



11/08/11

Technical Report for

LT Environmental

Baseline Water Quality Assessment Sampling

Accutest Job Number: D28991

Sampling Date: 10/28/11

Report to:

LT Environmental
4600 West 60th Avenue
Arvada, CO 80003
bforkner@ltenv.com

ATTN: Brett Forkner

Total number of pages in report: **61**



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


Brad Madadian
Laboratory Director

Client Service contact: 303-425-6021

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

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Test results relate only to samples analyzed.

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Sample Summary

LT Environmental

Job No: D28991

Baseline Water Quality Assessment Sampling

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
D28991-1	10/28/11	14:45 BF	10/28/11	AQ	Water	WILLMAN 239533--A
D28991-1F	10/28/11	14:45 BF	10/28/11	AQ	Water Filtered	WILLMAN 239533--A

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: LT Environmental

Job No D28991

Site: Baseline Water Quality Assessment Sampling

Report Dat 11/8/2011 1:20:30 PM

On 10/28/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 1.3 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D28991 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

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

Volatiles by GCMS By Method SW846 8260B

Matrix AQ

Batch ID: V6V475

- All samples were analyzed within the recommended method holding time.
- Sample(s) D28921-13MS, D28921-13MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method RSK175 MOD

Matrix AQ

Batch ID: GFB177

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29205-1MS, D29205-1MSD were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix AQ

Batch ID: MP6139

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D28977-3FMS, D28977-3FMMSD were used as the QC samples for the metals analysis.
- MP6139-MB1 for Sodium: All sample results >10x method blank concentration.

Metals By Method SW846 6020

Matrix AQ

Batch ID: MP6169

- All samples were digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D28953-1FMS, D28953-1FMMSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method EPA 300/SW846 9056

Matrix AQ

Batch ID: GP5807

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D28977-3MS, D28977-3MSD were used as the QC samples for the Chloride, Nitrogen, Nitrate, Nitrogen, Nitrite analysis.
- D28991-1 for Nitrogen, Nitrite: Elevated detection limit due to matrix interference.
- D28991-1 for Nitrogen, Nitrate: Elevated detection limit due to matrix interference.

Matrix AQ

Batch ID: GP5829

- All samples were prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D29024-1MS, D29024-1MSD were used as the QC samples for the Sulfate analysis.

Wet Chemistry By Method SM20 2320B

Matrix AQ

Batch ID: GN12248

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D28992-1DUP, D28992-1MS, D28992-1MSD were used as the QC samples for the Alkalinity, Total as CaCO₃ analysis.

Matrix AQ

Batch ID: GN12249

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ

Batch ID: GN12250

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ

Batch ID: GN12251

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM20 2510B

Matrix AQ

Batch ID: GP5820

- Sample(s) D28939-1DUP were used as the QC samples for the Specific Conductivity analysis.

Wet Chemistry By Method SM20 2540C

Matrix AQ

Batch ID: GN12272

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D28873-1DUP were used as the QC samples for the Solids, Total Dissolved analysis.

Wet Chemistry By Method SM20 4500H

Matrix AQ

Batch ID: GN12267

- The following sample was run outside of holding time for method SM20 4500H: D28991-1.

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

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

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

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

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Client Sample ID:	WILLMAN 239533--A	Date Sampled:	10/28/11
Lab Sample ID:	D28991-1	Date Received:	10/28/11
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Baseline Water Quality Assessment Sampling		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6V09157.D	1	10/30/11	BR	n/a	n/a	V6V475
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	4.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		67-131%
2037-26-5	Toluene-D8	105%		65-130%
460-00-4	4-Bromofluorobenzene	116%		65-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

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Report of Analysis

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Client Sample ID:	WILLMAN 239533--A	Date Sampled:	10/28/11
Lab Sample ID:	D28991-1	Date Received:	10/28/11
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	RSK175 MOD		
Project:	Baseline Water Quality Assessment Sampling		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FB05111.D	1	11/07/11	CS	n/a	n/a	GFB177
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	0.00965	0.00080	0.00080	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
74-98-6	Propane	100%		70-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: WILLMAN 239533--A**Lab Sample ID:** D28991-1**Matrix:** AQ - Water**Date Sampled:** 10/28/11**Date Received:** 10/28/11**Percent Solids:** n/a**Project:** Baseline Water Quality Assessment Sampling

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	360	5.0	mg/l	1	10/31/11	CJ	SM20 2320B
Alkalinity, Carbonate	< 5.0	5.0	mg/l	1	10/31/11	CJ	SM20 2320B
Alkalinity, Total as CaCO ₃	360	5.0	mg/l	1	10/31/11	CJ	SM20 2320B
Chloride	39.6	1.0	mg/l	2	10/28/11 19:26	JML	EPA 300/SW846 9056
Hydroxide Alkalinity	< 5.0	5.0	mg/l	1	10/31/11	CJ	SM20 2320B
Nitrogen, Nitrate ^a	< 0.090	0.090	mg/l	2	10/28/11 19:26	JML	EPA 300/SW846 9056
Nitrogen, Nitrite ^a	< 0.12	0.12	mg/l	2	10/28/11 19:26	JML	EPA 300/SW846 9056
Solids, Total Dissolved	1060	10	mg/l	1	11/01/11	JK	SM20 2540C
Specific Conductivity	1510	1.0	umhos/cm	1	11/01/11	JD	SM20 2510B
Sulfate	400	13	mg/l	25	11/01/11 17:43	JML	EPA 300/SW846 9056
pH	7.94		su	1	10/31/11 14:55	JD	SM20 4500H

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID: WILLMAN 239533--A**Lab Sample ID:** D28991-1F**Matrix:** AQ - Water Filtered**Date Sampled:** 10/28/11**Date Received:** 10/28/11**Percent Solids:** n/a**Project:** Baseline Water Quality Assessment Sampling**Dissolved Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	27900	400	ug/l	1	10/31/11	11/01/11 JB	SW846 6010B ¹	SW846 3010A ³
Iron	< 70	70	ug/l	1	10/31/11	11/01/11 JB	SW846 6010B ¹	SW846 3010A ³
Magnesium	12000	200	ug/l	1	10/31/11	11/01/11 JB	SW846 6010B ¹	SW846 3010A ³
Manganese	37.5	5.0	ug/l	1	10/31/11	11/01/11 JB	SW846 6010B ¹	SW846 3010A ³
Potassium	3030	1000	ug/l	1	10/31/11	11/01/11 JB	SW846 6010B ¹	SW846 3010A ³
Selenium	0.013	0.0020	mg/l	5	11/02/11	11/03/11 JM	SW846 6020 ²	SW846 3010A ⁴
Sodium	306000	400	ug/l	1	10/31/11	11/01/11 JB	SW846 6010B ¹	SW846 3010A ³

(1) Instrument QC Batch: MA1936

(2) Instrument QC Batch: MA1942

(3) Prep QC Batch: MP6139

(4) Prep QC Batch: MP6169

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL: 303-425-6021 FAX: 303-425-6854
www.accutest.com

[illegible]

4.1

D28991: Chain of Custody

Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D28991

Client: LTE

Immediate Client Services Action Required: No

Date / Time Received: 10/28/2011 5:00:00 PM

No. Coolers: 1

Client Service Action Required at Login: No

Project: BASELINE SAMPLING

Airbill #'s: HD/CO

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Cooler temp verification:			Infrared gun
3. Cooler media:			Ice (bag)

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:			Intact

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume rec'd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

Accutest Laboratories
V:(303) 425-6021

4036 Youngfield Street
F: (303) 425-6854

Wheat Ridge, CO
www.accutest.com

GC/MS Volatiles

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QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V6V475-MB	6V09149.D	1	10/29/11	BR	n/a	n/a	V6V475

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

D28991-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
1330-20-7	Xylene (total)	ND	4.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Limits
17060-07-0	1,2-Dichloroethane-D4	99% 67-131%
2037-26-5	Toluene-D8	105% 65-130%
460-00-4	4-Bromofluorobenzene	118% 65-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	3.89	7.6	ug/l	JN
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Page 1 of 1

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V6V475-BS	6V09150.D	1	10/30/11	BR	n/a	n/a	V6V475

The QC reported here applies to the following samples:

Method: SW846 8260B

D28991-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	48.9	98	70-130
100-41-4	Ethylbenzene	50	47.3	95	70-130
108-88-3	Toluene	50	48.0	96	70-130
1330-20-7	Xylene (total)	150	148	99	56-138

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	98%	67-131%
2037-26-5	Toluene-D8	105%	65-130%
460-00-4	4-Bromofluorobenzene	117%	65-130%

Blank Spike Summary

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V6V475-BS	6V09151.D	1	10/30/11	BR	n/a	n/a	V6V475

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

D28991-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	67-131%
2037-26-5	Toluene-D8	105%	65-130%
460-00-4	4-Bromofluorobenzene	117%	65-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D28921-13MS	6V09153.D	10	10/30/11	BR	n/a	n/a	V6V475
D28921-13MSD	6V09154.D	10	10/30/11	BR	n/a	n/a	V6V475
D28921-13	6V09152.D	1	10/30/11	BR	n/a	n/a	V6V475

The QC reported here applies to the following samples:

Method: SW846 8260B

D28991-1

CAS No.	Compound	D28921-13 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.4	500	489	98	481	96	2	61-133/30
100-41-4	Ethylbenzene	ND	500	482	96	467	93	3	70-130/30
108-88-3	Toluene	ND	500	486	97	476	95	2	70-130/30
1330-20-7	Xylene (total)	ND	1500	1490	99	1450	97	3	56-138/30

CAS No.	Surrogate Recoveries	MS	MSD	D28921-13	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	98%	100%	67-131%
2037-26-5	Toluene-D8	106%	106%	106%	65-130%
460-00-4	4-Bromofluorobenzene	118%	117%	119%	65-130%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D28921-13MS	6V09155.D	10	10/30/11	BR	n/a	n/a	V6V475
D28921-13MSD	6V09156.D	10	10/30/11	BR	n/a	n/a	V6V475
D28921-13	6V09152.D	1	10/30/11	BR	n/a	n/a	V6V475

