCSD associated with batch 368033. The samples were re-extracted and re-analyzed outside hold times. The LCS was in control in the re-analysis data with the exception of Hexachlorocyclopentadiene which is a know poor performer by this method. However, several spike recoveries were outside control limits in the LCSD. The client was notified and directed the laboratory to report both sets of data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **GAS RANGE ORGANICS**

Sample MORTON WATER WELL (280-95101-1) was analyzed for gas range organics in accordance with EPA SW-846 Method 8015B - GRO. The samples were analyzed on 03/29/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

### **DISSOLVED GASES**

Sample MORTON WATER WELL (280-95101-1) was analyzed for dissolved gases in accordance with RSK\_175. The samples were

# Case Narrative

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Job ID: 280-95101-1 (Continued)

### Laboratory: TestAmerica Denver (Continued)

analyzed on 03/29/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **DIESEL RANGE ORGANICS**

Sample MORTON WATER WELL (280-95101-1) was analyzed for Diesel Range Organics in accordance with EPA SW-846 Method 8015B - DRO. The samples were prepared on 03/28/2017 and analyzed on 03/31/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL METALS**

Sample MORTON WATER WELL (280-95101-1) was analyzed for total metals in accordance with EPA SW-846 Method 6010B. The samples were prepared on 03/27/2017 and analyzed on 03/29/2017 and 03/30/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **SODIUM ABSORPTION RATIO**

Sample MORTON WATER WELL (280-95101-1) was analyzed for Sodium Absorption Ratio in accordance with USDA Handbook 60 - 20B. The samples were analyzed on 03/24/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ALKALINITY**

Sample MORTON WATER WELL (280-95101-1) was analyzed for Alkalinity in accordance with SM20 2320B. The samples were analyzed on 03/28/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **SPECIFIC CONDUCTIVITY**

Sample MORTON WATER WELL (280-95101-1) was analyzed for specific conductivity in accordance with SM20 2510B. The samples were analyzed on 03/28/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **TOTAL DISSOLVED SOLIDS**

Sample MORTON WATER WELL (280-95101-1) was analyzed for total dissolved solids in accordance with SM20 2540C. The samples were analyzed on 03/29/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **ANIONS (28 DAYS)**

Sample MORTON WATER WELL (280-95101-1) was analyzed for anions (28 days) in accordance with EPA Method 300.0. The samples were analyzed on 03/29/2017 and 03/30/2017.

Samples MORTON WATER WELL (280-95101-1)[2X] and MORTON WATER WELL (280-95101-1)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### **NITRATE-NITRITE AS NITROGEN**

Sample MORTON WATER WELL (280-95101-1) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 03/27/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

# Case Narrative

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

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## Job ID: 280-95101-1 (Continued)

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### Laboratory: TestAmerica Denver (Continued)

#### CATION ANION BALANCE

Sample MORTON WATER WELL (280-95101-1) was analyzed for Cation Anion Balance in accordance with Cation Anion Balance. The samples were analyzed on 04/04/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

#### CORROSIVITY (PH)

Sample MORTON WATER WELL (280-95101-1) was analyzed for corrosivity (pH) in accordance with SM20 4500 H+ B. The samples were analyzed on 03/24/2017.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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# Definitions/Glossary

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
H	Sample was prepped or analyzed beyond the specified holding time
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	ISTD response or retention time outside acceptable limits
E	Result exceeded calibration range.

### General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

# Detection Summary

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Isopropanol	82		40	ug/L	1		8260B	Total/NA
Methane	50		5.0	ug/L	1		RSK-175	Total/NA
Sodium Adsorption Ratio	14		0.40	No Unit	1		20B	Total/NA
Barium	11		10	ug/L	1		6010B	Total/NA
Calcium	390000		200	ug/L	1		6010B	Total/NA
Iron	76000		100	ug/L	1		6010B	Total/NA
Magnesium	110000		200	ug/L	1		6010B	Total/NA
Manganese	970		10	ug/L	1		6010B	Total/NA
Potassium	16000		3000	ug/L	1		6010B	Total/NA
Sodium	1300000		1000	ug/L	1		6010B	Total/NA
Bromide	2.1		0.40	mg/L	2		300.0	Total/NA
Chloride	220		6.0	mg/L	2		300.0	Total/NA
Sulfate	3800		100	mg/L	20		300.0	Total/NA
Total Anions	91			meq/L	1		SM 1030E	Total/NA
Total Cations	90			meq/L	1		SM 1030E	Total/NA
Percent Difference	-0.76			%	1		SM 1030E	Total/NA
Anion/Cation Balance	-0.76			%	1		SM 1030E	Total/NA
Alkalinity	280		5.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	280		5.0	mg/L	1		SM 2320B	Total/NA
Specific Conductance	4800		2.0	umhos/cm	1		SM 2510B	Total/NA
Total Dissolved Solids	5700		40	mg/L	1		SM 2540C	Total/NA
pH adj. to 25 deg C	7.1	HF	0.1	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Denver

# Method Summary

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL DEN
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL DEN
8015B	Gasoline Range Organics - (GC)	SW846	TAL DEN
RSK-175	Dissolved Gases (GC)	RSK	TAL DEN
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL DEN
20B	Sodium Adsorption Ratio	USDA	TAL DEN
6010B	Metals (ICP)	SW846	TAL DEN
300.0	Anions, Ion Chromatography	MCAWW	TAL DEN
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL DEN
SM 1030E	Cation Anion Balance	SM	TAL DEN
SM 2320B	Alkalinity	SM	TAL DEN
SM 2510B	Conductivity, Specific Conductance	SM	TAL DEN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL DEN
SM 4500 H+ B	pH	SM	TAL DEN

#### Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USDA = "USDA Agriculture Handbook 60, section 20B".

#### Laboratory References:

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

# Sample Summary

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-95101-1	MORTON WATER WELL	Water	03/22/17 14:20	03/22/17 15:58

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# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	ug/L			03/30/17 11:56	1
Benzene	ND		1.0	ug/L			03/30/17 11:56	1
Bromoform	ND		1.0	ug/L			03/30/17 11:56	1
Bromomethane	ND		2.0	ug/L			03/30/17 11:56	1
2-Butanone (MEK)	ND		6.0	ug/L			03/30/17 11:56	1
Carbon disulfide	ND		2.0	ug/L			03/30/17 11:56	1
Carbon tetrachloride	ND		1.0	ug/L			03/30/17 11:56	1
Chlorobenzene	ND		1.0	ug/L			03/30/17 11:56	1
Chlorobromomethane	ND		1.0	ug/L			03/30/17 11:56	1
Chlorodibromomethane	ND		1.0	ug/L			03/30/17 11:56	1
Chloroethane	ND		2.0	ug/L			03/30/17 11:56	1
Chloroform	ND		1.0	ug/L			03/30/17 11:56	1
Chloromethane	ND		2.0	ug/L			03/30/17 11:56	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			03/30/17 11:56	1
cis-1,3-Dichloropropene	ND		1.0	ug/L			03/30/17 11:56	1
Cyclohexane	ND		2.0	ug/L			03/30/17 11:56	1
Cyclohexanone	ND		100	ug/L			03/30/17 11:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			03/30/17 11:56	1
1,2-Dibromoethane	ND		1.0	ug/L			03/30/17 11:56	1
1,2-Dichlorobenzene	ND		1.0	ug/L			03/30/17 11:56	1
1,3-Dichlorobenzene	ND		1.0	ug/L			03/30/17 11:56	1
1,4-Dichlorobenzene	ND		1.0	ug/L			03/30/17 11:56	1
Dichlorobromomethane	ND		1.0	ug/L			03/30/17 11:56	1
Dichlorodifluoromethane	ND		2.0	ug/L			03/30/17 11:56	1
1,1-Dichloroethane	ND		1.0	ug/L			03/30/17 11:56	1
1,2-Dichloroethane	ND		1.0	ug/L			03/30/17 11:56	1
1,1-Dichloroethene	ND		1.0	ug/L			03/30/17 11:56	1
1,2-Dichloropropane	ND		1.0	ug/L			03/30/17 11:56	1
1,4-Dioxane	ND		200	ug/L			03/30/17 11:56	1
Ethanol	ND		300	ug/L			03/30/17 11:56	1
Ethylbenzene	ND		1.0	ug/L			03/30/17 11:56	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	ug/L			03/30/17 11:56	1
2-Hexanone	ND		5.0	ug/L			03/30/17 11:56	1
Isobutanol	ND		110	ug/L			03/30/17 11:56	1
<b>Isopropanol</b>	<b>82</b>		40	ug/L			03/30/17 11:56	1
Isopropylbenzene	ND		1.0	ug/L			03/30/17 11:56	1
Methyl acetate	ND		5.0	ug/L			03/30/17 11:56	1
Methylcyclohexane	ND		1.0	ug/L			03/30/17 11:56	1
Methylene Chloride	ND		2.0	ug/L			03/30/17 11:56	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			03/30/17 11:56	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	ug/L			03/30/17 11:56	1
m-Xylene & p-Xylene	ND		2.0	ug/L			03/30/17 11:56	1
n-Butanol	ND		60	ug/L			03/30/17 11:56	1
o-Xylene	ND		1.0	ug/L			03/30/17 11:56	1
Styrene	ND		1.0	ug/L			03/30/17 11:56	1
Tert-amyl-methyl ether (TAME)	ND		5.0	ug/L			03/30/17 11:56	1
tert-Butyl alcohol (TBA)	ND		50	ug/L			03/30/17 11:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			03/30/17 11:56	1
Tetrachloroethene	ND		1.0	ug/L			03/30/17 11:56	1

TestAmerica Denver

# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: MORTON WATER WELL**

**Date Collected: 03/22/17 14:20**

**Date Received: 03/22/17 15:58**

**Lab Sample ID: 280-95101-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	ug/L			03/30/17 11:56	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			03/30/17 11:56	1
trans-1,3-Dichloropropene	ND		3.0	ug/L			03/30/17 11:56	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			03/30/17 11:56	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			03/30/17 11:56	1
1,1,1-Trichloroethane	ND		1.0	ug/L			03/30/17 11:56	1
1,1,2-Trichloroethane	ND		1.0	ug/L			03/30/17 11:56	1
Trichloroethene	ND		1.0	ug/L			03/30/17 11:56	1
Trichlorofluoromethane	ND		2.0	ug/L			03/30/17 11:56	1
1,1,2-Trichlorotrifluoroethane	ND		3.0	ug/L			03/30/17 11:56	1
Vinyl chloride	ND	*	1.0	ug/L			03/30/17 11:56	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		78 - 120				03/30/17 11:56	1
Dibromofluoromethane (Surr)	117		77 - 120				03/30/17 11:56	1
1,2-Dichloroethane-d4 (Surr)	119		70 - 127				03/30/17 11:56	1
Toluene-d8 (Surr)	104		80 - 125				03/30/17 11:56	1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Client Sample ID: MORTON WATER WELL**