The QC reported here applies to the following samples:

Method: SW846 8260B

D28991-1

CAS No.	Compound	D28921-13 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
---------	----------	-------------------	------------	------------	---------	-------------	----------	-----	-------------------

CAS No.	Surrogate Recoveries	MS	MSD	D28921-13	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	95%	100%	67-131%
2037-26-5	Toluene-D8	104%	105%	106%	65-130%
460-00-4	4-Bromofluorobenzene	118%	117%	119%	65-130%



GC/MS Volatiles

Raw Data



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V6102911\
 Data File : 6V09157.D
 Acq On : 30 Oct 2011 4:13 am
 Operator : BrianR
 Sample : D28991-1
 Misc : MS2886,V6V475,,,,,1
 ALS Vial : 34 Sample Multiplier: 1

Quant Time: Nov 01 15:44:05 2011
 Quant Method : C:\msdchem\1\METHODS\V6AP466TVH466.M
 Quant Title : 8260
 QLast Update : Wed Oct 26 10:00:28 2011
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.269	168	272097	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.064	114	374978	50.00	ug/l	0.00
53) Chlorobenzene-d5	14.720	117	408153	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	16.653	152	263439	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	11.649	102	24831	48.17	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	96.34%
61) Toluene-d8	13.463	98	424486	52.31	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	104.62%
69) 4-Bromofluorobenzene	15.645	95	195225	58.00	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	116.00%

Target Compounds

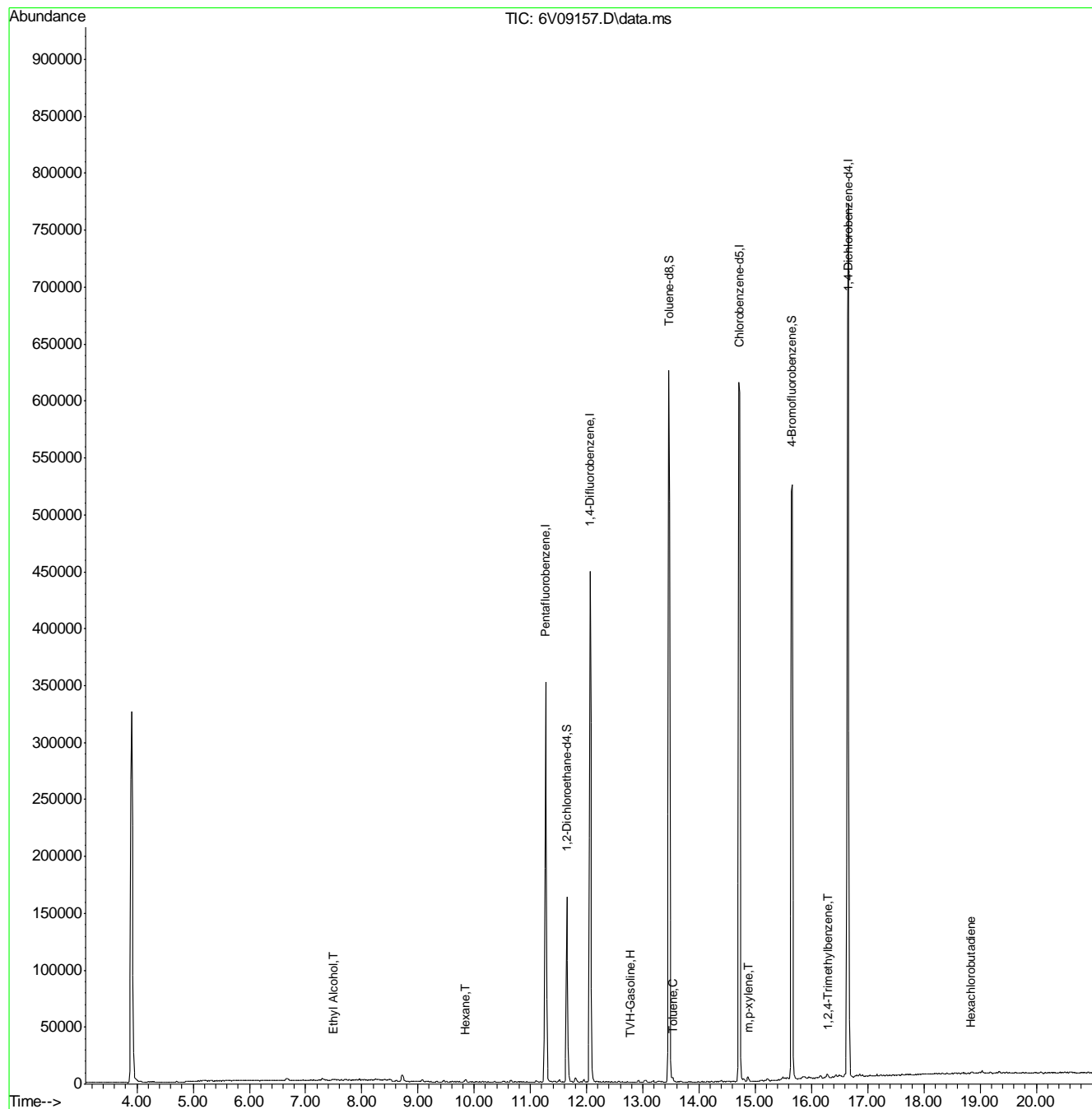
					Qvalue
1) TVH-Gasoline	12.776	TIC	94444m	5.74	ug/l
9) Ethyl Alcohol	7.486	45	1694	55.09	ug/l
41) Hexane	9.846	57	1048	0.49	ug/l
62) Toluene	13.534	92	1448	0.24	ug/l
72) m,p-xylene	14.874	106	1503	0.32	ug/l
82) 1,2,4-Trimethylbenzene	16.285	105	2391	0.23	ug/l
92) Hexachlorobutadiene	18.835	225	502	0.24	ug/l #

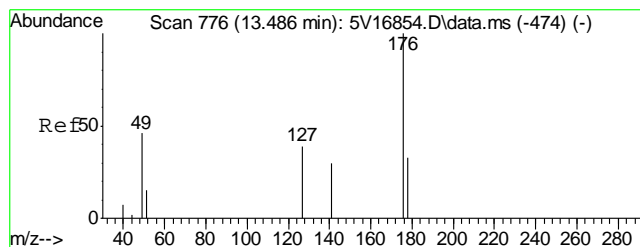
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V6102911\
Data File : 6V09157.D
Acq On : 30 Oct 2011 4:13 am
Operator : BrianR
Sample : D28991-1
Misc : MS2886,V6V475,,,,,1
ALS Vial : 34 Sample Multiplier: 1

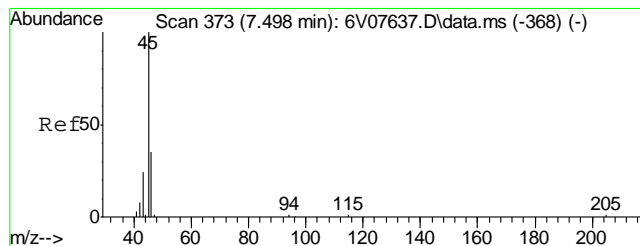
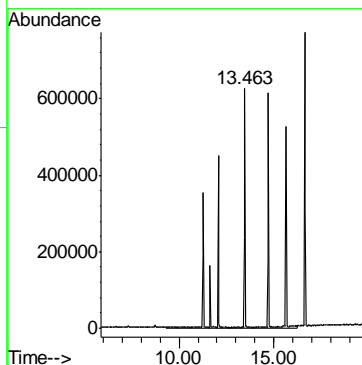
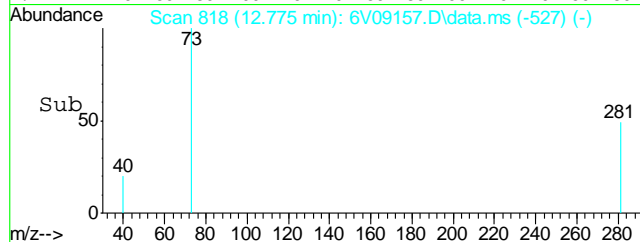
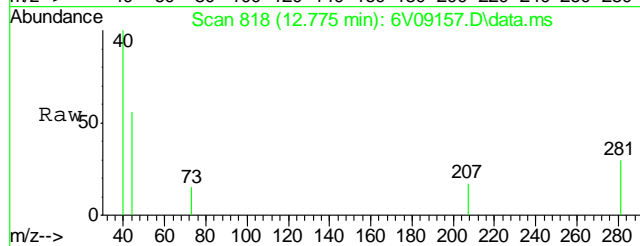
Quant Time: Nov 01 15:44:05 2011
Quant Method : C:\msdchem\1\METHODS\V6AP466TVH466.M
Quant Title : 8260
QLast Update : Wed Oct 26 10:00:28 2011
Response via : Initial Calibration





#1
TVH-Gasoline
Concen: 5.74 ug/l m
RT: 12.776 min Scan# 818
Delta R.T. 0.000 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