**Date Collected: 03/22/17 14:20**

**Date Received: 03/22/17 15:58**

**Lab Sample ID: 280-95101-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
1,4-Dichlorobenzene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,2'-oxybis[1-chloropropane]	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,4,5-Trichlorophenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,4,6-Trichlorophenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,4-Dichlorophenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,4-Dimethylphenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,4-Dinitrophenol	ND		28	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,4-Dinitrotoluene	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2,6-Dinitrotoluene	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2-Chloronaphthalene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
2-Chlorophenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2-Methylnaphthalene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
2-Methylphenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2-Nitroaniline	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
2-Nitrophenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
3 & 4 Methylphenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
3,3'-Dichlorobenzidine	ND	*	47	ug/L		03/28/17 13:47	04/04/17 23:43	1
3-Nitroaniline	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
4,6-Dinitro-2-methylphenol	ND		47	ug/L		03/28/17 13:47	04/04/17 23:43	1
4-Bromophenyl phenyl ether	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
4-Chloro-3-methylphenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
4-Chloroaniline	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
4-Chlorophenyl phenyl ether	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
4-Nitroaniline	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
4-Nitrophenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1

TestAmerica Denver

# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Acenaphthylene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Acetophenone	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Anthracene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Atrazine	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Benzidine	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Benzo[a]anthracene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Benzo[a]pyrene	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Benzo[b]fluoranthene	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Benzo[g,h,i]perylene	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Benzo[k]fluoranthene	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Bis(2-chloroethoxy)methane	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Bis(2-chloroethyl)ether	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Bis(2-ethylhexyl) phthalate	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Butyl benzyl phthalate	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Caprolactam	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Carbazole	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Chrysene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Cresols, Total	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Dibenz(a,h)anthracene	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Dibenzofuran	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Diethyl phthalate	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Dimethyl phthalate	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Di-n-butyl phthalate	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Di-n-octyl phthalate	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Fluoranthene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Fluorene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Hexachlorobenzene	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Hexachlorobutadiene	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Hexachlorocyclopentadiene	ND		47	ug/L		03/28/17 13:47	04/04/17 23:43	1
Hexachloroethane	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Indeno[1,2,3-cd]pyrene	ND	*	3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Naphthalene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Nitrobenzene	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
N-Nitrosodi-n-propylamine	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
n-Nitrosodiphenylamine(as diphenylamine)	ND	*	9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Pentachlorophenol	ND		47	ug/L		03/28/17 13:47	04/04/17 23:43	1
Phenanthrene	ND		3.8	ug/L		03/28/17 13:47	04/04/17 23:43	1
Phenol	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1
Pyrene	ND		9.4	ug/L		03/28/17 13:47	04/04/17 23:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	114		48 - 135	03/28/17 13:47	04/04/17 23:43	1
2-Fluorobiphenyl	100		48 - 135	03/28/17 13:47	04/04/17 23:43	1
2-Fluorophenol	107		41 - 135	03/28/17 13:47	04/04/17 23:43	1
Nitrobenzene-d5	105		42 - 135	03/28/17 13:47	04/04/17 23:43	1
Phenol-d5	104		46 - 135	03/28/17 13:47	04/04/17 23:43	1
Terphenyl-d14	80		20 - 135	03/28/17 13:47	04/04/17 23:43	1

TestAmerica Denver

# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RE

**Client Sample ID: MORTON WATER WELL**

**Date Collected: 03/22/17 14:20**

**Date Received: 03/22/17 15:58**

**Lab Sample ID: 280-95101-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
1,4-Dichlorobenzene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,2'-oxybis[1-chloropropane]	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,4,5-Trichlorophenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,4,6-Trichlorophenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,4-Dichlorophenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,4-Dimethylphenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,4-Dinitrophenol	ND	H	29	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,4-Dinitrotoluene	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2,6-Dinitrotoluene	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2-Chloronaphthalene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
2-Chlorophenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2-Methylnaphthalene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
2-Methylphenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2-Nitroaniline	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
2-Nitrophenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
3 & 4 Methylphenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
3,3'-Dichlorobenzidine	ND	H *	48	ug/L		04/07/17 12:15	04/10/17 20:45	1
3-Nitroaniline	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
4,6-Dinitro-2-methylphenol	ND	H	48	ug/L		04/07/17 12:15	04/10/17 20:45	1
4-Bromophenyl phenyl ether	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
4-Chloro-3-methylphenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
4-Chloroaniline	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
4-Chlorophenyl phenyl ether	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
4-Nitroaniline	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
4-Nitrophenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Acenaphthene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Acenaphthylene	ND	H *	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Acetophenone	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Anthracene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Atrazine	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Benzidine	ND	H *	97	ug/L		04/07/17 12:15	04/10/17 20:45	1
Benzo[a]anthracene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Benzo[a]pyrene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Benzo[b]fluoranthene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Benzo[g,h,i]perylene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Benzo[k]fluoranthene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Bis(2-chloroethoxy)methane	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Bis(2-chloroethyl)ether	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Bis(2-ethylhexyl) phthalate	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Butyl benzyl phthalate	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Caprolactam	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Carbazole	ND	H *	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Chrysene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Cresols, Total	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Dibenz(a,h)anthracene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Dibenzofuran	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Diethyl phthalate	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Dimethyl phthalate	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1

TestAmerica Denver

# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RE (Continued)

**Client Sample ID: MORTON WATER WELL**

**Date Collected: 03/22/17 14:20**

**Date Received: 03/22/17 15:58**

**Lab Sample ID: 280-95101-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-butyl phthalate	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Di-n-octyl phthalate	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Fluoranthene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Fluorene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Hexachlorobenzene	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Hexachlorobutadiene	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Hexachlorocyclopentadiene	ND	H *	48	ug/L		04/07/17 12:15	04/10/17 20:45	1
Hexachloroethane	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Indeno[1,2,3-cd]pyrene	ND	H *	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Naphthalene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Nitrobenzene	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
N-Nitrosodi-n-propylamine	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
n-Nitrosodiphenylamine(as diphenylamine)	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Pentachlorophenol	ND	H	48	ug/L		04/07/17 12:15	04/10/17 20:45	1
Phenanthrene	ND	H	3.9	ug/L		04/07/17 12:15	04/10/17 20:45	1
Phenol	ND	H	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1
Pyrene	ND	H *	9.7	ug/L		04/07/17 12:15	04/10/17 20:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	99		48 - 135	04/07/17 12:15	04/10/17 20:45	1
2-Fluorobiphenyl	88		48 - 135	04/07/17 12:15	04/10/17 20:45	1
2-Fluorophenol	99		41 - 135	04/07/17 12:15	04/10/17 20:45	1
Nitrobenzene-d5	89		42 - 135	04/07/17 12:15	04/10/17 20:45	1
Phenol-d5	95		46 - 135	04/07/17 12:15	04/10/17 20:45	1
Terphenyl-d14	92		20 - 135	04/07/17 12:15	04/10/17 20:45	1

## Method: 8015B - Gasoline Range Organics - (GC)

**Client Sample ID: MORTON WATER WELL**

**Date Collected: 03/22/17 14:20**

**Date Received: 03/22/17 15:58**

**Lab Sample ID: 280-95101-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		25	ug/L			03/29/17 19:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	99		82 - 110		03/29/17 19:06	1

## Method: RSK-175 - Dissolved Gases (GC)

**Client Sample ID: MORTON WATER WELL**

**Date Collected: 03/22/17 14:20**

**Date Received: 03/22/17 15:58**

**Lab Sample ID: 280-95101-1**

**Matrix: Water**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	50		5.0	ug/L			03/29/17 20:23	1

TestAmerica Denver

# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.24	mg/L		03/28/17 16:30	03/31/17 10:57	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	86		50 - 115			03/28/17 16:30	03/31/17 10:57	1

## Method: 20B - Sodium Adsorption Ratio

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	14		0.40	No Unit			03/24/17 11:16	1

## Method: 6010B - Metals (ICP)

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		15	ug/L		03/27/17 14:45	03/29/17 05:01	1
Barium	11		10	ug/L		03/27/17 14:45	03/29/17 05:01	1
Calcium	390000		200	ug/L		03/27/17 14:45	03/29/17 05:01	1
Chromium	ND		10	ug/L		03/27/17 14:45	03/29/17 05:01	1
Iron	76000		100	ug/L		03/27/17 14:45	03/29/17 05:01	1
Lead	ND		9.0	ug/L		03/27/17 14:45	03/30/17 02:35	1
Magnesium	110000		200	ug/L		03/27/17 14:45	03/29/17 05:01	1
Manganese	970		10	ug/L		03/27/17 14:45	03/29/17 05:01	1
Potassium	16000		3000	ug/L		03/27/17 14:45	03/29/17 05:01	1
Selenium	ND		15	ug/L		03/27/17 14:45	03/30/17 02:35	1
Sodium	1300000		1000	ug/L		03/27/17 14:45	03/29/17 05:01	1

## General Chemistry

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	2.1		0.40	mg/L			03/29/17 23:59	2
Chloride	220		6.0	mg/L			03/29/17 23:59	2
Fluoride	ND		1.0	mg/L			03/29/17 23:59	2
Sulfate	3800		100	mg/L			03/30/17 00:19	20
Nitrate Nitrite as N	ND		0.10	mg/L			03/27/17 19:43	1
Total Anions	91			meq/L			04/04/17 08:04	1
Total Cations	90			meq/L			04/04/17 08:04	1
Percent Difference	-0.76			%			04/04/17 08:04	1
Anion/Cation Balance	-0.76			%			04/04/17 08:04	1
Alkalinity	280		5.0	mg/L			03/28/17 15:27	1
Bicarbonate Alkalinity as CaCO3	280		5.0	mg/L			03/28/17 15:27	1
Carbonate Alkalinity as CaCO3	ND		5.0	mg/L			03/28/17 15:27	1
Hydroxide Alkalinity	ND		5.0	mg/L			03/28/17 15:27	1

TestAmerica Denver

# Client Sample Results

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## General Chemistry (Continued)

Client Sample ID: MORTON WATER WELL

Lab Sample ID: 280-95101-1

Date Collected: 03/22/17 14:20

Matrix: Water

Date Received: 03/22/17 15:58

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	4800		2.0	umhos/cm			03/28/17 21:28	1
Total Dissolved Solids	5700		40	mg/L			03/29/17 10:24	1
pH adj. to 25 deg C	7.1	HF	0.1	SU			03/24/17 12:36	1