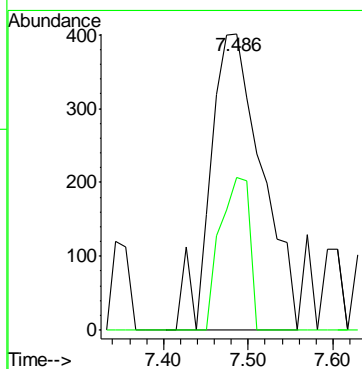
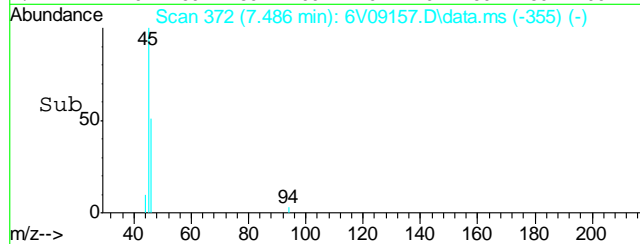
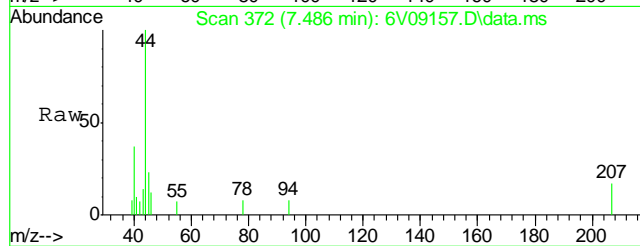
Tgt Ion:TIC Resp: 94444

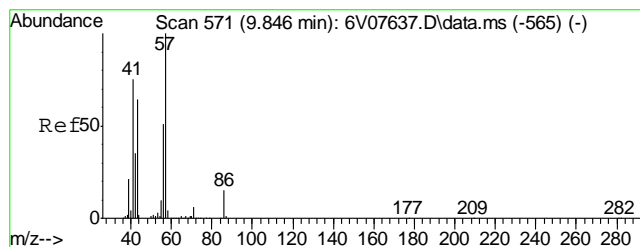


#9
Ethyl Alcohol
Concen: 55.09 ug/l
RT: 7.486 min Scan# 372
Delta R.T. 0.000 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

Tgt Ion: 45 Resp: 1694

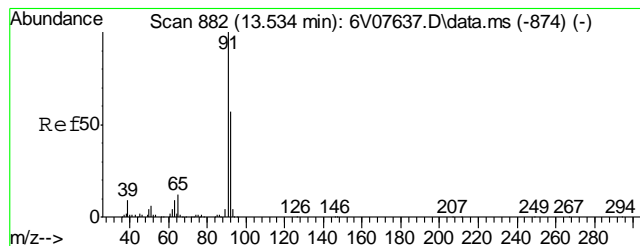
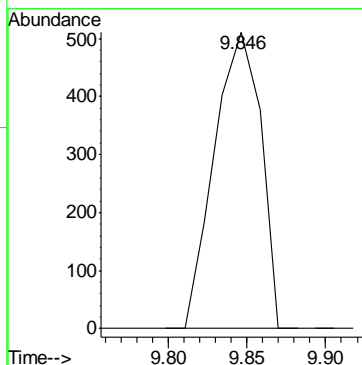
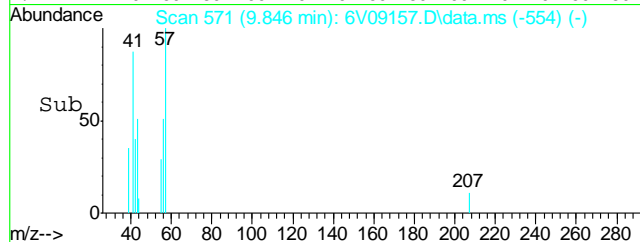
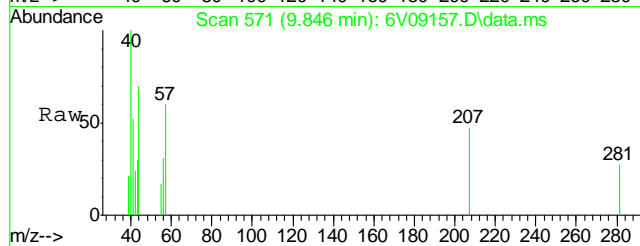
Ion	Ratio	Lower	Upper
45	100		
46	29.3	27.4	41.2





#41
Hexane
Concen: 0.49 ug/l
RT: 9.846 min Scan# 571
Delta R.T. 0.000 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

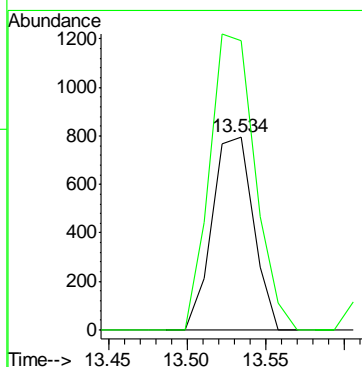
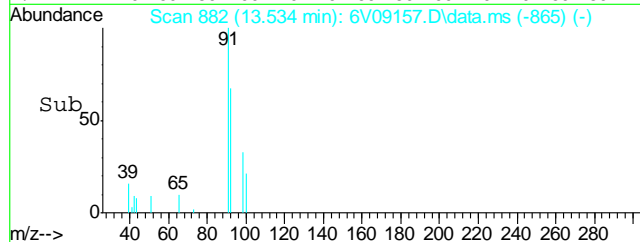
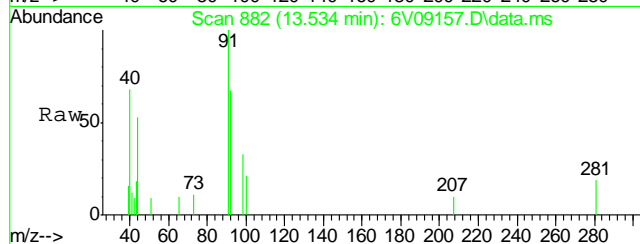
Tgt Ion: 57 Resp: 1048

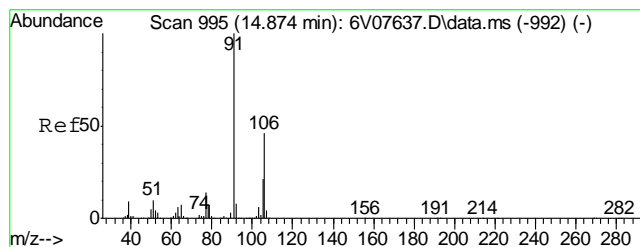


#62
Toluene
Concen: 0.24 ug/l
RT: 13.534 min Scan# 882
Delta R.T. 0.000 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

Tgt Ion: 92 Resp: 1448

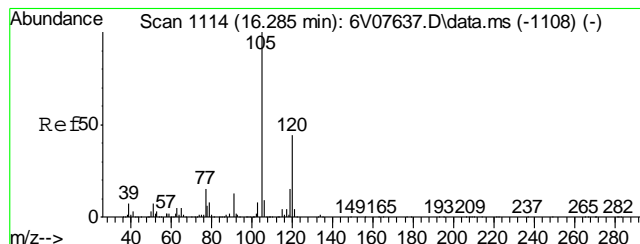
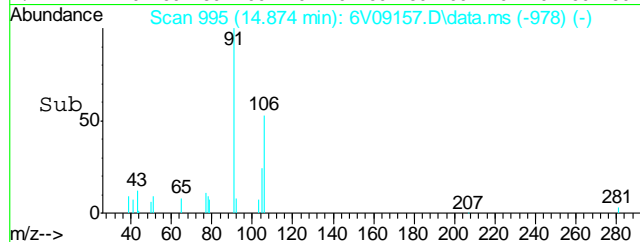
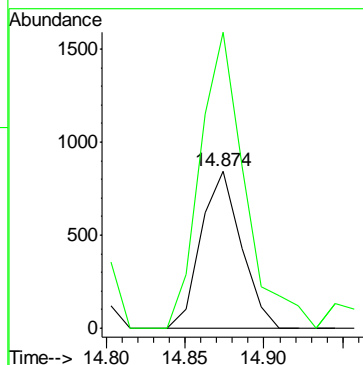
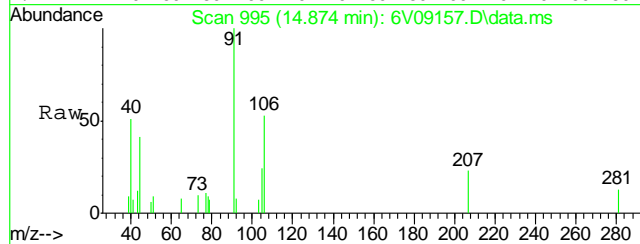
Ion	Ratio	Lower	Upper
92	100		
91	168.9	152.0	192.0





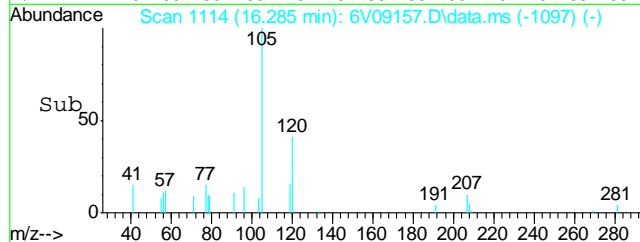
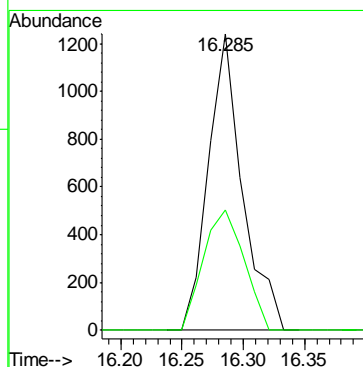
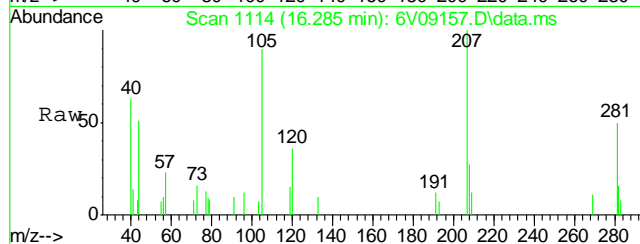
#72
m,p-xylene
Concen: 0.32 ug/l
RT: 14.874 min Scan# 995
Delta R.T. 0.000 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

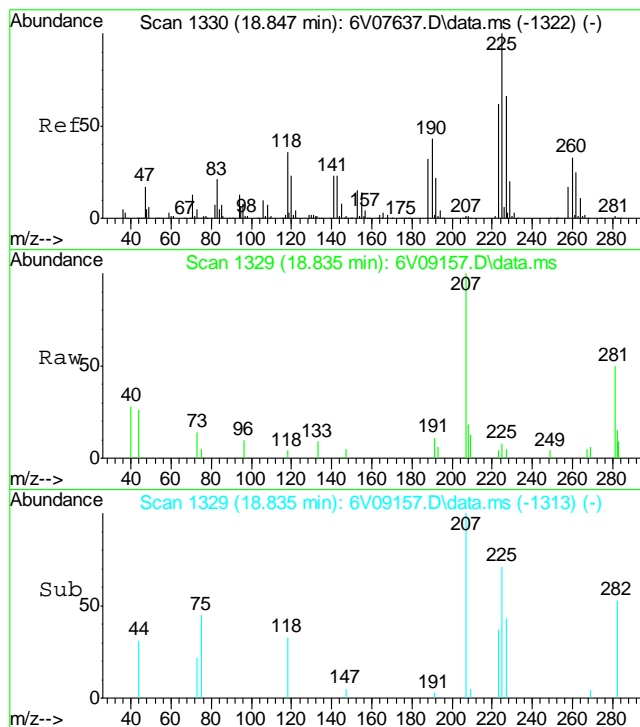
Tgt Ion:	106	Resp:	1503
Ion Ratio	Lower	Upper	
106	100		
91	209.2	200.2	240.2



#82
1,2,4-Trimethylbenzene
Concen: 0.23 ug/l
RT: 16.285 min Scan# 1114
Delta R.T. 0.000 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

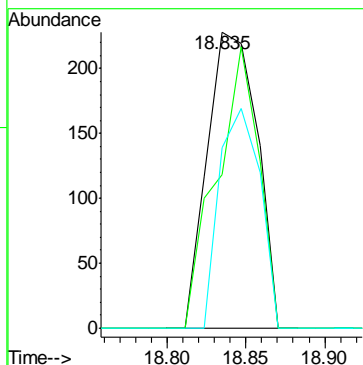
Tgt Ion:	105	Resp:	2391
Ion Ratio	Lower	Upper	
105	100		
120	48.3	40.1	60.1





#92
Hexachlorobutadiene
Concen: 0.24 ug/l
RT: 18.835 min Scan# 1329
Delta R.T. -0.011 min
Lab File: 6V09157.D
Acq: 30 Oct 2011 4:13 am

Tgt Ion:	225	Resp:	502
Ion Ratio	Lower	Upper	
225	100		
223	79.9	51.7	77.5#
227	60.8	51.9	77.9



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V6102911\
Data File : 6V09149.D
Acq On : 29 Oct 2011 11:36 pm
Operator : BrianR
Sample : MB
Misc : MS2886,V6V475,,,,,1
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 01 15:36:17 2011
Quant Method : C:\msdchem\1\METHODS\V6AP466TVH466.M
Quant Title : 8260
QLast Update : Wed Oct 26 10:00:28 2011
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
2) Pentafluorobenzene	11.269	168	269093	50.00	ug/l	0.00
35) 1,4-Difluorobenzene	12.064	114	380593	50.00	ug/l	0.00
53) Chlorobenzene-d5	14.720	117	411254	50.00	ug/l	0.00
74) 1,4-Dichlorobenzene-d4	16.653	152	262206	50.00	ug/l	0.00

System Monitoring Compounds

33) 1,2-Dichloroethane-d4	11.648	102	25354	49.74	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	99.48%
61) Toluene-d8	13.463	98	431299	52.75	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	105.50%
69) 4-Bromofluorobenzene	15.645	95	200227	59.04	ug/l	0.00
Spiked Amount	50.000	Range	70 - 130	Recovery	=	118.08%

Target Compounds

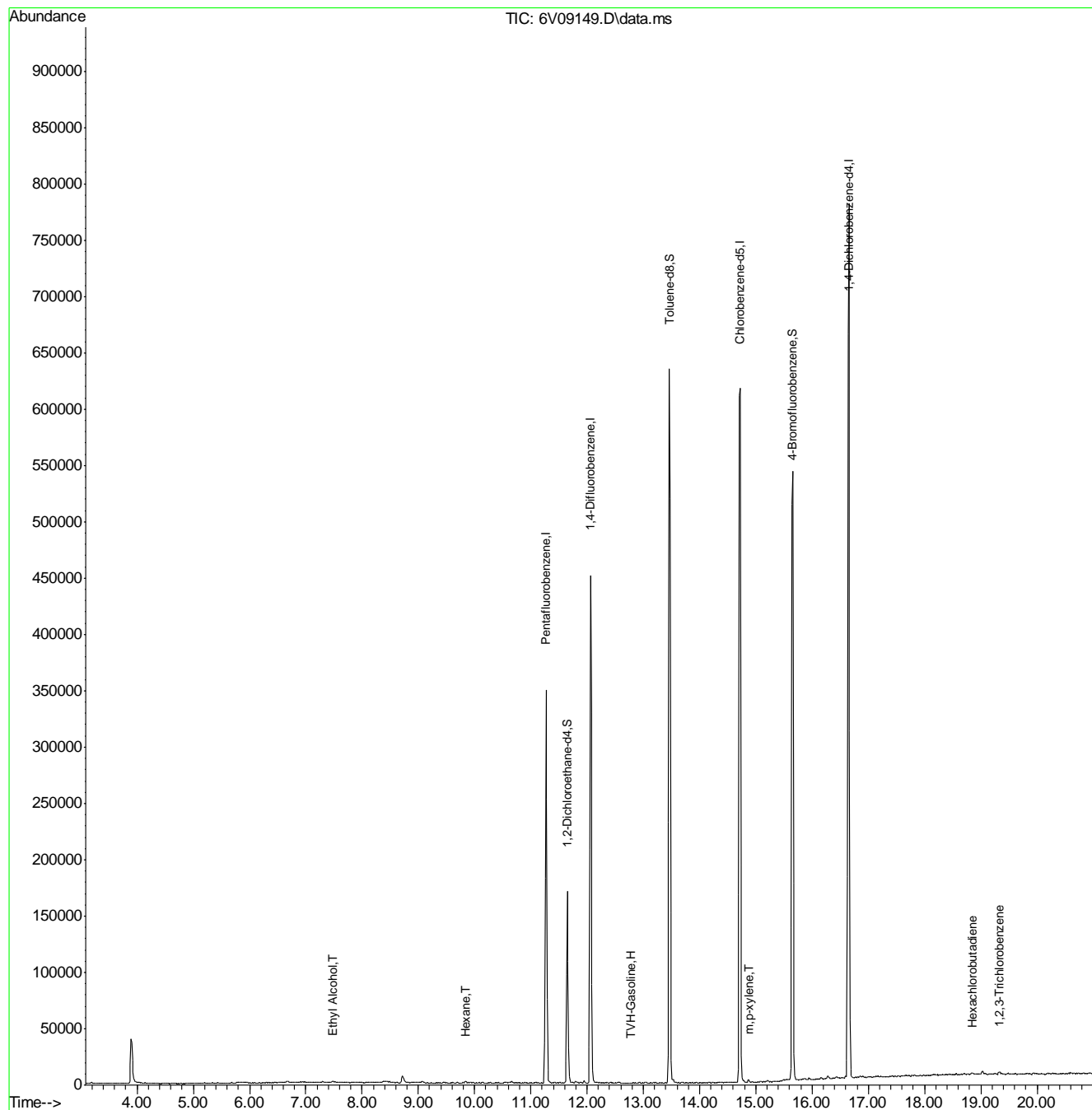
					Qvalue
1) TVH-Gasoline	12.776	TIC	88628m	5.00	ug/l
9) Ethyl Alcohol	7.474	45	2139	70.34	ug/l # 83
41) Hexane	9.846	57	688	0.32	ug/l 100
72) m,p-xylene	14.874	106	1100	0.23	ug/l 93
92) Hexachlorobutadiene	18.847	225	616	0.30	ug/l # 90
93) 1,2,3-Trichlorobenzene	19.333	180	979	0.23	ug/l # 99

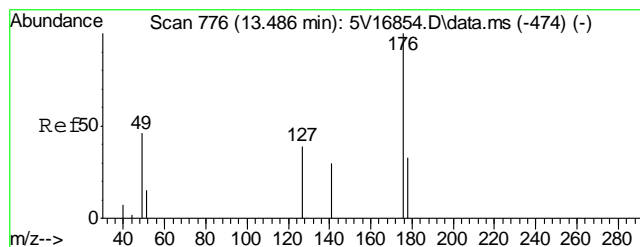
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\V6102911\
Data File : 6V09149.D
Acq On : 29 Oct 2011 11:36 pm
Operator : BrianR
Sample : MB
Misc : MS2886,V6V475,,,,,1
ALS Vial : 26 Sample Multiplier: 1