# Surrogate Summary

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	12DCE	TOL
		(78-120)	(77-120)	(70-127)	(80-125)
280-95101-1	MORTON WATER WELL	98	117	119	104
LCS 280-367349/4	Lab Control Sample	87	113	106	97
MB 280-367349/6	Method Blank	96	114	114	99

#### Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)  
 DBFM = Dibromofluoromethane (Surr)  
 12DCE = 1,2-Dichloroethane-d4 (Surr)  
 TOL = Toluene-d8 (Surr)

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TBP	FBP	2FP	NBZ	PHL	TPH
		(48-135)	(48-135)	(41-135)	(42-135)	(46-135)	(20-135)
280-95101-1	MORTON WATER WELL	114	100	107	105	104	80
280-95101-1 - RE	MORTON WATER WELL	99	88	99	89	95	92
LCS 280-367068/2-A	Lab Control Sample	110	95	99	91	99	106
LCS 280-368474/2-A	Lab Control Sample	101	91	98	91	96	106
LCSD 280-367068/3-A	Lab Control Sample Dup	135	115	118	111	117	127
LCSD 280-368474/3-A	Lab Control Sample Dup	117	100	97	89	93	115
MB 280-367068/1-A	Method Blank	103	95	105	94	102	101
MB 280-368474/1-A	Method Blank	106	94	113	101	107	110

#### Surrogate Legend

TBP = 2,4,6-Tribromophenol  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPH = Terphenyl-d14

## Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TFT1
		(82-110)
280-95101-1	MORTON WATER WELL	99
LCS 280-367286/5	Lab Control Sample	94
LCSD 280-367286/6	Lab Control Sample Dup	92
MB 280-367286/4	Method Blank	106

#### Surrogate Legend

TFT = a,a,a-Trifluorotoluene

# Surrogate Summary

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	OTPH1 (50-115)
280-95101-1	MORTON WATER WELL	86
LCS 280-367114/2-A	Lab Control Sample	82
LCSD 280-367114/3-A	Lab Control Sample Dup	86
MB 280-367114/1-A	Method Blank	83

#### Surrogate Legend

OTPH = o-Terphenyl

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# QC Association Summary

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## GC/MS VOA

### Analysis Batch: 367349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	8260B	
MB 280-367349/6	Method Blank	Total/NA	Water	8260B	
LCS 280-367349/4	Lab Control Sample	Total/NA	Water	8260B	

## GC/MS Semi VOA

### Prep Batch: 367068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	3520C	
MB 280-367068/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-367068/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 280-367068/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Analysis Batch: 368033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	8270C	367068
MB 280-367068/1-A	Method Blank	Total/NA	Water	8270C	367068
LCS 280-367068/2-A	Lab Control Sample	Total/NA	Water	8270C	367068
LCSD 280-367068/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	367068

### Prep Batch: 368474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1 - RE	MORTON WATER WELL	Total/NA	Water	3520C	
MB 280-368474/1-A	Method Blank	Total/NA	Water	3520C	
LCS 280-368474/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 280-368474/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

### Analysis Batch: 368757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1 - RE	MORTON WATER WELL	Total/NA	Water	8270C	368474
MB 280-368474/1-A	Method Blank	Total/NA	Water	8270C	368474
LCS 280-368474/2-A	Lab Control Sample	Total/NA	Water	8270C	368474
LCSD 280-368474/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	368474

## GC VOA

### Analysis Batch: 367286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	8015B	
MB 280-367286/4	Method Blank	Total/NA	Water	8015B	
LCS 280-367286/5	Lab Control Sample	Total/NA	Water	8015B	
LCSD 280-367286/6	Lab Control Sample Dup	Total/NA	Water	8015B	

### Analysis Batch: 367315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	RSK-175	
MB 280-367315/5	Method Blank	Total/NA	Water	RSK-175	
LCS 280-367315/6	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 280-367315/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	

TestAmerica Denver

# QC Association Summary

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## GC Semi VOA

### Prep Batch: 367114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	3510C	
MB 280-367114/1-A	Method Blank	Total/NA	Water	3510C	
LCS 280-367114/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 280-367114/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 367466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	8015B	367114
MB 280-367114/1-A	Method Blank	Total/NA	Water	8015B	367114
LCS 280-367114/2-A	Lab Control Sample	Total/NA	Water	8015B	367114
LCSD 280-367114/3-A	Lab Control Sample Dup	Total/NA	Water	8015B	367114

## Metals

### Prep Batch: 366781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	3010A	
MB 280-366781/1-A	Method Blank	Total/NA	Water	3010A	
LCS 280-366781/2-A	Lab Control Sample	Total/NA	Water	3010A	

### Analysis Batch: 366801

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	20B	
MB 280-366801/1	Method Blank	Total/NA	Water	20B	
280-95101-1 DU	MORTON WATER WELL	Total/NA	Water	20B	

### Analysis Batch: 367228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	6010B	366781
MB 280-366781/1-A	Method Blank	Total/NA	Water	6010B	366781
LCS 280-366781/2-A	Lab Control Sample	Total/NA	Water	6010B	366781

### Analysis Batch: 367376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	6010B	366781
MB 280-366781/1-A	Method Blank	Total/NA	Water	6010B	366781
LCS 280-366781/2-A	Lab Control Sample	Total/NA	Water	6010B	366781

## General Chemistry

### Analysis Batch: 366742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	SM 4500 H+ B	
LCS 280-366742/4	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

### Analysis Batch: 366982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	353.2	
MB 280-366982/68	Method Blank	Total/NA	Water	353.2	
LCS 280-366982/66	Lab Control Sample	Total/NA	Water	353.2	

TestAmerica Denver

# QC Association Summary

Client: Colorado Oil&Gas Conservation Commission  
Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## General Chemistry (Continued)

### Analysis Batch: 366982 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 280-366982/67	Lab Control Sample Dup	Total/NA	Water	353.2	

### Analysis Batch: 367160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	SM 2510B	
MB 280-367160/4	Method Blank	Total/NA	Water	SM 2510B	
LCS 280-367160/3	Lab Control Sample	Total/NA	Water	SM 2510B	

### Analysis Batch: 367221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	SM 2320B	
MB 280-367221/33	Method Blank	Total/NA	Water	SM 2320B	
LCS 280-367221/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 280-367221/32	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

### Analysis Batch: 367232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	300.0	
280-95101-1	MORTON WATER WELL	Total/NA	Water	300.0	
MB 280-367232/6	Method Blank	Total/NA	Water	300.0	
LCS 280-367232/4	Lab Control Sample	Total/NA	Water	300.0	
LCSD 280-367232/5	Lab Control Sample Dup	Total/NA	Water	300.0	
MRL 280-367232/3	Lab Control Sample	Total/NA	Water	300.0	

### Analysis Batch: 367243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	SM 2540C	
MB 280-367243/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 280-367243/2	Lab Control Sample	Total/NA	Water	SM 2540C	

### Analysis Batch: 367930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-95101-1	MORTON WATER WELL	Total/NA	Water	SM 1030E	
MB 280-367930/1	Method Blank	Total/NA	Water	SM 1030E	

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 280-367349/6**

**Matrix: Water**

**Analysis Batch: 367349**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		10	ug/L			03/30/17 11:14	1
Benzene	ND		1.0	ug/L			03/30/17 11:14	1
Bromoform	ND		1.0	ug/L			03/30/17 11:14	1
Bromomethane	ND		2.0	ug/L			03/30/17 11:14	1
2-Butanone (MEK)	ND		6.0	ug/L			03/30/17 11:14	1
Carbon disulfide	ND		2.0	ug/L			03/30/17 11:14	1
Carbon tetrachloride	ND		1.0	ug/L			03/30/17 11:14	1
Chlorobenzene	ND		1.0	ug/L			03/30/17 11:14	1
Chlorobromomethane	ND		1.0	ug/L			03/30/17 11:14	1
Chlorodibromomethane	ND		1.0	ug/L			03/30/17 11:14	1
Chloroethane	ND		2.0	ug/L			03/30/17 11:14	1
Chloroform	ND		1.0	ug/L			03/30/17 11:14	1
Chloromethane	ND		2.0	ug/L			03/30/17 11:14	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			03/30/17 11:14	1
cis-1,3-Dichloropropene	ND		1.0	ug/L			03/30/17 11:14	1
Cyclohexane	ND		2.0	ug/L			03/30/17 11:14	1
Cyclohexanone	ND		100	ug/L			03/30/17 11:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			03/30/17 11:14	1
1,2-Dibromoethane	ND		1.0	ug/L			03/30/17 11:14	1
1,2-Dichlorobenzene	ND		1.0	ug/L			03/30/17 11:14	1
1,3-Dichlorobenzene	ND		1.0	ug/L			03/30/17 11:14	1
1,4-Dichlorobenzene	ND		1.0	ug/L			03/30/17 11:14	1
Dichlorobromomethane	ND		1.0	ug/L			03/30/17 11:14	1
Dichlorodifluoromethane	ND		2.0	ug/L			03/30/17 11:14	1
1,1-Dichloroethane	ND		1.0	ug/L			03/30/17 11:14	1
1,2-Dichloroethane	ND		1.0	ug/L			03/30/17 11:14	1
1,1-Dichloroethene	ND		1.0	ug/L			03/30/17 11:14	1
1,2-Dichloropropane	ND		1.0	ug/L			03/30/17 11:14	1
1,4-Dioxane	ND		200	ug/L			03/30/17 11:14	1
Ethanol	ND		300	ug/L			03/30/17 11:14	1
Ethylbenzene	ND		1.0	ug/L			03/30/17 11:14	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	ug/L			03/30/17 11:14	1
2-Hexanone	ND		5.0	ug/L			03/30/17 11:14	1
Isobutanol	ND		110	ug/L			03/30/17 11:14	1
Isopropanol	ND		40	ug/L			03/30/17 11:14	1
Isopropylbenzene	ND		1.0	ug/L			03/30/17 11:14	1
Methyl acetate	ND		5.0	ug/L			03/30/17 11:14	1
Methylcyclohexane	ND		1.0	ug/L			03/30/17 11:14	1
Methylene Chloride	ND		2.0	ug/L			03/30/17 11:14	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	ug/L			03/30/17 11:14	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	ug/L			03/30/17 11:14	1
m-Xylene & p-Xylene	ND		2.0	ug/L			03/30/17 11:14	1
n-Butanol	ND		60	ug/L			03/30/17 11:14	1
o-Xylene	ND		1.0	ug/L			03/30/17 11:14	1
Styrene	ND		1.0	ug/L			03/30/17 11:14	1
Tert-amyl-methyl ether (TAME)	ND		5.0	ug/L			03/30/17 11:14	1
tert-Butyl alcohol (TBA)	ND		50	ug/L			03/30/17 11:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			03/30/17 11:14	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-367349/6**