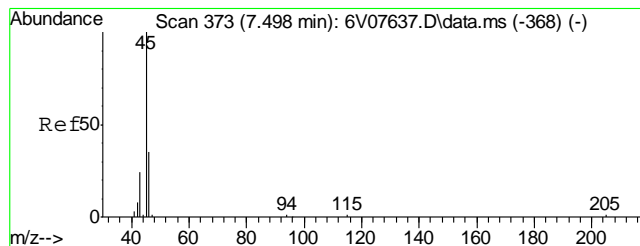
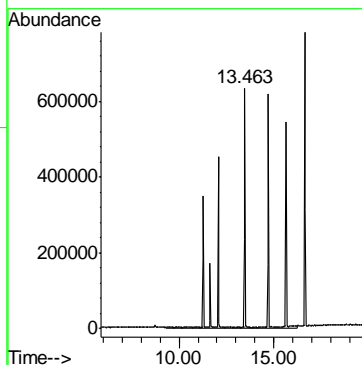
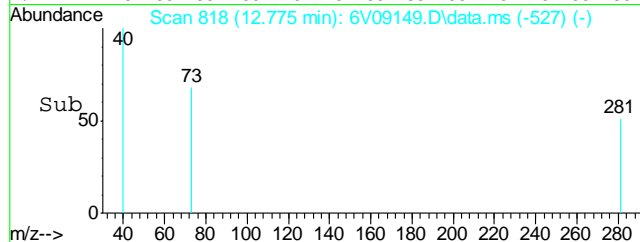
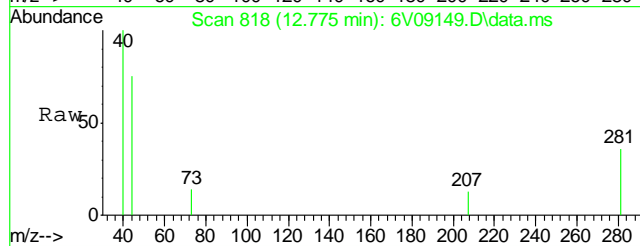
Quant Time: Nov 01 15:36:17 2011
Quant Method : C:\msdchem\1\METHODS\V6AP466TVH466.M
Quant Title : 8260
QLast Update : Wed Oct 26 10:00:28 2011
Response via : Initial Calibration





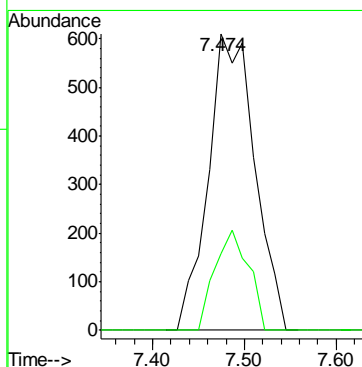
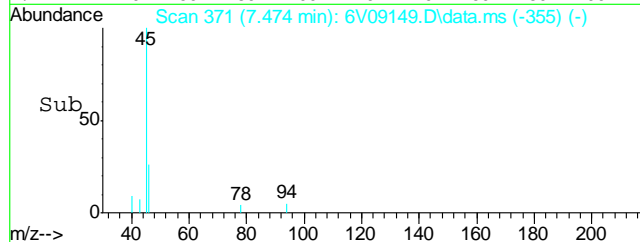
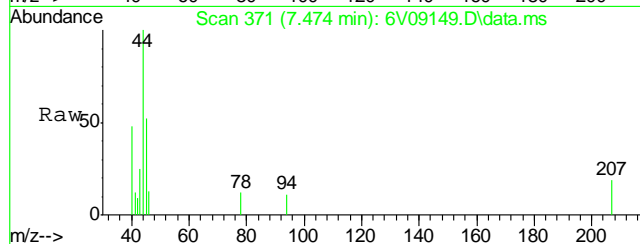
#1
TVH-Gasoline
Concen: 5.00 ug/l m
RT: 12.776 min Scan# 818
Delta R.T. 0.000 min
Lab File: 6V09149.D
Acq: 29 Oct 2011 11:36 pm

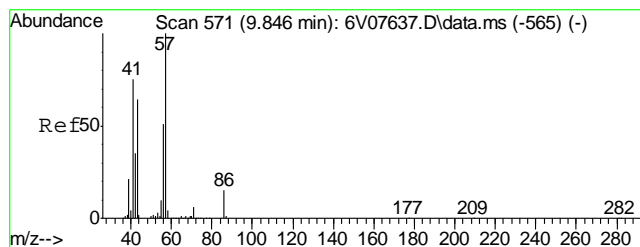
Tgt Ion:TIC Resp: 88628



#9
Ethyl Alcohol
Concen: 70.34 ug/l
RT: 7.474 min Scan# 371
Delta R.T. -0.012 min
Lab File: 6V09149.D
Acq: 29 Oct 2011 11:36 pm

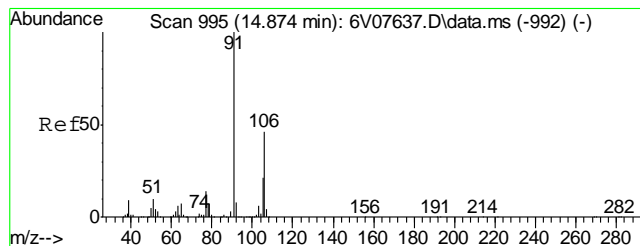
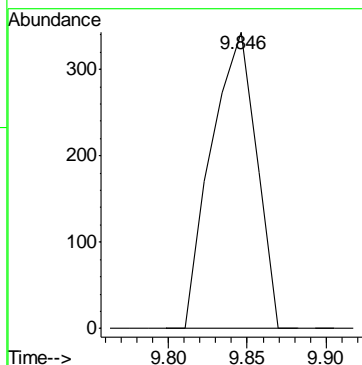
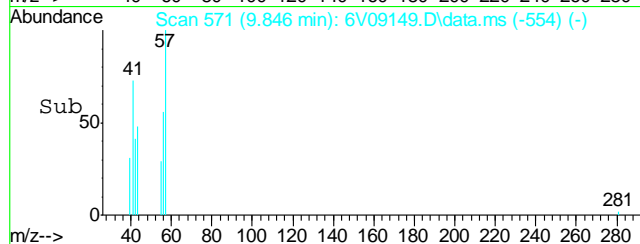
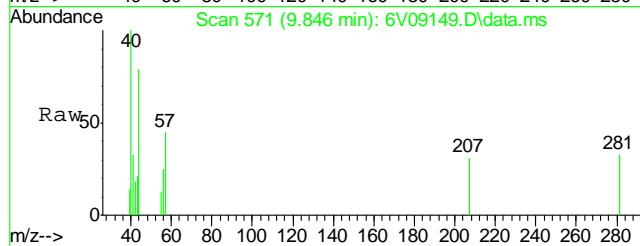
Tgt Ion: 45 Resp: 2139
Ion Ratio Lower Upper
45 100
46 24.4 27.4 41.2#





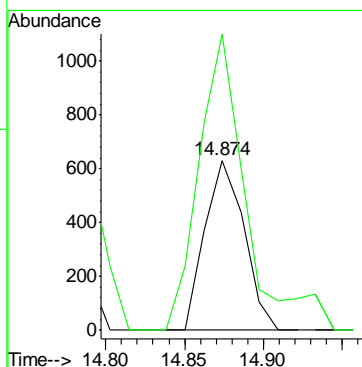
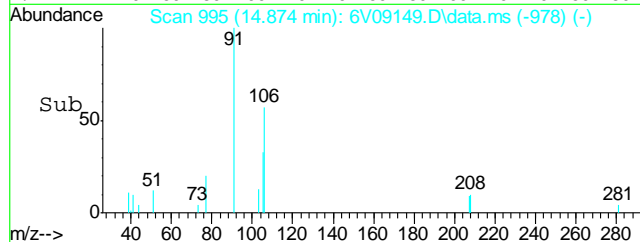
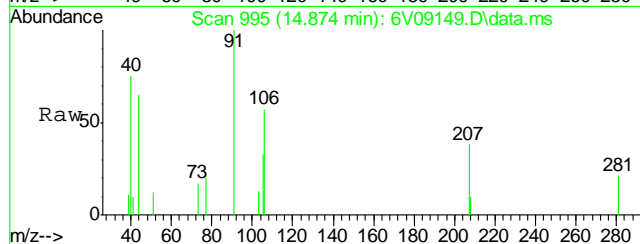
#41
Hexane
Concen: 0.32 ug/l
RT: 9.846 min Scan# 571
Delta R.T. -0.000 min
Lab File: 6V09149.D
Acq: 29 Oct 2011 11:36 pm

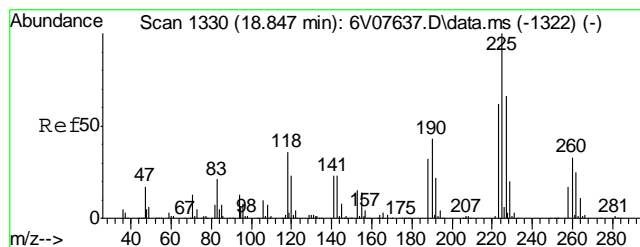
Tgt Ion: 57 Resp: 688



#72
m,p-xylene
Concen: 0.23 ug/l
RT: 14.874 min Scan# 995
Delta R.T. -0.000 min
Lab File: 6V09149.D
Acq: 29 Oct 2011 11:36 pm

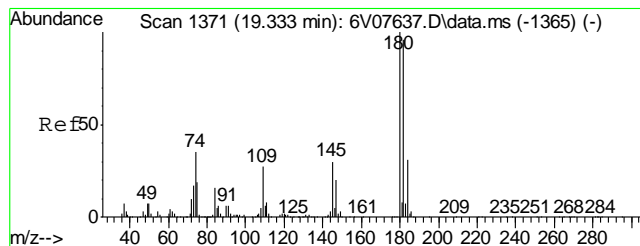
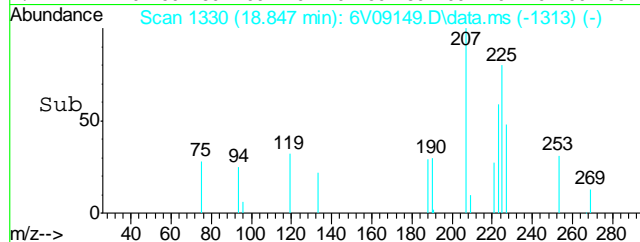
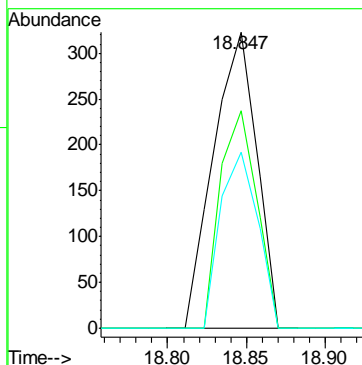
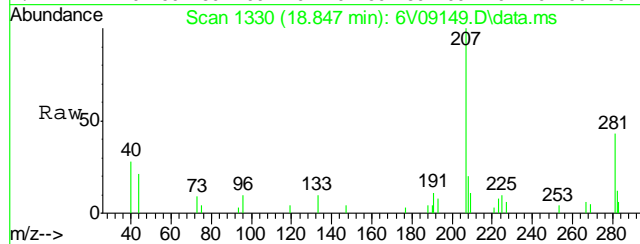
Tgt Ion: 106 Resp: 1100
Ion Ratio Lower Upper
106 100
91 208.2 200.2 240.2





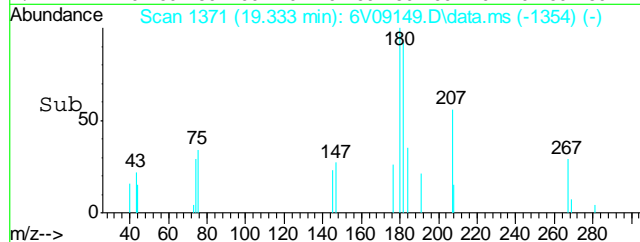
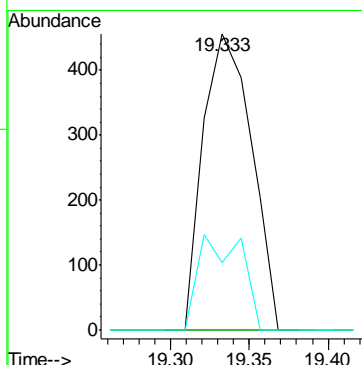
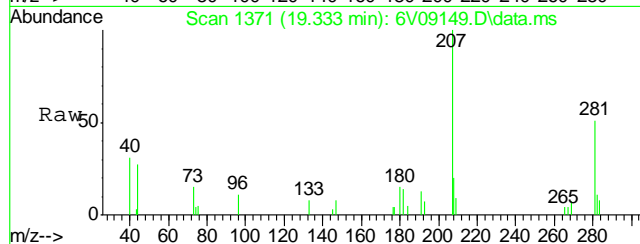
#92
Hexachlorobutadiene
Concen: 0.30 ug/l
RT: 18.847 min Scan# 1330
Delta R.T. 0.001 min
Lab File: 6V09149.D
Acq: 29 Oct 2011 11:36 pm

Tgt Ion:	225	Resp:	616
Ion Ratio	Lower	Upper	
225	100		
223	62.2	51.7	77.5
227	51.5	51.9	77.9#



#93
1,2,3-Trichlorobenzene
Concen: 0.23 ug/l
RT: 19.333 min Scan# 1371
Delta R.T. 0.001 min
Lab File: 6V09149.D
Acq: 29 Oct 2011 11:36 pm

Tgt Ion:	180	Resp:	979
Ion Ratio	Lower	Upper	
180	100		
142	0.0	0.1	0.1#
145	28.4	23.0	34.4



GC Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Page 1 of 1

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFB177-MB	FB05107.D	1	11/07/11	CS	n/a	n/a	GFB177

The QC reported here applies to the following samples:

Method: RSK175 MOD

D28991-1

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.00080	0.00080	mg/l	

CAS No.	Surrogate Recoveries	Limits
74-98-6	Propane	107% 70-130%

Blank Spike Summary

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GFB177-BS	FB05108.D	10	11/07/11	CS	n/a	n/a	GFB177

The QC reported here applies to the following samples: Method: RSK175 MOD

D28991-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
74-82-8	Methane	.5094	0.540	106	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
74-98-6	Propane	93%	70-130%

7.2.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D28991
Account: LTENCODE LT Environmental
Project: Baseline Water Quality Assessment Sampling

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D29205-1MS	FB05126.D	10	11/07/11	CS	n/a	n/a	GFB177
D29205-1MSD	FB05127.D	10	11/07/11	CS	n/a	n/a	GFB177
D29205-1	FB05116.D	1	11/07/11	CS	n/a	n/a	GFB177

The QC reported here applies to the following samples: Method: RSK175 MOD

D28991-1

CAS No.	Compound	D29205-1 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
74-82-8	Methane	ND	0.5094	0.522	102	0.527	104	1	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D29205-1	Limits
74-98-6	Propane	91%	92%	96%	70-130%

7.3.1
7

GC Volatiles

Raw Data

∞

Quantitation Report (QT Reviewed)

Data File : V:\FB110711\FB05111.D Vial: 7
Acq On : 7 Nov 2011 11:14 am Operator: CHAVALIT
Sample : D28991-1 Inst : FID 4
Misc : 500uL|GC2381,GFB177,,,,,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Nov 07 11:16:04 2011 Quant Results File: MEEP-GFB169.RES

Quant Method : C:\MSDCHEM\2...\MEEP-GFB169.M (Chemstation Integrator)
Title : RSK 175 Methane, Ethene, Ethane, and Propane
Last Update : Mon Oct 10 11:28:59 2011
Response via : Initial Calibration
DataAcq Meth : GAS.M

Volume Inj. : 100ul
Signal Phase : Porapak Q 80/100
Signal Info : 1/8 in

Compound	R.T.	Response	Conc Units

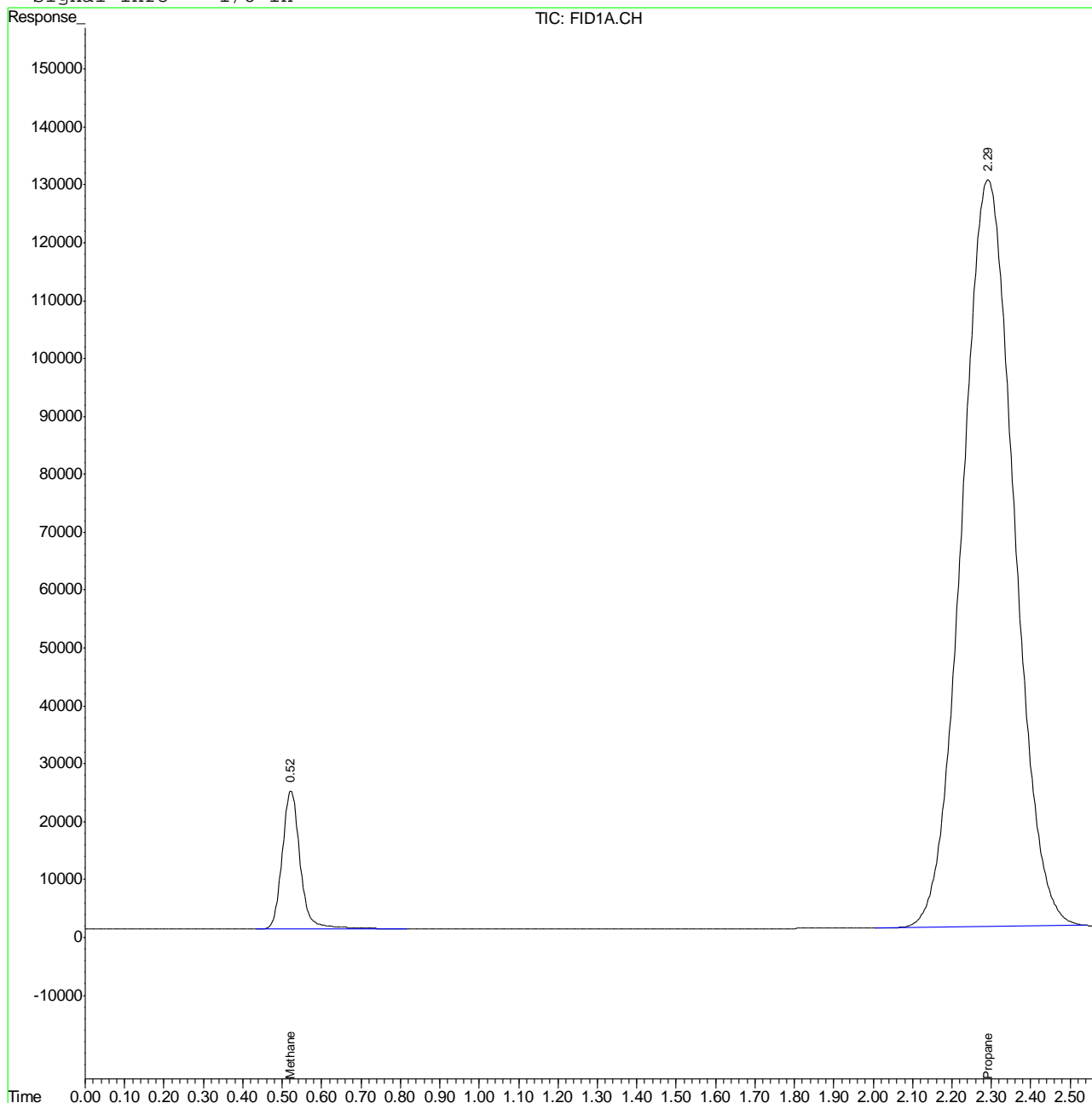
System Monitoring Compounds			
4) S Propane	2.29	11791656	385.880 rawvp
Target Compounds			
1) Methane	0.52	753719	64.838 rawvp

Quantitation Report (QT Reviewed)