**Matrix: Water**

**Analysis Batch: 367349**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0	ug/L			03/30/17 11:14	1
Toluene	ND		1.0	ug/L			03/30/17 11:14	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			03/30/17 11:14	1
trans-1,3-Dichloropropene	ND		3.0	ug/L			03/30/17 11:14	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			03/30/17 11:14	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			03/30/17 11:14	1
1,1,1-Trichloroethane	ND		1.0	ug/L			03/30/17 11:14	1
1,1,2-Trichloroethane	ND		1.0	ug/L			03/30/17 11:14	1
Trichloroethene	ND		1.0	ug/L			03/30/17 11:14	1
Trichlorofluoromethane	ND		2.0	ug/L			03/30/17 11:14	1
1,1,2-Trichlorotrifluoroethane	ND		3.0	ug/L			03/30/17 11:14	1
Vinyl chloride	ND		1.0	ug/L			03/30/17 11:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		78 - 120		03/30/17 11:14	1
Dibromofluoromethane (Surr)	114		77 - 120		03/30/17 11:14	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 127		03/30/17 11:14	1
Toluene-d8 (Surr)	99		80 - 125		03/30/17 11:14	1

**Lab Sample ID: LCS 280-367349/4**

**Matrix: Water**

**Analysis Batch: 367349**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	48.4		ug/L		121	39 - 156
Benzene	10.0	11.1		ug/L		111	65 - 135
Bromoform	10.0	9.98		ug/L		100	62 - 135
Bromomethane	10.0	13.3		ug/L		133	45 - 135
2-Butanone (MEK)	40.0	44.7		ug/L		112	44 - 177
Carbon disulfide	10.0	10.8		ug/L		108	55 - 143
Carbon tetrachloride	10.0	11.4		ug/L		114	65 - 135
Chlorobenzene	10.0	9.82		ug/L		98	65 - 135
Chlorobromomethane	10.0	11.5		ug/L		115	65 - 135
Chlorodibromomethane	10.0	9.34		ug/L		93	65 - 135
Chloroethane	10.0	13.3		ug/L		133	46 - 136
Chloroform	10.0	11.1		ug/L		111	65 - 135
Chloromethane	10.0	13.6		ug/L		136	34 - 145
cis-1,2-Dichloroethene	10.0	11.6		ug/L		116	65 - 135
cis-1,3-Dichloropropene	10.0	9.55		ug/L		96	65 - 135
Cyclohexane	10.0	11.4		ug/L		114	62 - 135
Cyclohexanone	400	334		ug/L		83	61 - 135
1,2-Dibromo-3-Chloropropane	10.0	8.10		ug/L		81	57 - 135
1,2-Dibromoethane	10.0	9.46		ug/L		95	65 - 135
1,2-Dichlorobenzene	10.0	8.70		ug/L		87	65 - 135
1,3-Dichlorobenzene	10.0	8.89		ug/L		89	65 - 135
1,4-Dichlorobenzene	10.0	9.09		ug/L		91	65 - 135
Dichlorobromomethane	10.0	11.3		ug/L		113	65 - 135
Dichlorodifluoromethane	10.0	13.7		ug/L		137	43 - 142

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-367349/4**  
**Matrix: Water**  
**Analysis Batch: 367349**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	10.0	11.0		ug/L		110	65 - 135
1,2-Dichloroethane	10.0	11.5		ug/L		115	65 - 135
1,1-Dichloroethene	10.0	11.0		ug/L		110	65 - 136
1,2-Dichloropropane	10.0	11.3		ug/L		113	64 - 135
1,4-Dioxane	200	238		ug/L		119	31 - 147
Ethylbenzene	10.0	9.72		ug/L		97	65 - 135
2-Hexanone	40.0	34.7		ug/L		87	57 - 139
Isobutanol	250	238		ug/L		95	55 - 135
Isopropylbenzene	10.0	8.91		ug/L		89	65 - 135
Methyl acetate	50.0	54.1		ug/L		108	52 - 135
Methylcyclohexane	10.0	11.0		ug/L		110	63 - 135
Methylene Chloride	10.0	13.1		ug/L		131	54 - 141
4-Methyl-2-pentanone (MIBK)	40.0	39.4		ug/L		99	60 - 150
Methyl-t-Butyl Ether (MTBE)	10.0	10.6		ug/L		106	54 - 135
m-Xylene & p-Xylene	10.0	9.52		ug/L		95	65 - 135
o-Xylene	10.0	9.53		ug/L		95	65 - 135
Styrene	10.0	9.83		ug/L		98	65 - 135
tert-Butyl alcohol (TBA)	100	96.6		ug/L		97	50 - 143
1,1,2,2-Tetrachloroethane	10.0	8.30		ug/L		83	58 - 135
Tetrachloroethene	10.0	9.81		ug/L		98	65 - 135
Toluene	10.0	11.4		ug/L		114	65 - 135
trans-1,2-Dichloroethene	10.0	11.5		ug/L		115	65 - 135
trans-1,3-Dichloropropene	10.0	11.3		ug/L		113	65 - 135
1,2,3-Trichlorobenzene	10.0	8.14		ug/L		81	60 - 135
1,2,4-Trichlorobenzene	10.0	8.14		ug/L		81	58 - 135
1,1,1-Trichloroethane	10.0	11.7		ug/L		117	65 - 135
1,1,2-Trichloroethane	10.0	12.1		ug/L		121	64 - 135
Trichloroethene	10.0	11.1		ug/L		111	65 - 135
Trichlorofluoromethane	10.0	13.7		ug/L		137	53 - 137
1,1,2-Trichlorotrifluoroethane	10.0	11.5		ug/L		115	65 - 140
Vinyl chloride	10.0	14.5	*	ug/L		145	40 - 137

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	87		78 - 120
Dibromofluoromethane (Surr)	113		77 - 120
1,2-Dichloroethane-d4 (Surr)	106		70 - 127
Toluene-d8 (Surr)	97		80 - 125

## Method: 8270C - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 280-367068/1-A**  
**Matrix: Water**  
**Analysis Batch: 368033**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 367068**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
1,4-Dichlorobenzene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,2'-oxybis[1-chloropropane]	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-367068/1-A**  
**Matrix: Water**  
**Analysis Batch: 368033**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 367068**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,5-Trichlorophenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,4,6-Trichlorophenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,4-Dichlorophenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,4-Dimethylphenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,4-Dinitrophenol	ND		30	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,4-Dinitrotoluene	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2,6-Dinitrotoluene	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2-Chloronaphthalene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
2-Chlorophenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2-Methylnaphthalene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
2-Methylphenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2-Nitroaniline	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
2-Nitrophenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
3 & 4 Methylphenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
3,3'-Dichlorobenzidine	ND		50	ug/L		03/28/17 13:47	04/04/17 18:17	1
3-Nitroaniline	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
4,6-Dinitro-2-methylphenol	ND		50	ug/L		03/28/17 13:47	04/04/17 18:17	1
4-Bromophenyl phenyl ether	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
4-Chloro-3-methylphenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
4-Chloroaniline	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
4-Chlorophenyl phenyl ether	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
4-Nitroaniline	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
4-Nitrophenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Acenaphthene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Acenaphthylene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Acetophenone	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Anthracene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Atrazine	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Benzidine	ND		100	ug/L		03/28/17 13:47	04/04/17 18:17	1
Benzo[a]anthracene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Benzo[a]pyrene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Benzo[b]fluoranthene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Benzo[g,h,i]perylene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Benzo[k]fluoranthene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Bis(2-chloroethoxy)methane	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Bis(2-chloroethyl)ether	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Bis(2-ethylhexyl) phthalate	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Butyl benzyl phthalate	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Caprolactam	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Carbazole	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Chrysene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Cresols, Total	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Dibenz(a,h)anthracene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Dibenzofuran	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Diethyl phthalate	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Dimethyl phthalate	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Di-n-butyl phthalate	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Di-n-octyl phthalate	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-367068/1-A**  
**Matrix: Water**  
**Analysis Batch: 368033**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 367068**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Fluorene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Hexachlorobenzene	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Hexachlorobutadiene	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Hexachlorocyclopentadiene	ND		50	ug/L		03/28/17 13:47	04/04/17 18:17	1
Hexachloroethane	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Indeno[1,2,3-cd]pyrene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Naphthalene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Nitrobenzene	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
N-Nitrosodi-n-propylamine	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
n-Nitrosodiphenylamine(as diphenylamine)	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Pentachlorophenol	ND		50	ug/L		03/28/17 13:47	04/04/17 18:17	1
Phenanthrene	ND		4.0	ug/L		03/28/17 13:47	04/04/17 18:17	1
Phenol	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1
Pyrene	ND		10	ug/L		03/28/17 13:47	04/04/17 18:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	103		48 - 135	03/28/17 13:47	04/04/17 18:17	1
2-Fluorobiphenyl	95		48 - 135	03/28/17 13:47	04/04/17 18:17	1
2-Fluorophenol	105		41 - 135	03/28/17 13:47	04/04/17 18:17	1
Nitrobenzene-d5	94		42 - 135	03/28/17 13:47	04/04/17 18:17	1
Phenol-d5	102		46 - 135	03/28/17 13:47	04/04/17 18:17	1
Terphenyl-d14	101		20 - 135	03/28/17 13:47	04/04/17 18:17	1

**Lab Sample ID: LCS 280-367068/2-A**  
**Matrix: Water**  
**Analysis Batch: 368033**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 367068**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	80.0	53.7		ug/L		67	44 - 135
1,4-Dichlorobenzene	80.0	52.6		ug/L		66	40 - 135
2,2'-oxybis[1-chloropropane]	80.0	60.0		ug/L		75	55 - 135
2,4,5-Trichlorophenol	80.0	69.3		ug/L		87	64 - 135
2,4,6-Trichlorophenol	80.0	69.4		ug/L		87	62 - 135
2,4-Dichlorophenol	80.0	65.0		ug/L		81	62 - 135
2,4-Dimethylphenol	80.0	57.4		ug/L		72	44 - 135
2,4-Dinitrophenol	160	137		ug/L		85	50 - 135
2,4-Dinitrotoluene	80.0	67.2		ug/L		84	65 - 135
2,6-Dinitrotoluene	80.0	68.7		ug/L		86	65 - 135
2-Chloronaphthalene	80.0	61.5		ug/L		77	59 - 135
2-Chlorophenol	80.0	64.1		ug/L		80	58 - 135
2-Methylnaphthalene	80.0	57.9		ug/L		72	56 - 135
2-Methylphenol	80.0	65.5		ug/L		82	62 - 135
2-Nitroaniline	80.0	43.6	*	ug/L		54	65 - 135
2-Nitrophenol	80.0	64.6		ug/L		81	65 - 135
3 & 4 Methylphenol	80.0	63.3		ug/L		79	65 - 135
3,3'-Dichlorobenzidine	80.0	ND	*	ug/L		0	18 - 135