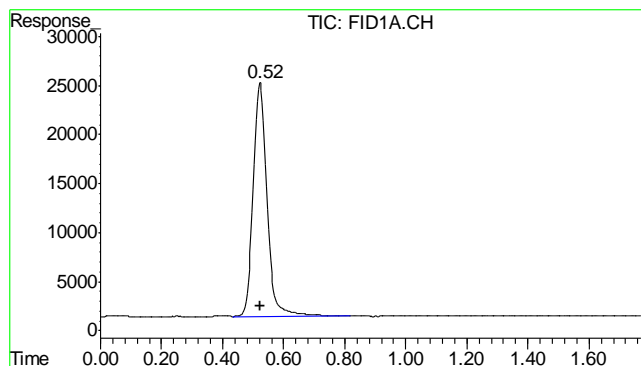
Data File : V:\FB110711\FB05111.D Vial: 7
 Acq On : 7 Nov 2011 11:14 am Operator: CHAVALIT
 Sample : D28991-1 Inst : FID 4
 Misc : 500uL|GC2381,GFB177,,,,,1 Multiplr: 1.00
 IntFile : autoint1.e
 Quant Time: Nov 7 11:14 2011 Quant Results File: MEEP-GFB169.RES

Quant Method : C:\MSDCHEM\2...\MEEP-GFB169.M (Chemstation Integrator)
 Title : RSK 175 Methane, Ethene, Ethane, and Propane
 Last Update : Mon Oct 10 11:28:59 2011
 Response via : Multiple Level Calibration
 DataAcq Meth : GAS.M

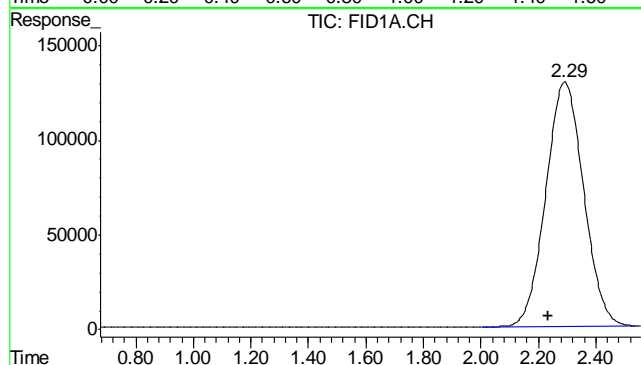
Volume Inj. : 100ul
 Signal Phase : Porapak Q 80/100
 Signal Info : 1/8 in



8.1.1
8



#1 Methane
 R.T.: 0.523 min
 Delta R.T.: 0.000 min
 Response: 753719
 Conc: 64.84 rawvppm



#4 Propane
 R.T.: 2.292 min
 Delta R.T.: 0.057 min
 Response: 11791656
 Conc: 385.88 rawvppm

8.1.1

8

Quantitation Report (QT Reviewed)

Data File : V:\FB110711\FB05107.D Vial: 3
Acq On : 7 Nov 2011 10:32 am Operator: CHAVALIT
Sample : MB Inst : FID 4
Misc : 500uL|GC2381,GFB177,,,,,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Nov 07 10:35:25 2011 Quant Results File: MEEP-GFB169.RES

Quant Method : C:\MSDCHEM\2...\MEEP-GFB169.M (Chemstation Integrator)
Title : RSK 175 Methane, Ethene, Ethane, and Propane
Last Update : Mon Oct 10 11:28:59 2011
Response via : Initial Calibration
DataAcq Meth : GAS.M

Volume Inj. : 100ul
Signal Phase : Porapak Q 80/100
Signal Info : 1/8 in

Compound	R.T.	Response	Conc Units

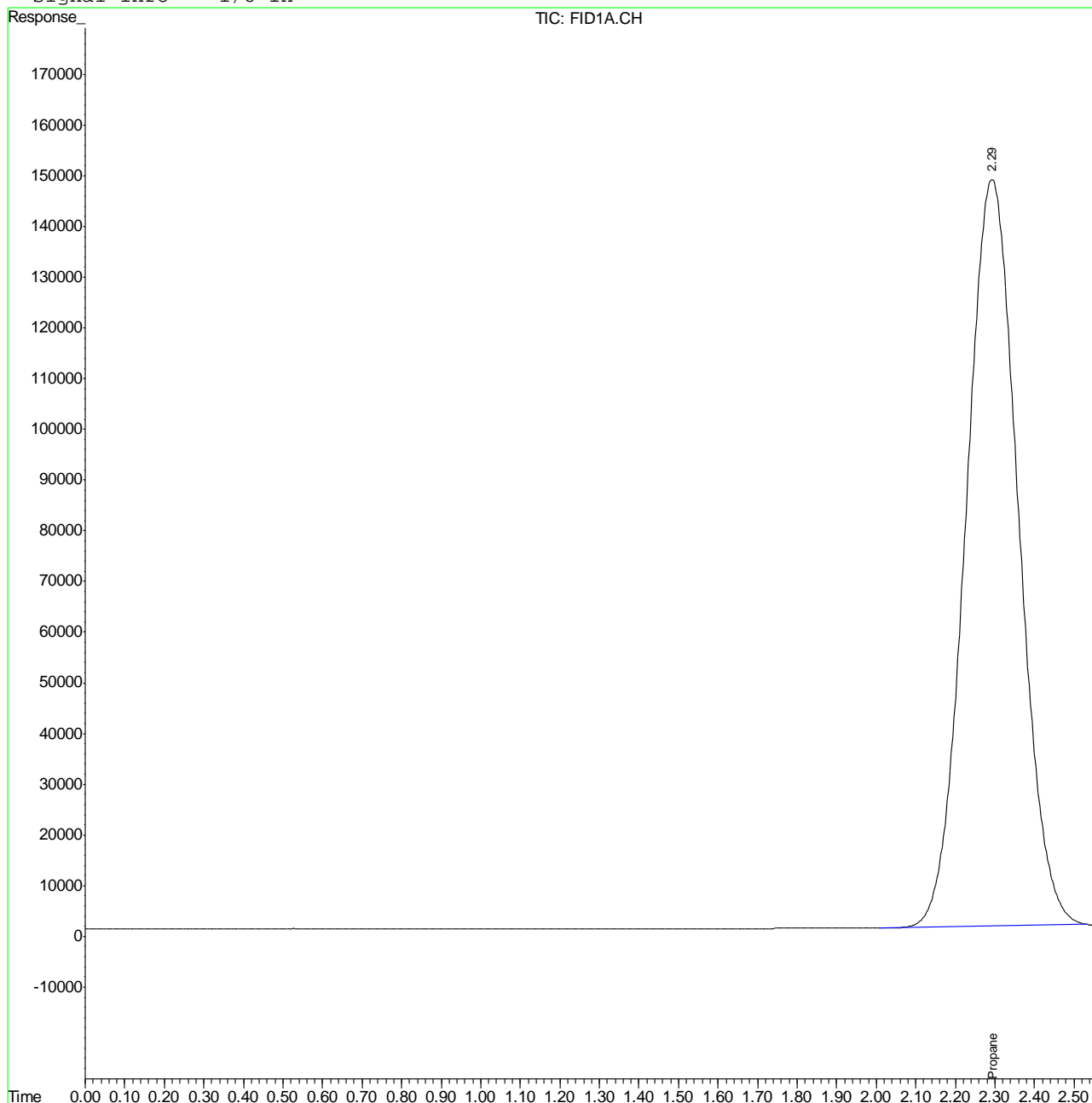
System Monitoring Compounds			
4) S Propane	2.29	13582070	428.814 rawvp
Target Compounds			

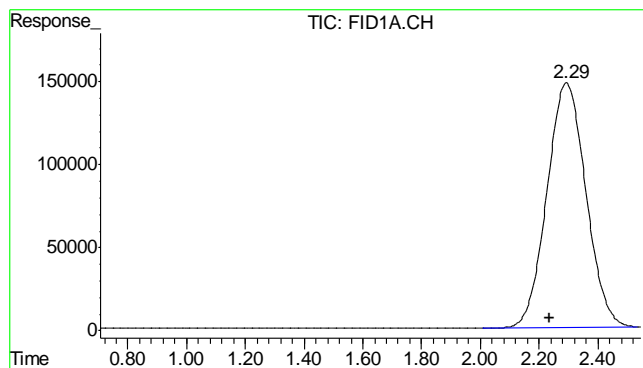
Quantitation Report (QT Reviewed)

Data File : V:\FB110711\FB05107.D Vial: 3
Acq On : 7 Nov 2011 10:32 am Operator: CHAVALIT
Sample : MB Inst : FID 4
Misc : 500uL|GC2381,GFB177,,,,,1 Multiplr: 1.00
IntFile : autoint1.e
Quant Time: Nov 7 10:33 2011 Quant Results File: MEEP-GFB169.RES

Quant Method : C:\MSDCHEM\2...\MEEP-GFB169.M (Chemstation Integrator)
Title : RSK 175 Methane, Ethene, Ethane, and Propane
Last Update : Mon Oct 10 11:28:59 2011
Response via : Multiple Level Calibration
DataAcq Meth : GAS.M

Volume Inj. : 100ul
Signal Phase : Porapak Q 80/100
Signal Info : 1/8 in





#4 Propane

R.T.: 2.294 min
Delta R.T.: 0.059 min
Response: 13582070
Conc: 428.81 rawvppm

8.2.1

8

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 10/31/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	5.9	5.9		
Antimony	30	3.1	3.1		
Arsenic	25	5.9	5.9		
Barium	10	1.1	1.1		
Beryllium	10	.44	.5		
Boron	50	4.8	4.8		
Cadmium	10	.27	.27		
Calcium	400	9.6	15	18.9	<400
Chromium	10	.18	.79		
Cobalt	5.0	.35	.35		
Copper	10	.85	2.8		
Iron	70	3.4	13	1.5	<70
Lead	50	1.6	2.1		
Lithium	2.0	.28	1.2		
Magnesium	200	5.8	10	5.2	<200
Manganese	5.0	.053	.31	0.0	<5.0
Molybdenum	10	.45	.87		
Nickel	30	.43	1		
Phosphorus	100	11	20		
Potassium	1000	55	55	111	<1000
Selenium	50	3.8	3.8		
Silicon	50	3.8	3.8		
Silver	30	.18	.31		
Sodium	400	110	110	218	* (a)
Strontium	5.0		.25		
Thallium	10	2.9	2.9		
Tin	50	5.5	9.9		
Titanium	10	.11	.31		
Uranium	50	1.5	3.5		
Vanadium	10	.16	.22		
Zinc	30	.28	1.8		