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-367068/2-A**

**Matrix: Water**

**Analysis Batch: 368033**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 367068**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
3-Nitroaniline	80.0	6.00	J *	ug/L		7	38 - 135
4,6-Dinitro-2-methylphenol	160	144		ug/L		90	63 - 135
4-Bromophenyl phenyl ether	80.0	66.5		ug/L		83	65 - 135
4-Chloro-3-methylphenol	80.0	67.0		ug/L		84	65 - 135
4-Chloroaniline	80.0	3.49	J *	ug/L		4	30 - 135
4-Chlorophenyl phenyl ether	80.0	64.6		ug/L		81	65 - 135
4-Nitroaniline	80.0	18.6	*	ug/L		23	65 - 135
4-Nitrophenol	160	127		ug/L		79	56 - 135
Acenaphthene	80.0	63.5		ug/L		79	61 - 135
Acenaphthylene	80.0	57.6		ug/L		72	63 - 135
Acetophenone	80.0	60.8		ug/L		76	65 - 135
Anthracene	80.0	64.1		ug/L		80	65 - 135
Atrazine	80.0	1.34	J *	ug/L		2	59 - 148
Benzidine	80.0	ND	*	ug/L		0	5 - 135
Benzo[a]anthracene	80.0	64.7		ug/L		81	65 - 135
Benzo[a]pyrene	80.0	223	E *	ug/L		279	65 - 135
Benzo[b]fluoranthene	80.0	339	E *	ug/L		424	65 - 135
Benzo[g,h,i]perylene	80.0	236	E *	ug/L		295	65 - 135
Benzo[k]fluoranthene	80.0	326	E *	ug/L		408	65 - 135
Bis(2-chloroethoxy)methane	80.0	53.0		ug/L		66	65 - 135
Bis(2-chloroethyl)ether	80.0	63.9		ug/L		80	65 - 135
Bis(2-ethylhexyl) phthalate	80.0	67.1		ug/L		84	65 - 135
Butyl benzyl phthalate	80.0	66.7		ug/L		83	65 - 135
Caprolactam	80.0	63.9		ug/L		80	52 - 135
Carbazole	80.0	9.41	*	ug/L		12	65 - 135
Chrysene	80.0	66.4		ug/L		83	65 - 135
Dibenz(a,h)anthracene	80.0	322	E *	ug/L		403	63 - 135
Dibenzofuran	80.0	63.8		ug/L		80	64 - 135
Diethyl phthalate	80.0	66.7		ug/L		83	65 - 135
Dimethyl phthalate	80.0	67.6		ug/L		85	65 - 135
Di-n-butyl phthalate	80.0	65.6		ug/L		82	65 - 135
Di-n-octyl phthalate	80.0	67.8		ug/L		85	65 - 135
Fluoranthene	80.0	64.9		ug/L		81	65 - 135
Fluorene	80.0	63.3		ug/L		79	65 - 135
Hexachlorobenzene	80.0	66.4		ug/L		83	65 - 135
Hexachlorobutadiene	80.0	52.0		ug/L		65	35 - 135
Hexachlorocyclopentadiene	80.0	12.5	J	ug/L		16	10 - 135
Hexachloroethane	80.0	49.6		ug/L		62	32 - 135
Indeno[1,2,3-cd]pyrene	80.0	45.1	*	ug/L		56	65 - 135
Naphthalene	80.0	57.4		ug/L		72	56 - 135
Nitrobenzene	80.0	63.9		ug/L		80	65 - 135
N-Nitrosodi-n-propylamine	80.0	63.1		ug/L		79	65 - 135
n-Nitrosodiphenylamine(as diphenylamine)	80.0	12.3	*	ug/L		15	65 - 135
Pentachlorophenol	160	135		ug/L		84	52 - 135
Phenanthrene	80.0	65.0		ug/L		81	65 - 135
Phenol	80.0	63.9		ug/L		80	61 - 135
Pyrene	80.0	63.8		ug/L		80	65 - 135

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-367068/2-A**  
**Matrix: Water**  
**Analysis Batch: 368033**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 367068**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	110		48 - 135
2-Fluorobiphenyl	95		48 - 135
2-Fluorophenol	99		41 - 135
Nitrobenzene-d5	91		42 - 135
Phenol-d5	99		46 - 135
Terphenyl-d14	106		20 - 135

**Lab Sample ID: LCSD 280-367068/3-A**  
**Matrix: Water**  
**Analysis Batch: 368033**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 367068**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	80.0	61.3		ug/L		77	44 - 135	13	42
1,4-Dichlorobenzene	80.0	59.3		ug/L		74	40 - 135	12	50
2,2'-oxybis[1-chloropropane]	80.0	72.2		ug/L		90	55 - 135	18	37
2,4,5-Trichlorophenol	80.0	87.4		ug/L		109	64 - 135	23	30
2,4,6-Trichlorophenol	80.0	88.4		ug/L		111	62 - 135	24	30
2,4-Dichlorophenol	80.0	81.8		ug/L		102	62 - 135	23	30
2,4-Dimethylphenol	80.0	74.3		ug/L		93	44 - 135	26	30
2,4-Dinitrophenol	160	173		ug/L		108	50 - 135	24	30
2,4-Dinitrotoluene	80.0	85.0		ug/L		106	65 - 135	23	32
2,6-Dinitrotoluene	80.0	84.9		ug/L		106	65 - 135	21	30
2-Chloronaphthalene	80.0	73.2		ug/L		92	59 - 135	17	30
2-Chlorophenol	80.0	77.8		ug/L		97	58 - 135	19	46
2-Methylnaphthalene	80.0	68.8		ug/L		86	56 - 135	17	32
2-Methylphenol	80.0	81.4		ug/L		102	62 - 135	22	40
2-Nitroaniline	80.0	80.8	*	ug/L		101	65 - 135	60	30
2-Nitrophenol	80.0	79.2		ug/L		99	65 - 135	20	38
3 & 4 Methylphenol	80.0	76.2		ug/L		95	65 - 135	18	36
3,3'-Dichlorobenzidine	80.0	46.0	J *	ug/L		57	18 - 135	200	50
3-Nitroaniline	80.0	59.7	*	ug/L		75	38 - 135	163	30
4,6-Dinitro-2-methylphenol	160	179		ug/L		112	63 - 135	21	30
4-Bromophenyl phenyl ether	80.0	81.3		ug/L		102	65 - 135	20	30
4-Chloro-3-methylphenol	80.0	82.9		ug/L		104	65 - 135	21	30
4-Chloroaniline	80.0	50.0	*	ug/L		62	30 - 135	174	38
4-Chlorophenyl phenyl ether	80.0	77.2		ug/L		96	65 - 135	18	30
4-Nitroaniline	80.0	80.8	*	ug/L		101	65 - 135	125	34
4-Nitrophenol	160	167		ug/L		104	56 - 135	27	50
Acenaphthene	80.0	76.7		ug/L		96	61 - 135	19	30
Acenaphthylene	80.0	76.9		ug/L		96	63 - 135	29	30
Acetophenone	80.0	74.7		ug/L		93	65 - 135	21	35
Anthracene	80.0	79.4		ug/L		99	65 - 135	21	30
Atrazine	80.0	75.3	*	ug/L		94	59 - 148	193	31
Benzidine	80.0	ND	*	ug/L		0	5 - 135	NC	50
Benzo[a]anthracene	80.0	82.2		ug/L		103	65 - 135	24	30
Benzo[a]pyrene	80.0	80.6	*	ug/L		101	65 - 135	94	30
Benzo[b]fluoranthene	80.0	84.0	*	ug/L		105	65 - 135	121	30
Benzo[g,h,i]perylene	80.0	80.4	*	ug/L		101	65 - 135	98	30

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 280-367068/3-A**

**Matrix: Water**

**Analysis Batch: 368033**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 367068**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[k]fluoranthene	80.0	84.4	*	ug/L		105	65 - 135	118	30
Bis(2-chloroethoxy)methane	80.0	77.7	*	ug/L		97	65 - 135	38	30
Bis(2-chloroethyl)ether	80.0	79.1		ug/L		99	65 - 135	21	41
Bis(2-ethylhexyl) phthalate	80.0	82.2		ug/L		103	65 - 135	20	30
Butyl benzyl phthalate	80.0	81.7		ug/L		102	65 - 135	20	30
Caprolactam	80.0	78.7		ug/L		98	52 - 135	21	30
Carbazole	80.0	80.6	*	ug/L		101	65 - 135	158	30
Chrysene	80.0	81.3		ug/L		102	65 - 135	20	30
Dibenz(a,h)anthracene	80.0	81.7	*	ug/L		102	63 - 135	119	30
Dibenzofuran	80.0	78.2		ug/L		98	64 - 135	20	30
Diethyl phthalate	80.0	83.9		ug/L		105	65 - 135	23	30
Dimethyl phthalate	80.0	84.6		ug/L		106	65 - 135	22	30
Di-n-butyl phthalate	80.0	80.5		ug/L		101	65 - 135	20	30
Di-n-octyl phthalate	80.0	82.3		ug/L		103	65 - 135	19	30
Fluoranthene	80.0	80.7		ug/L		101	65 - 135	22	30
Fluorene	80.0	78.3		ug/L		98	65 - 135	21	30
Hexachlorobenzene	80.0	81.0		ug/L		101	65 - 135	20	30
Hexachlorobutadiene	80.0	57.9		ug/L		72	35 - 135	11	47
Hexachlorocyclopentadiene	80.0	13.9	J	ug/L		17	10 - 135	11	66
Hexachloroethane	80.0	55.4		ug/L		69	32 - 135	11	53
Indeno[1,2,3-cd]pyrene	80.0	78.6	*	ug/L		98	65 - 135	54	30
Naphthalene	80.0	67.0		ug/L		84	56 - 135	15	40
Nitrobenzene	80.0	78.0		ug/L		98	65 - 135	20	39
N-Nitrosodi-n-propylamine	80.0	73.8		ug/L		92	65 - 135	16	30
n-Nitrosodiphenylamine(as diphenylamine)	80.0	80.5	*	ug/L		101	65 - 135	147	30
Pentachlorophenol	160	172		ug/L		107	52 - 135	24	30
Phenanthrene	80.0	80.5		ug/L		101	65 - 135	21	30
Phenol	80.0	79.9		ug/L		100	61 - 135	22	37
Pyrene	80.0	81.7		ug/L		102	65 - 135	24	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	135		48 - 135
2-Fluorobiphenyl	115		48 - 135
2-Fluorophenol	118		41 - 135
Nitrobenzene-d5	111		42 - 135
Phenol-d5	117		46 - 135
Terphenyl-d14	127		20 - 135

**Lab Sample ID: MB 280-368474/1-A**

**Matrix: Water**

**Analysis Batch: 368757**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 368474**

Analyte	MB MB		RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2,4-Trichlorobenzene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
1,4-Dichlorobenzene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,2'-oxybis[1-chloropropane]	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,4,5-Trichlorophenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-368474/1-A**  
**Matrix: Water**  
**Analysis Batch: 368757**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 368474**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,4-Dichlorophenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,4-Dimethylphenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,4-Dinitrophenol	ND		30	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,4-Dinitrotoluene	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2,6-Dinitrotoluene	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2-Chloronaphthalene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
2-Chlorophenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2-Methylnaphthalene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
2-Methylphenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2-Nitroaniline	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
2-Nitrophenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
3 & 4 Methylphenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
3,3'-Dichlorobenzidine	ND		50	ug/L		04/07/17 12:15	04/10/17 18:30	1
3-Nitroaniline	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
4,6-Dinitro-2-methylphenol	ND		50	ug/L		04/07/17 12:15	04/10/17 18:30	1
4-Bromophenyl phenyl ether	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
4-Chloro-3-methylphenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
4-Chloroaniline	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
4-Chlorophenyl phenyl ether	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
4-Nitroaniline	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
4-Nitrophenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Acenaphthene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Acenaphthylene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Acetophenone	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Anthracene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Atrazine	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Benzidine	ND		100	ug/L		04/07/17 12:15	04/10/17 18:30	1
Benzo[a]anthracene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Benzo[a]pyrene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Benzo[b]fluoranthene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Benzo[g,h,i]perylene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Benzo[k]fluoranthene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Bis(2-chloroethoxy)methane	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Bis(2-chloroethyl)ether	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Bis(2-ethylhexyl) phthalate	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Butyl benzyl phthalate	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Caprolactam	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Carbazole	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Chrysene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Cresols, Total	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Dibenz(a,h)anthracene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Dibenzofuran	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Diethyl phthalate	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Dimethyl phthalate	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Di-n-butyl phthalate	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Di-n-octyl phthalate	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Fluoranthene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 280-368474/1-A**  
**Matrix: Water**  
**Analysis Batch: 368757**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 368474**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Hexachlorobenzene	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Hexachlorobutadiene	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Hexachlorocyclopentadiene	ND		50	ug/L		04/07/17 12:15	04/10/17 18:30	1
Hexachloroethane	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Indeno[1,2,3-cd]pyrene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Naphthalene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Nitrobenzene	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
N-Nitrosodi-n-propylamine	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
n-Nitrosodiphenylamine(as diphenylamine)	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Pentachlorophenol	ND		50	ug/L		04/07/17 12:15	04/10/17 18:30	1
Phenanthrene	ND		4.0	ug/L		04/07/17 12:15	04/10/17 18:30	1
Phenol	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1
Pyrene	ND		10	ug/L		04/07/17 12:15	04/10/17 18:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	106		48 - 135	04/07/17 12:15	04/10/17 18:30	1
2-Fluorobiphenyl	94		48 - 135	04/07/17 12:15	04/10/17 18:30	1
2-Fluorophenol	113		41 - 135	04/07/17 12:15	04/10/17 18:30	1
Nitrobenzene-d5	101		42 - 135	04/07/17 12:15	04/10/17 18:30	1
Phenol-d5	107		46 - 135	04/07/17 12:15	04/10/17 18:30	1
Terphenyl-d14	110		20 - 135	04/07/17 12:15	04/10/17 18:30	1

**Lab Sample ID: LCS 280-368474/2-A**  
**Matrix: Water**  
**Analysis Batch: 368757**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 368474**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	80.0	52.6		ug/L		66	44 - 135
1,4-Dichlorobenzene	80.0	50.8		ug/L		64	40 - 135
2,2'-oxybis[1-chloropropane]	80.0	56.1		ug/L		70	55 - 135
2,4,5-Trichlorophenol	80.0	67.3		ug/L		84	64 - 135
2,4,6-Trichlorophenol	80.0	69.4		ug/L		87	62 - 135
2,4-Dichlorophenol	80.0	63.2		ug/L		79	62 - 135
2,4-Dimethylphenol	80.0	56.9		ug/L		71	44 - 135
2,4-Dinitrophenol	160	122		ug/L		76	50 - 135
2,4-Dinitrotoluene	80.0	68.1		ug/L		85	65 - 135
2,6-Dinitrotoluene	80.0	67.9		ug/L		85	65 - 135
2-Chloronaphthalene	80.0	57.9		ug/L		72	59 - 135
2-Chlorophenol	80.0	62.7		ug/L		78	58 - 135
2-Methylnaphthalene	80.0	57.2		ug/L		71	56 - 135
2-Methylphenol	80.0	65.3		ug/L		82	62 - 135
2-Nitroaniline	80.0	63.9		ug/L		80	65 - 135
2-Nitrophenol	80.0	65.4		ug/L		82	65 - 135
3 & 4 Methylphenol	80.0	61.4		ug/L		77	65 - 135
3,3'-Dichlorobenzidine	160	119		ug/L		74	18 - 135
3-Nitroaniline	80.0	51.6		ug/L		65	38 - 135

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-368474/2-A**  
**Matrix: Water**  
**Analysis Batch: 368757**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 368474**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
4,6-Dinitro-2-methylphenol	160	135		ug/L		84	63 - 135
4-Bromophenyl phenyl ether	80.0	64.1		ug/L		80	65 - 135
4-Chloro-3-methylphenol	80.0	68.9		ug/L		86	65 - 135
4-Chloroaniline	80.0	49.4		ug/L		62	30 - 135
4-Chlorophenyl phenyl ether	80.0	65.5		ug/L		82	65 - 135
4-Nitroaniline	80.0	64.1		ug/L		80	65 - 135
4-Nitrophenol	160	127		ug/L		79	56 - 135
Acenaphthene	80.0	62.7		ug/L		78	61 - 135
Acenaphthylene	80.0	61.4		ug/L		77	63 - 135
Acetophenone	80.0	60.8		ug/L		76	65 - 135
Anthracene	80.0	63.5		ug/L		79	65 - 135
Atrazine	80.0	70.4		ug/L		88	59 - 148
Benzidine	160	70.1	J	ug/L		44	5 - 135
Benzo[a]anthracene	80.0	66.4		ug/L		83	65 - 135
Benzo[a]pyrene	80.0	64.8		ug/L		81	65 - 135
Benzo[b]fluoranthene	80.0	67.4		ug/L		84	65 - 135
Benzo[g,h,i]perylene	80.0	65.0		ug/L		81	65 - 135
Benzo[k]fluoranthene	80.0	69.2		ug/L		87	65 - 135
Bis(2-chloroethoxy)methane	80.0	62.6		ug/L		78	65 - 135
Bis(2-chloroethyl)ether	80.0	63.5		ug/L		79	65 - 135
Bis(2-ethylhexyl) phthalate	80.0	67.2		ug/L		84	65 - 135
Butyl benzyl phthalate	80.0	67.9		ug/L		85	65 - 135
Caprolactam	80.0	65.9		ug/L		82	52 - 135
Carbazole	80.0	64.1		ug/L		80	65 - 135
Chrysene	80.0	69.0		ug/L		86	65 - 135
Dibenz(a,h)anthracene	80.0	65.5		ug/L		82	63 - 135
Dibenzofuran	80.0	63.1		ug/L		79	64 - 135
Diethyl phthalate	80.0	66.7		ug/L		83	65 - 135
Dimethyl phthalate	80.0	66.5		ug/L		83	65 - 135
Di-n-butyl phthalate	80.0	64.3		ug/L		80	65 - 135
Di-n-octyl phthalate	80.0	65.6		ug/L		82	65 - 135
Fluoranthene	80.0	64.8		ug/L		81	65 - 135
Fluorene	80.0	62.4		ug/L		78	65 - 135
Hexachlorobenzene	80.0	65.4		ug/L		82	65 - 135
Hexachlorobutadiene	80.0	49.8		ug/L		62	35 - 135
Hexachlorocyclopentadiene	80.0	ND	*	ug/L		0	10 - 135
Hexachloroethane	80.0	48.3		ug/L		60	32 - 135
Indeno[1,2,3-cd]pyrene	80.0	63.8		ug/L		80	65 - 135
Naphthalene	80.0	56.0		ug/L		70	56 - 135
Nitrobenzene	80.0	63.4		ug/L		79	65 - 135
N-Nitrosodi-n-propylamine	80.0	60.3		ug/L		75	65 - 135
n-Nitrosodiphenylamine(as diphenylamine)	80.0	63.1		ug/L		79	65 - 135
Pentachlorophenol	160	120		ug/L		75	52 - 135
Phenanthrene	80.0	64.5		ug/L		81	65 - 135
Phenol	80.0	61.9		ug/L		77	61 - 135
Pyrene	80.0	69.4		ug/L		87	65 - 135

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 280-368474/2-A**  
**Matrix: Water**  
**Analysis Batch: 368757**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 368474**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2,4,6-Tribromophenol	101		48 - 135
2-Fluorobiphenyl	91		48 - 135
2-Fluorophenol	98		41 - 135
Nitrobenzene-d5	91		42 - 135
Phenol-d5	96		46 - 135
Terphenyl-d14	106		20 - 135

**Lab Sample ID: LCSD 280-368474/3-A**  
**Matrix: Water**  
**Analysis Batch: 368757**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 368474**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trichlorobenzene	80.0	55.7		ug/L		70	44 - 135	6	42
1,4-Dichlorobenzene	80.0	53.7		ug/L		67	40 - 135	6	50
2,2'-oxybis[1-chloropropane]	80.0	58.5		ug/L		73	55 - 135	4	37
2,4,5-Trichlorophenol	80.0	74.6		ug/L		93	64 - 135	10	30
2,4,6-Trichlorophenol	80.0	79.6		ug/L		99	62 - 135	14	30
2,4-Dichlorophenol	80.0	66.3		ug/L		83	62 - 135	5	30
2,4-Dimethylphenol	80.0	54.0		ug/L		67	44 - 135	5	30
2,4-Dinitrophenol	160	156		ug/L		98	50 - 135	24	30
2,4-Dinitrotoluene	80.0	77.7		ug/L		97	65 - 135	13	32
2,6-Dinitrotoluene	80.0	77.1		ug/L		96	65 - 135	13	30
2-Chloronaphthalene	80.0	67.8		ug/L		85	59 - 135	16	30
2-Chlorophenol	80.0	63.8		ug/L		80	58 - 135	2	46
2-Methylnaphthalene	80.0	59.9		ug/L		75	56 - 135	5	32
2-Methylphenol	80.0	61.7		ug/L		77	62 - 135	6	40
2-Nitroaniline	80.0	39.2	*	ug/L		49	65 - 135	48	30
2-Nitrophenol	80.0	66.5		ug/L		83	65 - 135	2	38
3 & 4 Methylphenol	80.0	57.2		ug/L		71	65 - 135	7	36
3,3'-Dichlorobenzidine	160	ND	*	ug/L		0	18 - 135	200	50
3-Nitroaniline	80.0	6.05	J *	ug/L		8	38 - 135	158	30
4,6-Dinitro-2-methylphenol	160	148		ug/L		92	63 - 135	9	30
4-Bromophenyl phenyl ether	80.0	67.9		ug/L		85	65 - 135	6	30
4-Chloro-3-methylphenol	80.0	67.2		ug/L		84	65 - 135	3	30
4-Chloroaniline	80.0	5.71	J *	ug/L		7	30 - 135	159	38
4-Chlorophenyl phenyl ether	80.0	74.2		ug/L		93	65 - 135	12	30
4-Nitroaniline	80.0	14.4	*	ug/L		18	65 - 135	127	34
4-Nitrophenol	160	141		ug/L		88	56 - 135	10	50
Acenaphthene	80.0	65.9		ug/L		82	61 - 135	5	30
Acenaphthylene	80.0	36.4	*	ug/L		46	63 - 135	51	30
Acetophenone	80.0	61.7		ug/L		77	65 - 135	2	35
Anthracene	80.0	61.5		ug/L		77	65 - 135	3	30
Atrazine	80.0	15.4	*	ug/L		19	59 - 148	128	31
Benzidine	160	ND	*	ug/L		0	5 - 135	200	50
Benzo[a]anthracene	80.0	64.9		ug/L		81	65 - 135	2	30
Benzo[a]pyrene	80.0	NR		ug/mL		NaN	65 - 135	NaN	30
Benzo[b]fluoranthene	80.0	NR		ug/mL		NaN	65 - 135	NaN	30
Benzo[g,h,i]perylene	80.0	NR		ug/mL		NaN	65 - 135	NaN	30

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 280-368474/3-A

Matrix: Water

Analysis Batch: 368757

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 368474

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Benzo[k]fluoranthene	80.0	NR		ug/mL		NaN	65 - 135	NaN	30
Bis(2-chloroethoxy)methane	80.0	23.9	*	ug/L		30	65 - 135	89	30
Bis(2-chloroethyl)ether	80.0	65.5		ug/L		82	65 - 135	3	41
Bis(2-ethylhexyl) phthalate	80.0	77.1		ug/L		96	65 - 135	14	30
Butyl benzyl phthalate	80.0	63.5		ug/L		79	65 - 135	7	30
Caprolactam	80.0	60.1		ug/L		75	52 - 135	9	30
Carbazole	80.0	1.74	J *	ug/L		2	65 - 135	189	30
Chrysene	80.0	70.8		ug/L		89	65 - 135	3	30
Dibenz(a,h)anthracene	80.0	NR		ug/mL		NaN	63 - 135	NaN	30
Dibenzofuran	80.0	72.7		ug/L		91	64 - 135	14	30
Diethyl phthalate	80.0	75.2		ug/L		94	65 - 135	12	30
Dimethyl phthalate	80.0	76.1		ug/L		95	65 - 135	13	30
Di-n-butyl phthalate	80.0	69.3		ug/L		87	65 - 135	7	30
Di-n-octyl phthalate	80.0	75.0		ug/L		94	65 - 135	13	30
Fluoranthene	80.0	63.2		ug/L		79	65 - 135	3	30
Fluorene	80.0	72.2		ug/L		90	65 - 135	15	30
Hexachlorobenzene	80.0	69.1		ug/L		86	65 - 135	6	30
Hexachlorobutadiene	80.0	51.2		ug/L		64	35 - 135	3	47
Hexachlorocyclopentadiene	80.0	ND	*	ug/L		0	10 - 135	NC	66
Hexachloroethane	80.0	50.9		ug/L		64	32 - 135	5	53
Indeno[1,2,3-cd]pyrene	80.0	18.5	*	ug/L		23	65 - 135	110	30
Naphthalene	80.0	57.6		ug/L		72	56 - 135	3	40
Nitrobenzene	80.0	63.0		ug/L		79	65 - 135	1	39
N-Nitrosodi-n-propylamine	80.0	66.5		ug/L		83	65 - 135	10	30
n-Nitrosodiphenylamine(as diphenylamine)	80.0	4.69	J *	ug/L		6	65 - 135	172	30
Pentachlorophenol	160	130		ug/L		81	52 - 135	8	30
Phenanthrene	80.0	66.4		ug/L		83	65 - 135	3	30
Phenol	80.0	62.3		ug/L		78	61 - 135	1	37
Pyrene	80.0	45.5	*	ug/L		57	65 - 135	42	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	117		48 - 135
2-Fluorobiphenyl	100		48 - 135
2-Fluorophenol	97		41 - 135
Nitrobenzene-d5	89		42 - 135
Phenol-d5	93		46 - 135
Terphenyl-d14	115		20 - 135

## Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 280-367286/4

Matrix: Water

Analysis Batch: 367286

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO) -C6-C10	ND		25	ug/L			03/29/17 12:01	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8015B - Gasoline Range Organics - (GC) (Continued)

**Lab Sample ID: MB 280-367286/4**  
**Matrix: Water**  
**Analysis Batch: 367286**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
a,a,a-Trifluorotoluene	106		82 - 110		03/29/17 12:01	1

**Lab Sample ID: LCS 280-367286/5**  
**Matrix: Water**  
**Analysis Batch: 367286**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO) -C6-C10	101	110		ug/L		109	79 - 149

  

Surrogate	LCS %Recovery	LCS Qualifier	Limits
a,a,a-Trifluorotoluene	94		82 - 110

**Lab Sample ID: LCSD 280-367286/6**  
**Matrix: Water**  
**Analysis Batch: 367286**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO) -C6-C10	101	111		ug/L		110	79 - 149	1	27

  

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
a,a,a-Trifluorotoluene	92		82 - 110

## Method: RSK-175 - Dissolved Gases (GC)

**Lab Sample ID: MB 280-367315/5**  
**Matrix: Water**  
**Analysis Batch: 367315**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Methane	ND		5.0	ug/L			03/29/17 16:40	1

**Lab Sample ID: LCS 280-367315/6**  
**Matrix: Water**  
**Analysis Batch: 367315**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane	146	162		ug/L		111	75 - 125

**Lab Sample ID: LCSD 280-367315/7**  
**Matrix: Water**  
**Analysis Batch: 367315**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane	146	148		ug/L		101	75 - 125	9	20

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 8015B - Diesel Range Organics (DRO) (GC)

**Lab Sample ID: MB 280-367114/1-A**  
**Matrix: Water**  
**Analysis Batch: 367466**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 367114**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		0.25	mg/L		03/28/17 16:30	03/31/17 09:03	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
<i>o</i> -Terphenyl	83		50 - 115			03/28/17 16:30	03/31/17 09:03	1

**Lab Sample ID: LCS 280-367114/2-A**  
**Matrix: Water**  
**Analysis Batch: 367466**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 367114**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
Diesel Range Organics [C10-C28]	2.00	1.93		mg/L		96	54 - 115	
Surrogate	LCS %Recovery	LCS Qualifier	Limits			%Rec.		
<i>o</i> -Terphenyl	82		50 - 115					

**Lab Sample ID: LCSD 280-367114/3-A**  
**Matrix: Water**  
**Analysis Batch: 367466**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 367114**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Diesel Range Organics [C10-C28]	2.00	1.98		mg/L		99	54 - 115	3	31
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits			%Rec.		RPD	Limit
<i>o</i> -Terphenyl	86		50 - 115						

## Method: 20B - Sodium Adsorption Ratio

**Lab Sample ID: MB 280-366801/1**  
**Matrix: Water**  
**Analysis Batch: 366801**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium Adsorption Ratio	ND		0.40	No Unit			03/24/17 11:14	1

**Lab Sample ID: 280-95101-1 DU**  
**Matrix: Water**  
**Analysis Batch: 366801**

**Client Sample ID: MORTON WATER WELL**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Sodium Adsorption Ratio	14		13.8		No Unit		0.6	20

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 280-366781/1-A**  
**Matrix: Water**  
**Analysis Batch: 367228**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 366781**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		15	ug/L		03/27/17 14:45	03/29/17 04:43	1
Barium	ND		10	ug/L		03/27/17 14:45	03/29/17 04:43	1
Calcium	ND		200	ug/L		03/27/17 14:45	03/29/17 04:43	1
Chromium	ND		10	ug/L		03/27/17 14:45	03/29/17 04:43	1
Iron	ND		100	ug/L		03/27/17 14:45	03/29/17 04:43	1
Magnesium	ND		200	ug/L		03/27/17 14:45	03/29/17 04:43	1
Manganese	ND		10	ug/L		03/27/17 14:45	03/29/17 04:43	1
Potassium	ND		3000	ug/L		03/27/17 14:45	03/29/17 04:43	1
Sodium	ND		1000	ug/L		03/27/17 14:45	03/29/17 04:43	1

**Lab Sample ID: MB 280-366781/1-A**  
**Matrix: Water**  
**Analysis Batch: 367376**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 366781**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		9.0	ug/L		03/27/17 14:45	03/30/17 02:30	1
Selenium	ND		15	ug/L		03/27/17 14:45	03/30/17 02:30	1

**Lab Sample ID: LCS 280-366781/2-A**  
**Matrix: Water**  
**Analysis Batch: 367228**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 366781**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	1000	1050		ug/L		105	88 - 110
Barium	2000	2080		ug/L		104	90 - 112
Calcium	50000	50400		ug/L		101	90 - 111
Chromium	200	201		ug/L		100	90 - 113
Iron	1000	1010		ug/L		101	89 - 115
Magnesium	50000	51200		ug/L		102	90 - 113
Manganese	500	504		ug/L		101	90 - 110
Potassium	50000	54100		ug/L		108	89 - 114
Sodium	50000	55100		ug/L		110	90 - 115

**Lab Sample ID: LCS 280-366781/2-A**  
**Matrix: Water**  
**Analysis Batch: 367376**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 366781**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Lead	500	505		ug/L		101	89 - 110
Selenium	2000	1890		ug/L		95	85 - 112

## Method: 300.0 - Anions, Ion Chromatography

**Lab Sample ID: MB 280-367232/6**  
**Matrix: Water**  
**Analysis Batch: 367232**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Bromide	ND		0.20	mg/L			03/29/17 10:43	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 300.0 - Anions, Ion Chromatography (Continued)

**Lab Sample ID: MB 280-367232/6**  
**Matrix: Water**  
**Analysis Batch: 367232**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	mg/L			03/29/17 10:43	1
Fluoride	ND		0.50	mg/L			03/29/17 10:43	1
Sulfate	ND		5.0	mg/L			03/29/17 10:43	1

**Lab Sample ID: LCS 280-367232/4**  
**Matrix: Water**  
**Analysis Batch: 367232**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	5.00	4.79		mg/L		96	90 - 110
Chloride	100	94.3		mg/L		94	90 - 110
Fluoride	5.00	4.82		mg/L		96	90 - 110
Sulfate	100	96.5		mg/L		97	90 - 110

**Lab Sample ID: LCSD 280-367232/5**  
**Matrix: Water**  
**Analysis Batch: 367232**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromide	5.00	4.78		mg/L		96	90 - 110	0	10
Chloride	100	94.5		mg/L		94	90 - 110	0	10
Fluoride	5.00	4.84		mg/L		97	90 - 110	0	10
Sulfate	100	96.5		mg/L		96	90 - 110	0	10

**Lab Sample ID: MRL 280-367232/3**  
**Matrix: Water**  
**Analysis Batch: 367232**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Bromide	0.200	ND		mg/L		96	50 - 150
Chloride	2.50	ND		mg/L		91	50 - 150
Fluoride	0.200	ND		mg/L		103	50 - 150
Sulfate	2.50	ND		mg/L		94	50 - 150

## Method: 353.2 - Nitrogen, Nitrate-Nitrite

**Lab Sample ID: MB 280-366982/68**  
**Matrix: Water**  
**Analysis Batch: 366982**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10	mg/L			03/27/17 18:31	1

**Lab Sample ID: LCS 280-366982/66**  
**Matrix: Water**  
**Analysis Batch: 366982**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	4.99		mg/L		100	90 - 110

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCSD 280-366982/67  
 Matrix: Water  
 Analysis Batch: 366982

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	5.00	4.97		mg/L		99	90 - 110	0	10

## Method: SM 1030E - Cation Anion Balance

Lab Sample ID: MB 280-367930/1  
 Matrix: Water  
 Analysis Batch: 367930

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Anions	0.000			meq/L			04/04/17 08:04	1
Total Cations	0.000			meq/L			04/04/17 08:04	1
Percent Difference	NC			%			04/04/17 08:04	1
Anion/Cation Balance	NC			%			04/04/17 08:04	1

## Method: SM 2320B - Alkalinity

Lab Sample ID: MB 280-367221/33  
 Matrix: Water  
 Analysis Batch: 367221

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0	mg/L			03/28/17 13:37	1
Bicarbonate Alkalinity as CaCO3	ND		5.0	mg/L			03/28/17 13:37	1
Carbonate Alkalinity as CaCO3	ND		5.0	mg/L			03/28/17 13:37	1
Hydroxide Alkalinity	ND		5.0	mg/L			03/28/17 13:37	1

Lab Sample ID: LCS 280-367221/31  
 Matrix: Water  
 Analysis Batch: 367221

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	200	204		mg/L		102	90 - 110

Lab Sample ID: LCSD 280-367221/32  
 Matrix: Water  
 Analysis Batch: 367221

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	200	203		mg/L		101	90 - 110	0	10

## Method: SM 2510B - Conductivity, Specific Conductance

Lab Sample ID: MB 280-367160/4  
 Matrix: Water  
 Analysis Batch: 367160

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		2.0	umhos/cm			03/28/17 21:28	1

TestAmerica Denver

# QC Sample Results

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

## Method: SM 2510B - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 280-367160/3  
 Matrix: Water  
 Analysis Batch: 367160

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Specific Conductance	1410	1390		umhos/cm		99	90 - 110

## Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 280-367243/1  
 Matrix: Water  
 Analysis Batch: 367243

Client Sample ID: Method Blank  
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	mg/L			03/29/17 08:38	1

Lab Sample ID: LCS 280-367243/2  
 Matrix: Water  
 Analysis Batch: 367243

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	501	498		mg/L		100	86 - 110

## Method: SM 4500 H+ B - pH

Lab Sample ID: LCS 280-366742/4  
 Matrix: Water  
 Analysis Batch: 366742

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH adj. to 25 deg C	7.00	7.0		SU		100	99 - 101

# Lab Chronicle

Client: Colorado Oil&Gas Conservation Commission  
 Project/Site: Morton Water Well -Complaint200402859

TestAmerica Job ID: 280-95101-1

**Client Sample ID: MORTON WATER WELL**

**Lab Sample ID: 280-95101-1**

**Date Collected: 03/22/17 14:20**

**Matrix: Water**

**Date Received: 03/22/17 15:58**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	20 mL	20 mL	367349	03/30/17 11:56	DPI	TAL DEN
Total/NA	Prep	3520C			1059.3 mL	1 mL	367068	03/28/17 13:47	JRA	TAL DEN
Total/NA	Analysis	8270C		1			368033	04/04/17 23:43	AFH	TAL DEN
Total/NA	Prep	3520C	RE		1034.5 mL	1 mL	368474	04/07/17 12:15	GLK	TAL DEN
Total/NA	Analysis	8270C	RE	1			368757	04/10/17 20:45	AFH	TAL DEN
Total/NA	Analysis	8015B		1	5 mL	5 mL	367286	03/29/17 19:06	KDK	TAL DEN
Total/NA	Analysis	RSK-175		1	18 mL	18 mL	367315	03/29/17 20:23	MPS	TAL DEN
Total/NA	Prep	3510C			1051.9 mL	1 mL	367114	03/28/17 16:30	BJA	TAL DEN
Total/NA	Analysis	8015B		1			367466	03/31/17 10:57	TEM	TAL DEN
Total/NA	Analysis	20B		1			366801	03/24/17 11:16	CRR	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	366781	03/27/17 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010B		1			367376	03/30/17 02:35	LLB	TAL DEN
Total/NA	Prep	3010A			50 mL	50 mL	366781	03/27/17 14:45	SEJ	TAL DEN
Total/NA	Analysis	6010B		1			367228	03/29/17 05:01	CML	TAL DEN
Total/NA	Analysis	300.0		2	5 mL	5 mL	367232	03/29/17 23:59	AFB	TAL DEN
Total/NA	Analysis	300.0		20	5 mL	5 mL	367232	03/30/17 00:19	AFB	TAL DEN
Total/NA	Analysis	353.2		1	100 mL	100 mL	366982	03/27/17 19:43	SVC	TAL DEN
Total/NA	Analysis	SM 1030E		1			367930	04/04/17 08:04	AJA	TAL DEN
Total/NA	Analysis	SM 2320B		1			367221	03/28/17 15:27	IEU	TAL DEN
Total/NA	Analysis	SM 2510B		1			367160	03/28/17 21:28	RSM	TAL DEN
Total/NA	Analysis	SM 2540C		1	25 mL	100 mL	367243	03/29/17 10:24	JAP	TAL DEN
Total/NA	Analysis	SM 4500 H+ B		1			366742	03/24/17 12:36	CCJ	TAL DEN

**Laboratory References:**

TAL DEN = TestAmerica Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

## Login Sample Receipt Checklist

Client: Colorado Oil&Gas Conservation Commision

Job Number: 280-95101-1

**Login Number: 95101**  
**List Number: 1**  
**Creator: True, Joshua A**

**List Source: TestAmerica Denver**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

**Chain of Custody Record**

TestAmerica Laboratories, Inc.  
COC No. \_\_\_\_\_ of \_\_\_\_\_ COCs  
Job No. \_\_\_\_\_  
SDG No. \_\_\_\_\_  
Sample Specific Notes: \_\_\_\_\_

Project Manager: Chris Canfield  
Tel/Fax: 303-894-2100, 5183  
Analysis Turnaround Time  
Calendar (C) or Work Days (W)  
TAT if different from below:  Standard  
 2 weeks  
 1 week  
 2 days  
 1 day

Client Contact  
Colorado Oil & Gas Conservation Commission  
1120 Lincoln St., Suite 801  
Denver, CO 80203  
Tel: 303-894-2100 x5183  
Fax: 303-894-2109  
Project Name: Morton Water Well (Complaint #200402859)  
PO # CT 2017-0223

Site Contact:  
Lab Contact: Donna Rydberg  
Carrier: NA  
Date: \_\_\_\_\_

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	Total Metals - see list below	Major Anions/Cations - see list below	Disolved Methane	Alkaline Group	Total Dissolved Solids	Specific Conductance	pH	Sodium Adsorption Ratio	DRO & GRO
Morton Water Well			GW	H2O		X	X	X	X	X	X	X	X	X	X
Wellness Water Well			GW	H2O		X	X	X	X	X	X	X	X	X	X
Mixed Water Well			GW	H2O		X	X	X	X	X	X	X	X	X	X
TEMP BLANK															

Barcode: 280-95101 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other  
Possible Hazard Identification:  Non-Hazard  Flammable  Skin Irritant  Poison B  Unknown

Return To Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

Special instructions, QA/QC requirements & comments: Analyze for the following metals, anions & cations: As, Ba, Ca, Cr, Fe, Pb, Mg, Mn, K, Se, & Na; Br, Cl, F, SO4, NO2/NO3 as Nitrogen, Total Anions, Total Cations, Percent Difference, Anion/Cation Balance, Alkalinity, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, & Hydroxide Alkalinity. Send COGCC EDD, pdf copy of lab report, & invoice to chris.canfield@state.co.us.

Relinquished by: \_\_\_\_\_ Date/Time: 3/22/17 1556  
Company: Coda CC  
Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Company: TAD  
Relinquished by: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Company: \_\_\_\_\_

12.11 to 6 IL#7 transferred by JT 3/22/17