Associated samples MP6139: D28991-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested
(a) All sample results >10x method blank concentration.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D28991
 Account: LTENCODE - LT Environmental
 Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 10/31/11

Metal	D28977-3F Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron	anr				
Cadmium	anr				
Calcium	72000	91600	25000	110.0	75-125
Chromium	anr				
Cobalt					
Copper	anr				
Iron	0.00	5060	5000	100.7	75-125
Lead	anr				
Lithium					
Magnesium	34200	55300	25000	103.6	75-125
Manganese	0.0	503	500	100.5	75-125
Molybdenum					
Nickel					
Phosphorus					
Potassium	0.00	27400	25000	107.3	75-125
Selenium	anr				
Silicon					
Silver					
Sodium	64500	81600	25000	106.0	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6139: D28991-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D28991
 Account: LTENCODE - LT Environmental
 Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 10/31/11

Metal	D28977-3F Original MSD		SpikeLot MPICPAL % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium						
Boron	anr					
Cadmium	anr					
Calcium	72000	90900	25000	107.2	0.8	20
Chromium	anr					
Cobalt						
Copper	anr					
Iron	0.00	5070	5000	100.9	0.2	20
Lead	anr					
Lithium						
Magnesium	34200	55100	25000	102.8	0.4	20
Manganese	0.0	498	500	99.5	1.0	20
Molybdenum						
Nickel						
Phosphorus						
Potassium	0.00	27300	25000	106.9	0.4	20
Selenium	anr					
Silicon						
Silver						
Sodium	64500	80400	25000	101.2	1.5	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6139: D28991-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D28991
 Account: LTENCODE - LT Environmental
 Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 10/31/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron	anr			
Cadmium	anr			
Calcium	27300	25000	109.2	80-120
Chromium	anr			
Cobalt				
Copper	anr			
Iron	5050	5000	101.0	80-120
Lead	anr			
Lithium				
Magnesium	26200	25000	104.8	80-120
Manganese	504	500	100.8	80-120
Molybdenum				
Nickel				
Phosphorus				
Potassium	26500	25000	106.0	80-120
Selenium	anr			
Silicon				
Silver				
Sodium	26300	25000	105.2	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6139: D28991-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D28991

Account: LTENCODE - LT Environmental

Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6139

Methods: SW846 6010B

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

9.1.3

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BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6169
Matrix Type: AQUEOUS

Methods: SW846 6020
Units: mg/l

Prep Date: 11/02/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	0.25	.0014	.0028		
Antimony	0.0020	.00001	.000015		
Arsenic	0.0040	.00049	.00014		
Barium	0.010	.000035	.00013		
Beryllium	0.0010	.000075	.00013		
Boron	0.20	.0097	.001		
Cadmium	0.00050	.00023	.00005		
Calcium	2.0	.018	.023		
Chromium	0.010	.00021	.00005		
Cobalt	0.0010	.000033	.00005		
Copper	0.010	.00011	.00014		
Iron	0.20	.0081	.013		
Lead	0.0025	.000012	.000025		
Magnesium	0.50	.00067	.002		
Manganese	0.0050	.00007	.00005		
Molybdenum	0.0050	.000044	.000075		
Nickel	0.010	.000029	.00075		
Phosphorus	0.30	.018			
Potassium	1.0	.02	.0085		
Selenium	0.0020	.00075	.00036	0.00086	<0.0020
Silver	0.00050	.000008	.000075		
Sodium	2.5	.008	.0065		
Strontium	0.10	.00004	.00005		
Thallium	0.0010	.00015	.00006		
Tin	0.050	.00006	.000075		
Titanium	0.010	.00035	.0002		
Uranium	0.0010	.0000038	.00012		
Vanadium	0.0050	.00052	.00025		
Zinc	0.050	.00039	.0011		

Associated samples MP6169: D28991-1F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D28991
 Account: LTENCODE - LT Environmental
 Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6169
 Matrix Type: AQUEOUS

Methods: SW846 6020
 Units: mg/l

Prep Date: 11/02/11

Metal	D28953-1F Original MS		SpikeLot MPICPALL % Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium	0.015	1.2	1.0	118.5	75-125
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6169: D28991-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D28991
 Account: LTENCODE - LT Environmental
 Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6169
 Matrix Type: AQUEOUS

Methods: SW846 6020
 Units: mg/l

Prep Date: 11/02/11

Metal	D28953-1F Original MSD		Spikelot MPICPAL % Rec		MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium	0.015	1.2	1.0	118.5	0.0	20
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6169: D28991-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D28991
 Account: LTENCODE - LT Environmental
 Project: Baseline Water Quality Assessment Sampling

QC Batch ID: MP6169
 Matrix Type: AQUEOUS

Methods: SW846 6020
 Units: mg/l

Prep Date: 11/02/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium	1.1	1.0	110.0	80-120
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6169: D28991-1F

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

General Chemistry

QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Bicarbonate as CaC	GN12249	5.0	0.0	mg/l	100	95.0	95.0	90-110%
Alkalinity, Carbonate	GN12250	5.0	0.0	mg/l	100	95.0	95.0	80-120%
Alkalinity, Total as CaCO3	GN12248	5.0	0.0	mg/l	100	95.0	95.0	90-110%
Bromide	GP5807/GN12243	0.20	0.0	mg/l	20	19.9	99.5	90-110%
Chloride	GP5807/GN12243	0.50	0.22	mg/l	20	19.5	97.5	90-110%
Chloride	GP5829/GN12295	0.50	0.0	mg/l	20	19.4	97.0	90-110%
Hydroxide Alkalinity	GN12251	5.0	0.0	mg/l	100	95.0	95.0	80-120%
Nitrogen, Nitrate	GP5807/GN12243	0.045	0.0	mg/l	4.52	4.39	97.2	90-110%
Nitrogen, Nitrate	GP5829/GN12295	0.045	0.0	mg/l	4.52	4.33	95.8	90-110%
Nitrogen, Nitrite	GP5807/GN12243	0.061	0.0	mg/l	6.09	6.08	99.8	90-110%
Solids, Total Dissolved	GN12272	10	0.0	mg/l	400	394	98.5	90-110%
Specific Conductivity	GP5820/GN12278			umhos/cm	99.3	96.6	97.3	90-110%
Sulfate	GP5807/GN12243	0.50	0.0	mg/l	30	28.9	96.3	90-110%
Sulfate	GP5829/GN12295	0.50	0.0	mg/l	30	29.1	97.0	90-110%
pH	GN12267			su	8.00	7.96	99.5	99.3-100.7%

Associated Samples:

Batch GN12248: D28991-1
Batch GN12249: D28991-1
Batch GN12250: D28991-1
Batch GN12251: D28991-1
Batch GN12267: D28991-1
Batch GN12272: D28991-1
Batch GP5807: D28991-1
Batch GP5820: D28991-1
Batch GP5829: D28991-1
(*) Outside of QC limits

10.1
10

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO ₃	GN12248	D28992-1	mg/l	243	241	0.8	0-20%
Solids, Total Dissolved	GN12272	D28873-1	mg/l	756	756	0.0	0-25%
Specific Conductivity	GP5820/GN12278	D28939-1	umhos/cm	2600	2640	1.5	0-20%

Associated Samples:

Batch GN12248: D28991-1

Batch GN12272: D28991-1

Batch GP5820: D28991-1

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO ₃	GN12248	D28992-1	mg/l	243	100	333	90.0	80-120%
Bromide	GP5807/GN12243	D28977-3	mg/l	0.0	12.5	12.4	99.2	80-120%
Chloride	GP5807/GN12243	D28977-3	mg/l	8.2	50	58.3	100.2	80-120%
Chloride	GP5829/GN12295	D29024-1	mg/l	2.6	10	12.2	96.0	80-120%
Nitrogen, Nitrate	GP5807/GN12243	D28977-3	mg/l	1.5	2.83	4.3	99.1	80-120%
Nitrogen, Nitrate	GP5829/GN12295	D29024-1	mg/l	0.37	0.565	0.90	93.8	80-120%
Nitrogen, Nitrite	GP5807/GN12243	D28977-3	mg/l	0.0	1.52	1.5	98.5	80-120%
Sulfate	GP5807/GN12243	D28977-3	mg/l	115	50	169	108.0	80-120%
Sulfate	GP5829/GN12295	D29024-1	mg/l	6.4	10	16.0	96.0	80-120%

Associated Samples:

Batch GN12248: D28991-1

Batch GP5807: D28991-1

Batch GP5829: D28991-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D28991
Account: LTENCODE - LT Environmental
Project: Baseline Water Quality Assessment Sampling

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Alkalinity, Total as CaCO ₃	GN12248	D28992-1	mg/l	243	100	330	1.0	20%
Bromide	GP5807/GN12243	D28977-3	mg/l	0.0	12.5	12.5	0.8	20%
Chloride	GP5807/GN12243	D28977-3	mg/l	8.2	50	58.1	0.3	20%
Chloride	GP5829/GN12295	D29024-1	mg/l	2.6	10	12.6	3.2	20%
Nitrogen, Nitrate	GP5807/GN12243	D28977-3	mg/l	1.5	2.83	4.3	0.0	20%
Nitrogen, Nitrate	GP5829/GN12295	D29024-1	mg/l	0.37	0.565	0.93	3.3	20%
Nitrogen, Nitrite	GP5807/GN12243	D28977-3	mg/l	0.0	1.52	1.5	0.0	20%
Sulfate	GP5807/GN12243	D28977-3	mg/l	115	50	168	0.6	20%
Sulfate	GP5829/GN12295	D29024-1	mg/l	6.4	10	16.4	2.5	20%

Associated Samples:

Batch GN12248: D28991-1

Batch GP5807: D28991-1

Batch GP5829: D28991-1

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits