

**Broda's Inert Fill
14677 Harvest Road
Brighton, CO 80603**

June 29, 2016

Mrs. Connie Davis
Aggregate Industries – WRC, Inc
1707 Cole Blvd., #100
Golden, Colorado 80401

Re: 2015 Annual Report: Broda's Inert Filling at Aggregate Industries – Platte Valley Operations

Dear Mrs. Davis:

As stipulated in the Lease Agreement between Aggregate Industries and Patrick Broda and Harrison Broda, this annual report has been prepared and is submitted to you. The information included herein is for the calendar year 2015.

General Summary of Operations:

The filling of Parcel A is progressing according to plan. The Colorado Department of Public Health and Environment (CDPHE) confirmed that the facility is regulated under the Recycling provisions of the Regulations Pertaining to Solid Waste Disposal Sites and Facilities. Groundwater monitoring wells were sampled semi-annually. The volume of inert materials delivered to Broda's Inert Fill are down in 2015 compared to 2014 and are based upon the competition of other inert fill operations and the local economy.

Placement of fill material was done on the southwest portion of the lake at Aggregate Industries request. The purpose of the placement in the southwest portion of the lake was to provide addition support of the embankment with the South Platte River.

CDPHE has required that asphalt be segregated for subsequent placement above the groundwater table or crushed and reused on-site or off-site. The asphalt collected has been crushed and used on site for dust suppression and is above the water table. Other than the information in this report there have been no incidents of significance and the operations have gone well.

Volume of Materials Placed:

The volume of materials placed during the calendar year 2015 is 20,555 cubic yards.

Testing and Monitoring Reports:

Groundwater monitoring wells MW-1, MW-2, and MW-3 were sampled on 4/29/2015 and 11/10/2015. The monitoring wells were analyzed for parameters listed in Appendix IA and IB of CDPHE regulations. Lake samples and mud truck samples were not taken.

Reports and Documents Filed with Governmental Agencies:

The Recycling and Reuse of Materials and Land Inert Fill Notification dated June 21, 2010, was approved CDPHE in a letter dated March 10, 2011. The Recycling Facility Annual Reporting Form for the facility was submitted on February 27, 2016; a copy is attached to this letter as Attachment 1.

Compliance with Governmental Permits, Licenses, and Approvals:

An inspection was conducted at the facility on December 10, 2015 that resulted in a Compliance Advisory. The inspection was not scheduled and was not described as a response to a complaint. The inspection report outlined violations associated with groundwater monitoring result submittals, manifest records, and random sampling of loads. At a February 3 Compliance Advisory Conference (CAC) meeting with David Snapp, CDPHE, it was determined that semi-annual groundwater monitoring reporting with statistical evaluations would be submitted for the facility. Additionally, it was agreed that routine sampling of mud trucks and unplanned inert fill materials will be sampled and manifested moving forward, with results submitted to CDPHE.

A 2010-2015 Groundwater Monitoring Report with statistical evaluations was submitted to CDPHE on February 29, 2016 in fulfillment of these requirements. A copy of this report is found in Attachment 2. To make up for a lack of previous data concerning daylighting and directional utility drilling muds, samples will be collected from four shipments over the next year of deliveries and analyzed according to the Design and Operations Plan. Manifesting will also occur. As has been the case since the facility opened, no oil and gas industry drilling muds will be received at the facility. We are currently waiting on a close-out of the Compliance Advisory, which we believe is forthcoming based on the agreements reached during the CAC and our actions to date.

Groundwater Analysis

The 2010-2015 Groundwater Monitoring Report for the facility, including analytical results, groundwater elevations, and a statistical evaluation, is included in the 2010-2015 Groundwater Monitoring Report in Attachment 2. No organic constituents included in the Appendix IB of the CDPHE Regulations Pertaining to Solid Waste Sites and Facilities have been detected during facility monitoring activities, with the exception of one occurrence of acetone at a concentration of 0.095 mg/L in December 2010. Acetone is a common laboratory contaminant and this finding is believed to be a laboratory artifact. Two wells at the facility, MW-1 and MW-2, have exhibited variability with electrical conductivity, sodium, sulfate, arsenic, chloride, and TOC. These findings could reflect natural variations in the groundwater geochemistry at the facility, and existing and future monitoring data will continue to be used to establish background groundwater quality

conditions. The absence of detectable organic constituents in monitoring to date suggests that there is no impact to groundwater quality from facility activities.

Other Information:

The segregation of asphalt has been ongoing and will continue. When a sufficient amount of asphalt is segregated it will be milled and can be used on site to control dust and provide better surfaces for truck traffic. Much of the recycled asphalt is turned over to Aggregate Industries for use or for sale.

If you have any questions or concerns please contact me at 303-808-2500.

Yours truly,

A handwritten signature in black ink, appearing to read "Patrick Broda". The signature is fluid and cursive, with the first name "Patrick" and last name "Broda" clearly distinguishable.

Patrick Broda
Broda's Inert Fill

Attachments:

A1 Groundwater Monitoring Report for 2010-2015
A2 Recycling Form for 2014

Attachment 1
2015 Recycling Facility Annual Reporting Form

Colorado Department of Public Health & Environment

Recycling Facility Annual Reporting Form

Reporting form must be submitted by March 1, 2016

Name of Facility: Broda's Inert Fill - Al Platte Valley Pit
Address: 1859 Hwy 85
City: Brighton
ZIP code: 80603
Mailing Address: Same
of Recycling Employees: 2
Contact person: Patrick Broda
Phone: 303-808-2500
E-mail: molenassociates@gmail.com
Reporting Period: Calendar Year 2014

Instructions

Save a copy of this file to your computer. Enter data and email the completed form to:
cdphe.hmrecycling@state.co.us or print and mail to: Materials Management Group
CDPHE HMWMD-SW-B2
4300 Cherry Creek Dr. South
Denver, CO 80246

Any records in our possession identified as "confidential business information" or as a "trade secret" **will not be disclosed** without giving the party raising the claim notice of the request and an opportunity to contest the release of the information. The burden of proving that the information is protected as a trade secret is on the party raising the claim. In order to claim this protection, you must meet the following requirements:

1. you must show that you have taken reasonable measures to protect the confidentiality of the information, and that you intend to continue to take such measures;
2. the information is not, and has not been, reasonably obtainable without your consent by other persons using legitimate means;
3. either:
 - i. you have satisfactorily shown that disclosure of the information is likely to cause substantial harm to your competitive position; or
 - ii. the information is voluntarily submitted information and its disclosure would be likely to impair the Government's ability to obtain necessary information in the future;
4. no statute specifically requires disclosure of the information; and
5. you have to assert a claim of business confidentiality in writing. You may do so by checking the box below, adding your facility information and submitting along with your reporting forms.

I have read Items 1-5 and am hereby requesting that information submitted on my Recycling Facility Reporting Forms be kept as confidential information.

☐ Yes. (Box MUST be checked to claim privilege)

Facility Name:
Street Address: City: Zip Code:
Telephone: County:
Submitted By: Date:

Submit only one confidentiality form per facility. Applies only to facility identified above.

****Account for Materials actually Diverted to viable Resource Recovery End Use****

Select Facility Type: Industrial Recycling 8.5 or circle one of the following:
(MRF, End User, Municipality, Recyclable Material Generator, Industrial Recycler, Community, Large Retail Business, Broker)

Materials within each General Commodity grouping are organized by Sub-category, and further to Individual Commodity. Please provide data in the most specific categories possible.

General Commodity	Sub- category	Individual Commodity		Amount Received	Remaining On-site (end of year)	Amount Sent Off-site	Location Recyclables are Sent Off-Site to: (Facility Name, State)	Units of Measure
Paper			Total:	0	0	0		
Metals			Total:	0	0	0		
Batteries			Total:	0	0	0		
Plastics	(#1 -#7 Mixed)		Total:	0	0	0		
Organics			Total:	0	0	0		
Aggregates			Total:	20555	20555	0		Cubic Yards
Coal Combustion Products			Total:	0	0	0		
Textiles			Total:	0	0	0		
Glass			Total:	0	0	0		
Scrap Tires / Rubber			Total:	0	0	0		
Used Oil			Total:	0	0	0		
Anti-Freeze			Total:	0	0	0		
Cooking Oils			Total:	0	0	0		
Electronics			Total:	0	0	0		
Asphalt Shingles			Total:	0	0	0		
Single Stream Recyclables			Total:	0	0	0	list under specific commodity types for destinations unless sent as single stream	
List materials in your Single Stream collection	...							
	...							
Other Materials			Total:	330	330	0	Used on site for roadways	Cubic Yards
	Crushed asphalt			330	330		Sold to Aggregate Industries customers	330
	Write in...							
	Write in...							
	Write in...							

If you have questions regarding this form, please contact Wolf Kray at (303) 692-3337.

Attachment 2
Groundwater Monitoring Reports: 2010-105

Molen & Associates, LLC
Environmental Consultants

2090 E. 104th Ave., Suite 205 ♦ Thornton, Colorado 80233
Office 303-450-1600 ♦ Fax 303-452-4515

February 26, 2016

Mr. David Snapp
CDPHE – HMWMD
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

Subject: Broda's Inert Fill at Aggregate Industries Platte Valley Operations
1859 North Highway 85 at WCR 6, Brighton, Colorado (the Property)
Groundwater Monitoring Reports 2010-2015

Dear Mr. Snapp:

Contained within this letter report are the Broda's Inert Fill at Aggregate Industries Platte Valley Operations (Broda's Inert Fill) groundwater monitoring results for the period from August 2010 through November 2015. Groundwater monitoring at Broda's Inert Fill is being conducted on a semi-annual basis, with sampling events generally occurring in the spring and fall of each year, to establish baseline water quality at the facility. The groundwater monitoring network and sample collection procedures at the facility are generally consistent with regulations presented in Appendix B of the Colorado Department of Public Health and Environment (CDPHE) 6 CCR 1007-2, *Regulations Pertaining to Solid Waste Sites and Facilities, July 2007 - Appendix I for Detection Monitoring* as amended from time to time (Groundwater Monitoring Regulations). Routine groundwater sampling analytical parameters are consistent with detection monitoring parameters listed in Appendix IA and IB of the Groundwater Monitoring Regulations.

The following are included in this groundwater monitoring report:

- Groundwater elevation measurements
- Analytical results summaries and laboratory reports from each of the past sampling events
- Statistical evaluation results (including appropriate Shewart-CUSUM charts and time series plots) related to groundwater monitoring data from facility monitoring network wells.
- Laboratory Analytical Reports for all sample events from 2010 to 2015
- Field data sheets from the November 2015 sampling event

Facility Groundwater Monitoring Network and Property Conditions

The facility groundwater monitoring network consists of monitoring wells MW-1, MW-2, and MW-3 (see Figure 1). The direction of groundwater flow at the facility is northwesterly, toward the nearby South Platte River. Therefore, groundwater monitoring well, MW-3, serves as the up-

gradient facility well, and wells MW-1 and MW-2 serve as facility down-gradient wells. The Property was previously mined for aggregate, resulting in an open pit. The open pit has been excavated to an elevation below the water table, resulting in ponded groundwater and surface water across much of the property southeast of and adjacent to well MW-2. The Property is currently being filled with inert material along its east side.

Sample Collection

Groundwater samples have been collected on a semi-annual basis from facility monitoring wells. Groundwater sampling procedures have been performed in general compliance with the Groundwater Monitoring Regulations. Groundwater sample analytical parameters include detection monitoring parameters listed in Appendix IA and IB of the Groundwater Monitoring Regulations. Groundwater Sampling Field Data Sheets for the most recent sampling event (November 10, 2015) are presented in Appendix I.

Groundwater samples are routinely collected only after the following sequence of events have occurred:

- Monitoring well cap, lock and stickup are inspected
- Depths to the static water levels in all monitoring network wells are measured/recorded
- A minimum of three well casing volumes of groundwater are removed from at each well
- Field parameters of temperature, pH, conductivity, and temperature are measured (usually once per casing volume) until three consecutive tests were shown to be stable
- Sample bottles are labeled with the sampled well ID, date, and sampling time

Static groundwater elevation data was compiled from depth to groundwater measurements recorded using a Solinst water level meter with audible indicator. Measurements were recorded when the meter made an audible sound and read by placing the tape against the marked location on north side of the PVC well casing. Surveyed elevations were recorded from this marked location on each PVC well casing.

The facility monitoring network wells, MW-1, MW-2, and MW-3, have dedicated bailers. Well purging and sampling activities were completed using these dedicated bailers. The purge water was measured in a 5-gallon bucket and was discarded on the ground approximately 20 feet from the well. Purging continued until an adequate volume was removed (at least three well bore volumes) and the field parameters had stabilized in the purge water.

Groundwater samples, collected immediately following well purging activities, were transferred directly from the bailers into sample bottles provided by the laboratory. The sample bottles were preserved as appropriate for the analytical method. Sampling activities were conducted using new nitrile gloves, and sample bottles were filled without introducing contamination from soils or other foreign objects. The groundwater sample bottles were labeled, identifying the sample name, collection date and time, sampler's name, and the requested laboratory analyses. Immediately following collection, the samples were placed in an ice-filled cooler for overnight delivery following standard chain-of-custody procedures to Environmental Science Corporation (ESC)

analytical laboratory in Mt. Juliet, Tennessee. Following the conclusion of sampling activities, the wells were closed and locked.

Sample Analysis and Results

A summary of the all laboratory analytical results for each facility monitoring well is presented in Table 1, with complete laboratory reports provided in Appendix II. Alkalinity is reported as carbonate and bicarbonate, and a summation of those results provide the total alkalinity value. Carbonate values have been below the detection limits in all the groundwater results, and therefore, total alkalinity is equal to the bicarbonate value. No organic constituents included in the Appendix IB list have been detected during facility monitoring activities, with one exception. Acetone was detected in the sample from MW-1 collected December 14, 2010 at a concentration of 0.095 mg/L. Because acetone is a common laboratory contaminant and acetone has not been detected at well MW-1 since (or any of the other facility monitoring network wells), the detection of acetone at well MW-1 is considered suspect and likely a laboratory artifact.

Groundwater Level Monitoring Results

The depth to groundwater at facility monitoring network wells has remained relatively consistent for the 2010 through 2015 monitoring period, with levels recorded generally deviating less than one foot during the approximate five year monitoring period. Groundwater elevation data related to monitoring at the three monitoring network wells is presented in Table 2.

Groundwater Analytical Data Statistical Evaluation

Analytical results from facility monitoring network wells MW-1, MW-2, and MW-3 for the period August 2010 through November 2015 were entered into ChemStat[®] statistical software. Analytical results include the majority of Appendix IA indicator parameters and some metals from the Appendix IB inorganic constituents. Metals constituent data exhibiting a significant number of non-detectable values were not entered into the software, as the statistical evaluation of data sets with a majority of non-detectable concentration values is not appropriate. Since there has been no detection of volatile organic compounds (with the exception discussed above), the statistical evaluation of Appendix IB organic constituents is likewise not appropriate. The statistical analysis has been completed using inter-well statistical techniques, statistically comparing down-gradient wells (MW-1 and MW-2) data to up-gradient well (MW-3) data.

Analytical data was initially evaluated for statistical outliers using Dixon's outlier test. None of the outliers identified were rejected for use in the statistical analysis, because their use did not substantially alter the statistical analysis results.

Table 3 presents a summary of Shewart – CUSUM data and Table 4 presents a summary of additional statistical methods employed in the evaluation of analytical data. Appendix III contains select Shewart – CUSUM control charts and data time series plots.

Two of the facility wells, MW-1 and MW-2, demonstrate continued variability in relation to some constituents as described below:

- MW-1 exhibits continued variability with electrical conductivity, sodium, and sulfate, which have all been consistently statistically significant using the Wilcoxon Non-Parametric Rank Test. MW-1 is also above the control limit for one of those same parameters, sulfate, on the Shewhart CUSUM control charts. However, the Sen's Slope Analysis and Mann-Kendall Trend Analysis do not indicate any upward (or downward) trends in the data.
- MW-2 exhibits continued variability with electrical conductivity, sodium, sulfate, arsenic, chloride, and TOC, which have all been consistently statistically significant using the Wilcoxon Non-Parametric Rank Test. MW-2 is also above the control limit for those same parameters on the Shewhart CUSUM control charts. Also, the Sen's Slope Analysis and Mann-Kendall Trend Analysis indicate upward trends in the chloride, sodium, and sulfate data. Further, the Mann-Kendall Trend Analysis indicates an upward trend in the electrical conductivity data.
- The statistical evaluation of MW-3 does not suggest any significant variability.

Summary and Discussion

Groundwater monitoring events have been completed without any notable problems. As stated previously, groundwater has been monitored at the facility on a semi-annual basis since August 2010.

Dedicated bailers were placed into each well and have been utilized for each sampling event. Laboratory-provided sampling containers were used for all collected samples. Sample preservatives were added, as appropriate, to the samples collected and as indicated on the chain of custody. Iced sample coolers were shipped for over-night delivery, with chain-of-custody documentation, to the analytical laboratory shortly following sample collection. Samples received at the laboratory were immediately logged into the laboratory database for analysis.

The lake being filled receives drainage from the adjacent Highway 85. Aggregate Industries pumps water from other areas of the mining operation into the lake. For these reasons alone it cannot be implied that the inert fill materials are a source of exceedances of the indicator parameters. The data presented in this report should be considered background data from a statistical standpoint, as facility monitoring wells have not yet chemically stabilized. Current statistically significant, out of control Shewhart Control Charts, and increasing trends may be the result of natural variations in the groundwater geochemistry at the facility. Existing data and future monitoring data will continue to be used to establish background groundwater quality conditions. The absence of detectable organic constituents in monitoring, to date, suggests that there is no impact to groundwater quality from facility activities. The apparent slight difference in groundwater chemistry at well MW-2 may be due to its location, immediately downgradient from the large body of exposed groundwater on the property.

Please contact me if you have any questions or comments regarding this letter report.

Yours truly,
MOLEN & ASSOCIATES, LLC

A handwritten signature in black ink that reads "Mark A. Molen". The signature is fluid and cursive, with the first name "Mark" and last name "Molen" being more prominent than the middle initial "A".

Mark A Molen

cc. Patrick and Harrison Broda
Connie Davis, Aggregate Industries, Inc.
Ben Frissell, Weld County Environmental Health

Figure 1: Map of Groundwater Well Locations
Table 1: All Sample Event Analytical Results Summary
Table 2: Groundwater Elevation Measurements
Table 3: Shewhart – CUSUM Data Summary
Table 4: Additional Statistical Evaluations

Appendix I: Sampling Field Data Sheets
Appendix II: ESC Laboratory Reports
Appendix III: Shewhart – CUSUM Charts and Time Series Graphs

Figures and Tables

AGGREGATE INDUSTRIES PLATTE VALLEY OPERATIONS, WELD COUNTY, COLORADO.



MON. WELL	LATITUDE	LONGITUDE
MONITOR WELL - #1	N 40-01-18.798	W 104-48-06.717
MONITOR WELL - #2	N 40-01-19.675	W 104-49-27.587
MONITOR WELL - #3	N 40-00-58.651	W 104-49-09.630
GREAT WEST SUGAR TANK	N 39-59-07.475	W 104-48-12.027
C.D.O.M. MONUMENT	N 40-01-34.580	W 104-48-02.538

N 1/4 COR. OF SEC. 30
T.1N., R.66W.
(MONUMENT IN RANGE BOX)

WELD COUNTY ROAD 6

NOTICE:

ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

EXCEPT AS SHOWN OR SPECIFICALLY STATED THIS MAP DOES NOT PURPORT TO REFLECT ANY OF THE FOLLOWING WHICH MAY BE APPLICABLE TO THE SUBJECT REAL ESTATE: EASEMENTS, OTHER THAN POSSIBLE EASEMENTS WHICH WERE VISIBLE AT THE TIME OF MAKING THIS SURVEY, COMPATIBILITY OF THIS DESCRIPTION WITH THOSE OF ADJACENT TRACTS OF LAND OR RIGHTS-OF-WAYS, RESTRICTIVE COVENANTS, SUBDIVISION RESTRICTIONS, ZONING OR OTHER LAND USE REGULATIONS, ANY OTHER FACTS.

NO STATEMENT IS MADE CONCERNING SUBSURFACE CONDITIONS OR THE EXISTENCE OF OVERHEAD OR UNDERGROUND CONTAINERS OR FACILITIES, WHICH MAY AFFECT THE DEVELOPMENT OF THIS TRACT.

THERE MAY BE UNDERGROUND UTILITIES ADJACENT TO OR LOCATED ON THIS PARCEL NOT LOCATED BY THIS SURVEY.

BOUNDARY INFORMATION TAKEN FROM MAP OF PLATTE VALLEY PIT AM/5R-905
BY APPLICATE GROUP, DATED FEB. 25, 2004.

BENCHMARK: EXISTING 3 1/2" BRASS CAP MATCHING M.D.S. DATA SHEET #123
FOR "Q 260 RESET" IN SECTION 31, TOWNSHIP 1 NORTH, RANGE 66 WEST.
ELEVATION = 4963.01' N.A.V.D. 88 DATUM

T.B.M. TOP OF CONCRETE ON EAST SIDE OF A SIGN THAT IS APPROXIMATELY 75 FEET NORTH AND 30 FEET EAST OF THE SOUTHEAST CORNER OF PARCEL. TOP CONCRETE BASE AT EAST SIDE OF LARGE STEEL SIGN POST 70.00 FEET NORTH OF EAST-WEST FENCE AND 30.00 FEET WEST OF WEST RIGHT-OF-WAY FENCE ALONG U.S. HIGHWAY 88.
ELEVATION = 5216.87' N.A.S.D. 88 DATUM

VICINITY MAP
NOT TO SCALE



SOUTH PLATTE RIVER

**BRODA INERT FILL
AREA POND**

W 1/2, SEC. 30
T.1N. R.66W.

EAST LINE OF THE NEXT
HALF OF SEC. 30

TEMPORARY 1 —

T.B.M.

MONITOR WELL #3
ELEV. GROUND = 4949.44'
ELEV. TOP PVC = 4951.96'
ELEV. TOP CASING = 4952.33'

S. 1/4 COR OF SEC. 30
T. 1N., R. 66W.
(#6 REBAR)

SOUTH LINE OF THE WEST
HALF OF SEC. 30.

WELD COUNTY ROAD 4

— GREAT WEST SUGAR PLANT
WATER TANK TOWER WATCHING G.O.S. TIES

R.W. BAYER & ASSOCIATES, INC.
2090 EAST 104TH AVENUE, SUITE 200
THORNTON, COLORADO 80233-4316
(303) 452-3433 FAX: (720) 833-4214

MOLN & ASSOCIATES
2090 EAST 14TH AVENUE, SUITE 200
THORNTON, COLORADO 80233-4316

MONITOR WELL LOCATIONS

SCALE	DATE	DWG. BY	CHECK BY	PROJ. NO.
1"=200'	DEC. 21, 2010	S.J.M.	R.B.	2010-144
655	73	30-1N66-89I		1 OF 1

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-1

Results of Detected Values

Lab Sample ID			L474571-01			L481481-01			L493675-01			L509692-01		
Client Sample ID			MW-1			MW-1			MW-1			MW-1		
Collect Date			8/18/2010			9/29/2010			12/14/2010			4/5/2011		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	140		5	130		2	110		5	130		2
9056	Nitrate	mg/l	6.3		0.1	5.9		0.1	5.2		0.1	4.3		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	190		25	0.11		0.1	180		25	180		10
2320B	Alkalinity	mg/l	170			180		10	180		20	170		20
2320B	Alkalinity,Bicarbonate	mg/l	170		20	180		20	180		20	170		20
2320B	Alkalinity,Carbonate	mg/l	<20		20	<20		20	<20		20	<20		20
9040C	pH	su	7.3	T8		7.5	T8		7.1	T8		7	T8	
9050A	Specific Conductance	umhos/cm	1200			1200			1100			1100		1.8
9060A	TOC (Total Organic Carbon)	mg/l	3.7		1	3.6		1	2.8	P1	1	1		1
6020	Antimony	mg/l	<0.0010		0.001	0.0013		0.001	<0.0010		0.001	<0.0010		0.001
6020	Arsenic	mg/l	0.0018		0.001	0.0032		0.001	0.0014		0.001	0.0038		0.001
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Cadmium	mg/l	<0.00050		0.0005	<0.00050		0.0005	<0.00050		0.0005	<0.005		0.0005
6020	Copper	mg/l	0.009		0.002	0.017		0.002	0.0048		0.002	0.0072		0.002
6020	Lead	mg/l	<0.0050		0.005	0.011		0.001	0.0029		0.001	0.0033		0.001
6020	Selenium	mg/l	0.0032		0.001	0.0043		0.001	0.0038		0.001	0.0046		0.001
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Zinc	mg/l	0.027		0.01	0.05		0.01	0.014		0.01	0.019		0.01
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.15		0.005	0.15		0.005	0.094		0.005	0.11		0.005
6010B	Calcium	mg/l	79		0.5	81		0.5	75		0.5	67		0.5
6010B	Chromium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.01		0.01
6010B	Cobalt	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.01		0.01
6010B	Magnesium	mg/l	22		0.1	22		0.1	22		0.1	21		0.1
6010B	Nickel	mg/l	<0.020		0.02	<0.020		0.02	<0.020		0.02	<0.02		0.02
6010B	Potassium	mg/l	10		0.5	8.7		0.5	9.5		0.5	8.5		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	140		0.5	120		0.5	140		0.5	120		0.5
6010B	Vanadium	mg/l	0.015		0.01	<0.010		0.01	<0.010		0.01	<0.01		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	0.095		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-1

Results of Detected Values

Lab Sample ID			L541999-01			L571648-01			L602849-01			L633267-01		
Client Sample ID			MW-1			MW-1			MW-1			MW-1		
Collect Date			10/17/2011			4/24/2012			10/24/2012			4/30/2013		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	110		2	120		2	110		2	110		2
9056	Nitrate	mg/l	4.5		0.1	3.6		0.1	3.9		0.1	4.1		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	180		10	180		10	170		10	180		10
2320B	Alkalinity	mg/l	160		20	160		20	220		100	180		100
2320B	Alkalinity,Bicarbonate	mg/l	160		20	160		20	220		100	180		100
2320B	Alkalinity,Carbonate	mg/l	<20		20	<20		20	<100		100	<20		100
9040C	pH	su	7.5	T8		7.3	T8		7.6	T8		7.3	T8	
9050A	Specific Conductance	umhos/cm	1100		1.8	1000			1000			1100		
9060A	TOC (Total Organic Carbon)	mg/l	3		1	2.8		1	2.8		1	3.8		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Arsenic	mg/l	0.0019		0.001	0.0013		0.001	0.0023		0.001	0.0013		0.001
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Cadmium	mg/l	0.00085		0.0005	<0.00050		0.0005	<0.00050		0.0005	0.0016		0.0005
6020	Copper	mg/l	0.0044		0.002	<0.0020		0.002	0.0034		0.002	0.014		0.002
6020	Lead	mg/l	0.0028		0.001	<0.0010		0.001	0.0012		0.001	0.0044		0.001
6020	Selenium	mg/l	0.0034		0.001	0.0022		0.001	0.0036		0.001	0.0033		0.001
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Zinc	mg/l	0.01		0.01	<0.010		0.01	<0.010		0.01	0.026		0.01
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.35		0.005	0.074		0.005	0.076		0.005	0.11		0.005
6010B	Calcium	mg/l	68		0.5	63		0.5	62		0.5	74		0.5
6010B	Chromium	mg/l	0.025		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Cobalt	mg/l	0.01		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	25		0.1	20		0.1	21		0.1	23		0.1
6010B	Nickel	mg/l	0.022		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	17		0.5	7.3		0.5	8		0.5	7.9		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	160		0.5	120		0.5	120		0.5	120		0.5
6010B	Vanadium	mg/l	0.047		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-1

Results of Detected Values

Lab Sample ID			L670956-01			L697086-01			L734625-01			L762254-01		
Client Sample ID			MW-1			MW-1			MW-1			MW-1		
Collect Date			11/26/2013			5/5/2014			11/19/2014			4/29/2015		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	110		2	110		2	110		2	180		2
9056	Nitrate	mg/l	3.3		0.1	4.3		0.1	4.5		0.1	5.8		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	160		10	160		10	160		10	170		10
2320B	Alkalinity	mg/l	170		100	160		100	170		100	180		100
2320B	Alkalinity,Bicarbonate	mg/l	170		100	160		100	170		100	180		100
2320B	Alkalinity,Carbonate	mg/l	<20		100	<20		100	<20		100	<20		100
9040C	pH	su	7.8	T8		7.4	T8		7.8	T8		6.9	T8	
9050A	Specific Conductance	umhos/cm	1000			1000			1100			1100		
9060A	TOC (Total Organic Carbon)	mg/l	2.6		1	2		1	2.3		1	2.8		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0020		0.002	<0.0020		0.002
6020	Arsenic	mg/l	0.0012		0.001	0.0012		0.001	<0.0020		0.002	<0.0020		0.002
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0020		0.002	<0.0020		0.002
6020	Cadmium	mg/l	0.00069		0.0005	0.00098		0.0005	<0.001		0.001	<0.001		0.001
6020	Copper	mg/l	0.0094		0.002	0.012		0.002	<0.005		0.005	<0.005		0.005
6020	Lead	mg/l	0.0023		0.001	0.0047		0.001	<0.0020		0.002	0.004		0.002
6020	Selenium	mg/l	0.0033		0.001	0.0021		0.001	<0.0020		0.002	<0.0020		0.002
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.002		0.002	<0.002		0.002
6020	Zinc	mg/l	0.011		0.01	0.039		0.01	<0.025		0.025	<0.025		0.025
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.072		0.005	0.12		0.005	0.052		0.005	0.11		0.005
6010B	Calcium	mg/l	60		0.5	69		0.5	130		0.5	71		0.5
6010B	Chromium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	21		0.1	23		0.1	7.2		0.1	23		0.1
6010B	Nickel	mg/l	<0.020		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	8.6		0.5	9.1		0.5	<0.010		0.5	9.3		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.10		0.1	<0.10		0.1
6010B	Sodium	mg/l	120		0.5	120		0.5	6.4		0.5	120		0.5
6010B	Vanadium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-1

Results of Detected Values

Lab Sample ID			L800095-01		
Client Sample ID			MW-1		
Collect Date			11/10/2015		
Method	Parameter	Units	Value	Qual	RDL
9056	Chloride	mg/l	120		2
9056	Nitrate	mg/l	6.58		0.1
9056	Nitrite	mg/l	<0.10		0.1
9056	Sulfate	mg/l	88.4		10
2320B	Alkalinity	mg/l	194		100
2320B	Alkalinity,Bicarbonate	mg/l	194		100
2320B	Alkalinity,Carbonate	mg/l	<20		100
9040C	pH	su	7.29	T8	
9050A	Specific Conductance	umhos/cm	1130		
9060A	TOC (Total Organic Carbon)	mg/l	2.23		1
6020	Antimony	mg/l	<0.0020		0.002
6020	Arsenic	mg/l	<0.0020		0.002
6020	Beryllium	mg/l	<0.0020		0.002
6020	Cadmium	mg/l	<0.001		0.001
6020	Copper	mg/l	<0.005		0.005
6020	Lead	mg/l	<0.0020		0.002
6020	Selenium	mg/l	<0.0020		0.002
6010B	Thallium	mg/l	<0.002		0.002
6020	Zinc	mg/l	<0.025		0.025
7470A	Mercury	mg/l	<0.00020		0.0002
6010B	Barium	mg/l	0.0694		0.005
6010B	Calcium	mg/l	75.3		0.5
6010B	Chromium	mg/l	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01
6010B	Magnesium	mg/l	23.5		0.1
6010B	Nickel	mg/l	<0.020		0.02
6010B	Potassium	mg/l	8.64		0.5
6010B	Silver	mg/l	<0.10		0.1
6010B	Sodium	mg/l	120		0.5
6010B	Vanadium	mg/l	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-2

Results of Detected Values

Lab Sample ID			L474571-02			L481481-02			L493675-02			L509692-02		
Client Sample ID			MW-2			MW-2			MW-2			MW-2		
Collect Date			8/18/2010			9/29/2010			12/14/2010			4/5/2011		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	150		5	160		2	130		2	160		5
9056	Nitrate	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	0.17		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	190		25	190		0.1	180		10	230		25
2320B	Alkalinity	mg/l	190			200		10	200		20	160		20
2320B	Alkalinity,Bicarbonate	mg/l	190		20	200		20	200		20	160		20
2320B	Alkalinity,Carbonate	mg/l	<20		20	<20		20	<20		20	<20		20
9040C	pH	su	7.4	T8		7.7	T8		7.4	T8		7.1	T8	
9050A	Specific Conductance	umhos/cm	1200			1200			1200			1200		1.8
9060A	TOC (Total Organic Carbon)	mg/l	4.9		1	6.3		1	4.5		1	5.3		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Arsenic	mg/l	0.0085		0.005	0.0048		0.001	0.0052		0.001	0.0069		0.001
6020	Beryllium	mg/l	0.0023		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Cadmium	mg/l	0.0016		0.0005	0.0013		0.0005	0.0012		0.0005	0.00081		0.0005
6020	Copper	mg/l	0.063		0.01	0.018		0.002	0.022		0.002	0.009		0.002
6020	Lead	mg/l	0.066		0.005	0.014		0.001	0.016		0.001	0.0046		0.001
6020	Selenium	mg/l	<0.0050	O	0.005	0.0049		0.001	0.0032		0.001	0.0039		0.001
6010B	Thallium	mg/l	0.0012		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Zinc	mg/l	0.26		0.05	0.071		0.01	0.082		0.01	0.023		0.01
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.82		0.005	0.25		0.005	0.34		0.005	0.23		0.005
6010B	Calcium	mg/l	76		0.5	70		0.5	75		0.5	66		0.5
6010B	Chromium	mg/l	0.083		0.01	0.011		0.01	0.023		0.01	<0.010		0.01
6010B	Cobalt	mg/l	0.028		0.01	<0.010		0.01	0.012		0.01	<0.010		0.01
6010B	Magnesium	mg/l	34		0.1	24		0.1	26		0.1	20		0.1
6010B	Nickel	mg/l	0.054		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	33		0.5	14		0.5	14		0.5	9.8		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	160		0.5	140		0.5	160		0.5	150		0.5
6010B	Vanadium	mg/l	0.15		0.01	<0.010		0.01	0.033		0.01	<0.01		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-2

Results of Detected Values

Lab Sample ID			L541999-02			L571648-02			L602849-02			L633267-02		
Client Sample ID			MW-2			MW-2			MW-2			MW-2		
Collect Date			10/17/2011			4/24/2012			10/24/2012			4/30/2013		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	160		5	180		5	180		5	190		5
9056	Nitrate	mg/l	<0.10		0.1	0.12		0.1	<0.10		0.1	<0.10		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	210		25	230		25	200		25	250		25
2320B	Alkalinity	mg/l	160		20	160		20	210		100	170		100
2320B	Alkalinity,Bicarbonate	mg/l	160		20	160		20	210		100	170		100
2320B	Alkalinity,Carbonate	mg/l	<20		20	<20		20	<100		100	<20		100
9040C	pH	su	7.7	T8		7.5	T8		7.5	T8		7.6	T8	
9050A	Specific Conductance	umhos/cm	1200		1.8	1200			1300			1400		
9060A	TOC (Total Organic Carbon)	mg/l	6.1		1	7.4		1	5.5		1	8		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Arsenic	mg/l	0.0064		0.001	0.0032		0.001	0.0064		0.001	0.01		0.001
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Cadmium	mg/l	0.005		0.0005	<0.00050		0.0005	0.0014		0.0005	0.0024		0.0005
6020	Copper	mg/l	0.028		0.002	<0.0020		0.002	0.007		0.002	0.021		0.002
6020	Lead	mg/l	0.017		0.001	<0.0010		0.001	0.0031		0.001	0.01		0.001
6020	Selenium	mg/l	0.0036		0.001	0.002		0.001	0.0036		0.001	0.0031		0.001
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Zinc	mg/l	0.054		0.01	<0.010		0.01	0.018		0.01	0.046		0.01
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.25		0.005	0.13		0.005	0.18		0.005	0.4		0.005
6010B	Calcium	mg/l	87		0.5	71		0.5	70		0.5	79		0.5
6010B	Chromium	mg/l	0.014		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	21		0.1	21		0.1	21		0.1	24		0.1
6010B	Nickel	mg/l	<0.020		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	13		0.5	9.9		0.5	11		0.5	13		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	110		0.5	180		0.5	170		0.5	190		0.5
6010B	Vanadium	mg/l	0.025		0.01	<0.010		0.01	<0.010		0.01	0.019		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-2

Results of Detected Values

Lab Sample ID			L670956-02			L697086-02			L734625-02			L762254-02		
Client Sample ID			MW-2			MW-2			MW-2			MW-2		
Collect Date			11/26/2013			5/5/2014			11/19/2014			4/29/2015		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	180		5	190		5	190		5	247		5
9056	Nitrate	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	270		25	280		25	280		25	322		25
2320B	Alkalinity	mg/l	150		100	120		100	140		100	130		100
2320B	Alkalinity,Bicarbonate	mg/l	150		100	120		100	140		100	130		100
2320B	Alkalinity,Carbonate	mg/l	<20		100	<20		100	<20		100	<20		100
9040C	pH	su	7.6	T8		7.4	T8		7.7	T8		7.2	T8	
9050A	Specific Conductance	umhos/cm	1500			1400			1400			1400		
9060A	TOC (Total Organic Carbon)	mg/l	5.6		1	6.5		1	5		1	5.8		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0020		0.002	<0.0020		0.002
6020	Arsenic	mg/l	0.014		0.001	0.016		0.001	<0.0020		0.002	0.0031		0.002
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0020		0.002	<0.0020		0.002
6020	Cadmium	mg/l	<0.00050		0.0005	0.00057		0.0005	<0.001		0.001	<0.001		0.001
6020	Copper	mg/l	0.0056		0.002	0.0056		0.002	<0.005		0.005	<0.005		0.005
6020	Lead	mg/l	0.0019		0.001	0.002		0.001	<0.0020		0.002	<0.0020		0.002
6020	Selenium	mg/l	0.0036		0.001	0.0021		0.001	<0.0020		0.002	<0.0020		0.002
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.002		0.002	<0.002		0.002
6020	Zinc	mg/l	<0.010		0.01	0.012		0.01	<0.025		0.025	<0.025		0.025
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.31		0.005	0.42		0.005	0.1		0.005	0.13		0.005
6010B	Calcium	mg/l	71		0.5	78		0.5	120		0.5	69		0.5
6010B	Chromium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	20		0.1	23		0.1	17		0.1	21		0.1
6010B	Nickel	mg/l	<0.020		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	10		0.5	12		0.5	1.6		0.5	12		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	200		0.5	210		0.5	6.8		0.5	200		0.5
6010B	Vanadium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-2

Results of Detected Values

Lab Sample ID			L800095-02		
Client Sample ID			MW-2		
Collect Date			11/10/2015		
Method	Parameter	Units	Value	Qual	RDL
9056	Chloride	mg/l	180		5
9056	Nitrate	mg/l	<0.10		0.1
9056	Nitrite	mg/l	<0.10		0.1
9056	Sulfate	mg/l	303		25
2320B	Alkalinity	mg/l	165		100
2320B	Alkalinity,Bicarbonate	mg/l	165		100
2320B	Alkalinity,Carbonate	mg/l	<20		100
9040C	pH	su	7.44	T8	
9050A	Specific Conductance	umhos/cm	1510		
9060A	TOC (Total Organic Carbon)	mg/l	6.02		1
6020	Antimony	mg/l	<0.0020		0.002
6020	Arsenic	mg/l	0.00432		0.002
6020	Beryllium	mg/l	<0.0020		0.002
6020	Cadmium	mg/l	<0.001		0.001
6020	Copper	mg/l	<0.005		0.005
6020	Lead	mg/l	<0.0020		0.002
6020	Selenium	mg/l	<0.0020		0.002
6010B	Thallium	mg/l	<0.002		0.002
6020	Zinc	mg/l	<0.025		0.025
7470A	Mercury	mg/l	<0.00020		0.0002
6010B	Barium	mg/l	0.134		0.005
6010B	Calcium	mg/l	79.1		0.5
6010B	Chromium	mg/l	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01
6010B	Magnesium	mg/l	22.3		0.1
6010B	Nickel	mg/l	<0.020		0.02
6010B	Potassium	mg/l	11.9		0.5
6010B	Silver	mg/l	<0.010		0.01
6010B	Sodium	mg/l	191	V	0.5
6010B	Vanadium	mg/l	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-3

Results of Detected Values

Lab Sample ID			L474571-03			L481481-03			L493675-03			L509692-03		
Client Sample ID			MW-3			MW-3			MW-3			MW-3		
Collect Date			8/18/2010			9/29/2010			12/14/2010			4/5/2011		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	110		5	130		10	76		1	120		5
9056	Nitrate	mg/l	15		0.5	19		1	12		0.5	15		0.5
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	110		25	140		0.1	60		5	120		25
2320B	Alkalinity	mg/l	180		20	220		50	150		20	170		20
2320B	Alkalinity,Bicarbonate	mg/l	180		20	220		20	150		20	170		20
2320B	Alkalinity,Carbonate	mg/l	<20		20	<20		20	<20		20	<20		20
9040C	pH	su	7.2	T8		7.4	T8		7.5	T8		6.9	T8	
9050A	Specific Conductance	umhos/cm	1000			1200			950			1100		1.8
9060A	TOC (Total Organic Carbon)	mg/l	2.2		1	4		1	3.6		1	2.8		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Arsenic	mg/l	0.012		0.005	0.0097		0.001	0.0037		0.001	0.0036		0.001
6020	Beryllium	mg/l	0.0032		0.001	0.0026		0.001	<0.0010		0.001	<0.0010		0.001
6020	Cadmium	mg/l	0.001		0.0005	0.00097		0.0005	<0.00050		0.0005	0.00064		0.0005
6020	Copper	mg/l	0.077		0.01	0.043		0.002	0.016		0.002	0.011		0.002
6020	Lead	mg/l	0.14		0.005	0.069		0.001	0.019		0.001	0.012		0.001
6020	Selenium	mg/l	<0.0050	O	0.005	0.0061		0.001	0.0043		0.001	0.0068		0.001
6010B	Thallium	mg/l	0.0015		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Zinc	mg/l	0.32		0.05	0.18		0.01	0.064		0.01	0.039		0.01
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	1.8		0.005	0.81		0.005	0.27		0.005	0.26		0.005
6010B	Calcium	mg/l	110		0.5	100		0.5	75		0.5	96		0.5
6010B	Chromium	mg/l	0.082		0.01	0.027		0.01	0.015		0.01	0.012		0.01
6010B	Cobalt	mg/l	0.043		0.01	0.017		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	36		0.1	29		0.1	19		0.1	23		0.1
6010B	Nickel	mg/l	0.065		0.02	0.031		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	32		0.5	16		0.5	13		0.5	13		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	100		0.5	95		0.5	96		0.5	92		0.5
6010B	Vanadium	mg/l	0.15		0.01	0.031		0.01	0.029		0.01	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-3

Results of Detected Values

Lab Sample ID			L541999-03			L571648-03			L602849-03			L633267-03		
Client Sample ID			MW-3			MW-3			MW-3			MW-3		
Collect Date			10/17/2011			4/24/2012			10/24/2012			4/30/2013		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	120		5	110		2	140		5	130		5
9056	Nitrate	mg/l	15		0.5	17		0.1	15		0.1	15		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	130		25	140		10	140		25	110		25
2320B	Alkalinity	mg/l	170		20	160		20	180		100	160		100
2320B	Alkalinity,Bicarbonate	mg/l	170		20	160		20	180		100	160		100
2320B	Alkalinity,Carbonate	mg/l	<20		20	<20		20	<100		100	<20		100
9040C	pH	su	7.8	T8		7	T8		7.3	T8		7.2	T8	
9050A	Specific Conductance	umhos/cm	1100		1.8	1000			1000			1100		
9060A	TOC (Total Organic Carbon)	mg/l	2.4		1	3.4		1	2.8		1	2.6		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Arsenic	mg/l	0.0033		0.001	0.0023		0.001	0.0023		0.001	0.0015		0.001
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Cadmium	mg/l	0.0023		0.0005	<0.00050		0.0005	<0.00050		0.0005	0.0013		0.0005
6020	Copper	mg/l	0.012		0.002	0.0064		0.002	0.0052		0.002	0.0079		0.002
6020	Lead	mg/l	0.012		0.001	0.006		0.001	0.0033		0.001	0.0064		0.001
6020	Selenium	mg/l	0.0044		0.001	0.004		0.001	0.0052		0.001	0.0042		0.001
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001	<0.0010		0.001
6020	Zinc	mg/l	0.028		0.01	0.021		0.01	0.013		0.01	0.02		0.01
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.092		0.005	0.14		0.005	0.095		0.005	0.13		0.005
6010B	Calcium	mg/l	68		0.5	83		0.5	75		0.5	84		0.5
6010B	Chromium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	22		0.1	19		0.1	17		0.1	18		0.1
6010B	Nickel	mg/l	<0.020		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	8.4		0.5	8.1		0.5	10		0.5	12		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	120		0.5	110		0.5	100		0.5	100		0.5
6010B	Vanadium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-3

Results of Detected Values

Lab Sample ID			L670956-03			L697086-03			L734625-03			L762254-03		
Client Sample ID			MW-3			MW-3			MW-3			MW-3		
Collect Date			11/26/2013			5/5/2014			11/19/2014			4/29/2015		
Method	Parameter	Units	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL	Value	Qual	RDL
9056	Chloride	mg/l	110		5	94		5	110		5	190		5
9056	Nitrate	mg/l	17		0.1	12		0.1	12		0.1	10		0.1
9056	Nitrite	mg/l	<0.10		0.1	<0.10		0.1	<0.10		0.1	<0.10		0.1
9056	Sulfate	mg/l	120		25	120		25	140		25	160		25
2320B	Alkalinity	mg/l	160		100	130		100	170		100	190		100
2320B	Alkalinity,Bicarbonate	mg/l	160		100	130		100	170		100	190		100
2320B	Alkalinity,Carbonate	mg/l	<20		100	<20		100	<20		100	<20		100
9040C	pH	su	7.3	T8		7.3	T8		7.3	T8		6.8	T8	
9050A	Specific Conductance	umhos/cm	1100			950			1100			1100		
9060A	TOC (Total Organic Carbon)	mg/l	2.1		1	1.9		1	1.6		1	5.8		1
6020	Antimony	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0020		0.002	<0.0020		0.002
6020	Arsenic	mg/l	0.0011		0.001	0.0014		0.001	<0.0020		0.002	<0.0020		0.002
6020	Beryllium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.0020		0.002	<0.0020		0.002
6020	Cadmium	mg/l	<0.00050		0.0005	<0.00050		0.0005	<0.001		0.001	<0.001		0.001
6020	Copper	mg/l	0.0066		0.002	0.0057		0.002	<0.005		0.005	<0.005		0.005
6020	Lead	mg/l	0.0041		0.001	0.0045		0.001	<0.0020		0.002	<0.0020		0.002
6020	Selenium	mg/l	0.0041		0.001	0.004		0.001	<0.0020		0.002	0.0032		0.002
6010B	Thallium	mg/l	<0.0010		0.001	<0.0010		0.001	<0.002		0.002	<0.002		0.002
6020	Zinc	mg/l	0.013		0.01	0.032		0.01	<0.025		0.025	<0.025		0.025
7470A	Mercury	mg/l	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002	<0.00020		0.0002
6010B	Barium	mg/l	0.09		0.005	0.098		0.005	0.16		0.005	0.057		0.005
6010B	Calcium	mg/l	77		0.5	81		0.5	71		0.5	96		0.5
6010B	Chromium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Magnesium	mg/l	18		0.1	18		0.1	14		0.1	20		0.1
6010B	Nickel	mg/l	<0.020		0.02	<0.020		0.02	<0.020		0.02	<0.020		0.02
6010B	Potassium	mg/l	12		0.5	11		0.5	60		0.5	7.7		0.5
6010B	Silver	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
6010B	Sodium	mg/l	100		0.5	100		0.5	27		0.5	110		0.5
6010B	Vanadium	mg/l	<0.010		0.01	<0.010		0.01	<0.010		0.01	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05	<0.050		0.05	<0.050		0.05	<0.050		0.05

Table 1.

BRODA AI INERT FILL
GROUNDWATER MONITORING RESULTS

MW-3

Results of Detected Values

Lab Sample ID			L800095-03		
Client Sample ID			MW-3		
Collect Date			11/10/2015		
Method	Parameter	Units	Value	Qual	RDL
9056	Chloride	mg/l	117		5
9056	Nitrate	mg/l	11.2		0.1
9056	Nitrite	mg/l	<0.10		0.1
9056	Sulfate	mg/l	101		25
2320B	Alkalinity	mg/l	159		100
2320B	Alkalinity,Bicarbonate	mg/l	159		100
2320B	Alkalinity,Carbonate	mg/l	<20		100
9040C	pH	su	7.07	T8	
9050A	Specific Conductance	umhos/cm	988		
9060A	TOC (Total Organic Carbon)	mg/l	2.29		1
6020	Antimony	mg/l	<0.0020		0.002
6020	Arsenic	mg/l	<0.0020		0.002
6020	Beryllium	mg/l	<0.0020		0.002
6020	Cadmium	mg/l	<0.001		0.001
6020	Copper	mg/l	<0.005		0.005
6020	Lead	mg/l	0.00217		0.002
6020	Selenium	mg/l	0.0022		0.002
6010B	Thallium	mg/l	<0.002		0.002
6020	Zinc	mg/l	<0.025		0.025
7470A	Mercury	mg/l	<0.00020		0.0002
6010B	Barium	mg/l	0.0709		0.005
6010B	Calcium	mg/l	78.4		0.5
6010B	Chromium	mg/l	<0.010		0.01
6010B	Cobalt	mg/l	<0.010		0.01
6010B	Magnesium	mg/l	16.5		0.1
6010B	Nickel	mg/l	<0.020		0.02
6010B	Potassium	mg/l	8.18		0.5
6010B	Silver	mg/l	<0.010		0.01
6010B	Sodium	mg/l	92		0.5
6010B	Vanadium	mg/l	<0.010		0.01
8260B	Acetone	mg/l	<0.050		0.05

TABLE 2
Broda-AI Inert Fill Groundwater Elevation Measurements

Well ID	Installation and Sampling Date	Total Depth in Feet	Static Water Level in Feet	Surveyed Casing Stickup in Feet	Groundwater Elevation	Water Column in Feet
MW-1	6/17/2010	Well Installed				
	9/29/2010	36.28	6.33	2.32	4934.93	29.95
	8/18/2010	36.28	6.13	2.32	4935.13	30.15
	12/14/2010	36.27	6.82	2.32	4934.44	29.45
	4/5/2011	36.18	6.96	2.32	4934.30	29.22
	10/17/2011	36.11	6.28	2.32	4934.98	29.83
	4/24/2012	36.11	8.13	2.32	4933.13	27.98
	10/24/2012	36.00	7.71	2.32	4933.55	28.29
	4/30/2013	35.96	8.90	2.32	4932.36	27.06
	11/26/2013	36.03	6.66	2.32	4934.60	29.37
	5/5/2014	36.03	7.19	2.32	4934.07	28.84
	11/19/2014	36.00	6.28	2.32	4934.98	29.72
	4/29/2015	36.03	6.99	2.32	4934.27	29.04
	11/10/2015	36.03	6.78	2.32	4934.48	29.25
MW-2	6/17/2010	Well Installed				
	9/29/2010	27.51	8.53	2.51	4930.40	18.98
	8/18/2010	27.90	8.08	2.51	4930.85	19.82
	12/14/2010	27.49	8.59	2.51	4930.34	18.90
	4/5/2011	27.72	8.63	2.51	4930.30	19.09
	10/17/2011	27.08	8.55	2.51	4930.38	18.53
	4/24/2012	27.34	8.86	2.51	4930.07	18.48
	10/24/2012	27.83	8.91	2.51	4930.02	18.92
	4/30/2013	27.15	8.81	2.51	4930.12	18.34
	11/26/2013	27.17	8.30	2.51	4930.63	18.87
	5/5/2014	27.17	8.91	2.51	4930.02	18.26
	11/19/2014	27.17	8.09	2.51	4930.84	19.08
	4/29/2015	27.17	6.92	2.51	4932.01	20.25
	11/10/2015	27.17	8.01	2.51	4930.92	19.16
MW-3	6/17/2010	Well Installed				
	9/29/2010	39.90	14.58	2.52	4937.38	25.32
	8/18/2010	40.00	14.40	2.52	4937.56	25.60
	12/14/2010	39.50	14.50	2.52	4937.46	25.00
	4/5/2011	39.58	15.42	2.52	4936.54	24.16
	10/17/2011	39.11	14.32	2.52	4937.64	24.79
	4/24/2012	39.35	15.52	2.52	4936.44	23.83
	10/24/2012	39.06	15.22	2.52	4936.74	23.84
	4/30/2013	39.03	15.96	2.52	4936.00	23.07
	11/26/2013	38.99	14.17	2.52	4937.79	24.82
	5/5/2014	38.99	15.10	2.52	4936.86	23.89
	11/19/2014	38.99	13.80	2.52	4938.16	25.19
	4/29/2015	38.99	14.41	2.52	4937.55	24.58
	11/10/2015	37.27	13.80	2.52	4938.16	23.47

Note: Decreasing measured well depths indicates sediment accumulating at the bottom of the wells.

**Table 3: Evaluation of Shewhart – CUSUM Control Chart Data
For Groundwater Data: Aug. 2010 – Nov. 2015**

Parameter	MW-1	MW-2	MW-3
Alkalinity Bicarbonate			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chloride		OUT	
Chromium			
Cobalt			
Copper			
Electrical Conductivity		OUT	
Lead			
Magnesium			
Nickel			
Nitrate			
Nitrite			
Potassium			
Selenium			
Silver			
Sodium		OUT	
Sulfate	OUT	OUT	
Thallium			
TOC		OUT	
Vanadium			
Zinc			

OUT = Out of Control using CUSUM

Baseline = Thirteen sampling events for MW1, MW2, and MW3

Table 4: Additional Statistical Evaluations

Parameter	Sen's Slope Analysis			Mann-Kendall Upward Trend			Wilcoxon NP Rank Test		
	Monitoring Well			Monitoring Well			Monitoring Well		
	MW1	MW2	MW3	MW1	MW2	MW3	MW1	MW2	MW3
Alkalinity bicarbonate									
Antimony									
Arsenic								SS	
Barium									
Beryllium									
Cadmium									
Calcium									
Chloride		U			U			SS	
Chromium									
Cobalt									
Copper									
Electrical Conductivity					U		SS	SS	
Lead									
Magnesium									
Nickel									
Nitrate									
Nitrite									
Potassium									
Selenium									
Silver									
Sodium		U			U		SS	SS	
Sulfate		U			U		SS	SS	
Thallium									
TOC								SS	
Vanadium									
Zinc									

Baseline Samples = Nine sampling events for MW1, MW2, MW3 and five sampling events for MW4

U = Upward Trend

SS = Statistical Significance at 1% Level

Appendix I
Sampling Field Data Sheets

GROUND WATER SAMPLING FIELD DATA SHEET

CLIENT Broda's - AI

PROJECT Groundwater Monitoring

PROJECT NUMBER

10-0133

SITE AI-Platte Valley Pit

Well No. <u>MW-1</u>	Date: <u>11/10/15</u>	Time: <u>2:00</u>	Personnel: <u>Molen/Salmon</u>
Well Inspection (note condition): <u>Sunny, cool</u>			↗ ↘
Weather: <u>Good</u>			

Casing Diam. <u>2"</u>		Meter Calibration:		
Casing Stick-up: (in)	Sampling Kit:	Calibration by Equipment Rental Company		
Total Well Depth ¹ : (± 0.01 ft) <u>36.03</u>	Purging Equip. <u>pump</u>	Field Calibrated: ___ Yes <u>X</u> No		
Static Water Level ¹ : (± 0.01 ft) <u>9.78</u>	Sampling Equip. <u>dedicated bawler</u>	Time Sampled	Sample Tag	Comment
Saturated Thickness: (ft) <u>29.25</u>	Purge Volume (gal) <u>14</u>	<u>14:15</u>	<u>Metals</u>	
Casing Volume: (gal) <u>4.68</u>		<u>1</u>	<u>Nitrate/ite</u>	
		<u>↓</u>	<u>pH/cond</u>	
			<u>carb</u>	
			<u>TOC</u>	
			<u>VOC</u>	

¹ Measured from a defined point on the edge of casing (surveyed top of casing)

Time	Gallons Purged	pH (s.u)	Temp. (°C)	Cond (µS/cm)	TDS	Turbidity	Comments odor, color, appearance
<u>14:07</u>	<u>9</u>	<u>7.42</u>	<u>17.3</u>	<u>1.04</u>	<u>0.51</u>		
<u>14:09</u>	<u>10</u>	<u>7.66</u>	<u>16.3</u>	<u>1.05</u>	<u>0.52</u>		
<u>14:11</u>	<u>11</u>	<u>7.76</u>	<u>15.3</u>	<u>1.04</u>	<u>0.52</u>		
<u>14:12</u>	<u>12</u>	<u>7.81</u>	<u>15.3</u>	<u>1.05</u>	<u>0.52</u>		
<u>14:14</u>	<u>13</u>	<u>7.84</u>	<u>15.3</u>	<u>1.04</u>	<u>0.52</u>		

Remarks and/or Well Condition: _____

Collected by: Olivia Salmon

GROUND WATER SAMPLING FIELD DATA SHEET

CLIENT Broda's - AI

PROJECT Groundwater Monitoring

PROJECT #

10-0133

SITE AI-Platte Valley Pit

Well No. MW-2	Date: 11/10/15	Time: 2:30	Personnel: Molen/Salmon
Weather:			
Casing Diam. 2"		Meter Calibration:	
Casing Stick up (ft)	Sampling Kit:		
Total Well Depth: (with stickup) (ft)		Time Sampled:	
27.17		Sample Tag #:	Analysis Requested
		14:50	Metals
Static Water Level: (with stick-up) (ft)	Purging Equip.		Nitrate/nit
8.01	pump		pH/cond
Saturated Thickness (ft)	Sampling Equip.		carbs
19.16	purge volume:		TOC
Casing Volume: (gal)	9.2 g		VOC
3.07			

Time	Gallons Purged	pH	Temp. (°C)	Cond	TDS (°C)	Turbidity	Comments odor, color, appearance
14:35	5	7.86	18.2	1.40	0.70		
14:37	6	7.85	18.2	1.42	0.71		
14:40	7	7.93	17.8	1.42	0.71		
14:43	8	7.98	17.7	1.41	0.71		

Remarks and/or Well Condition: _____

Checked by: Mark Anderson

Collected by: [Signature]

Sampled for:

GROUND WATER SAMPLING FIELD DATA SHEET

CLIENT Broda's - AI

PROJECT Groundwater Monitoring

PROJECT #

10-0133

SITE Al-Platte Valley Pit

Well No. <u>MW-3</u>	Date: <u>11/10/2015</u>	Time: <u>3:00</u>	Personnel: <u>Molen/Salmon</u>
Weather: <u>Sunny, cool</u>			
Casing Diam.		Meter Calibration:	
Casing Stick-up: (ft)	Sampling Kit: <u>dedicated bailer</u>	Time Sampled: <u>15:30</u>	
Total Well Depth: * (with stick-up) (ft) <u>34.10</u>		Sample Tag #:	Analysis Requested: <u>Metals</u>
Static Water Level: ** (with stick-up) (ft) <u>10.85</u>	Purging Equip. <u>pump</u>		<u>Nitrate/it</u>
Saturated Thickness: (ft) <u>23.25</u>	Sampling Equip. purge volume: <u>11.16g</u>		<u>pH/cond</u>
Casing Volume: (gal) <u>3.72</u>			<u>Carb</u>
			<u>TOC</u>
			<u>VOC</u>

Time	Gallons Purged	pH	Temp. (°C)	Cond	TDS (°C)	Turbidity	Comments odor, color, appearance
1520	6	7.65	17.0	0.92	0.45		
1522	7	7.75	16.8	0.92	0.46		
1524	8	7.80	16.0	0.92	0.46		
1526	9	7.79	15.9	0.92	0.46		
1528	10	7.80	15.8	0.92	0.46		

Remarks and/or Well Condition: Well casing was knocked over. PVC cut to approx. 6" below ground surface and covered w/ a 5-gal. bucket. Cut segment = 4.62'. Additional cut segment(s) not observed

Checked by: M. Molen

Collected by: [Signature]

Sampled for:

* 34.75' to approx. ground surface
 ** 11.47' to approx. ground surface

Appendix II
ESC Laboratory Reports



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Report Summary

Tuesday May 12, 2015

Report Number: L762254

Samples Received: 04/30/15

Client Project: 10-0133

Description: Broda AL Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BI0041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

Sample ID : MW-1

Collected By : Mark A. Molen
Collection Date : 04/29/15 11:50

ESC Sample # : L762254-01

Site ID : BRODA, AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	180	10.	mg/l	9056MOD	05/01/15	10
Nitrate	5.8	0.10	mg/l	9056MOD	04/30/15	1
Nitrite	BDL	0.10	mg/l	9056MOD	04/30/15	1
Sulfate	170	50.	mg/l	9056MOD	05/01/15	10
Alkalinity	180	20.	mg/l	2320 B-2011	05/07/15	1
Alkalinity,Bicarbonate	180	20.	mg/l	2320 B-2011	05/08/15	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/08/15	1
pH	6.9		su	9040C	05/01/15	1
Specific Conductance	1100		umhos/cm	9050A	05/02/15	1
TOC (Total Organic Carbon)	2.8	1.0	mg/l	9060A	05/01/15	1
Antimony	BDL	0.0020	mg/l	6020	05/06/15	1
Arsenic	BDL	0.0020	mg/l	6020	05/06/15	1
Beryllium	BDL	0.0020	mg/l	6020	05/06/15	1
Cadmium	BDL	0.0010	mg/l	6020	05/06/15	1
Copper	BDL	0.0050	mg/l	6020	05/06/15	1
Lead	0.0040	0.0020	mg/l	6020	05/06/15	1
Selenium	BDL	0.0020	mg/l	6020	05/06/15	1
Thallium	BDL	0.0020	mg/l	6020	05/06/15	1
Zinc	BDL	0.025	mg/l	6020	05/06/15	1
Mercury	BDL	0.00020	mg/l	7470A	05/01/15	1
Barium	0.11	0.0050	mg/l	6010B	05/05/15	1
Calcium	71.	1.0	mg/l	6010B	05/05/15	1
Chromium	BDL	0.010	mg/l	6010B	05/05/15	1
Cobalt	BDL	0.010	mg/l	6010B	05/05/15	1
Magnesium	23.	1.0	mg/l	6010B	05/05/15	1
Nickel	BDL	0.020	mg/l	6010B	05/05/15	1
Potassium	9.3	1.0	mg/l	6010B	05/05/15	1
Silver	BDL	0.010	mg/l	6010B	05/05/15	1
Sodium	120	1.0	mg/l	6010B	05/05/15	1
Vanadium	BDL	0.020	mg/l	6010B	05/05/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/08/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/08/15	1
Benzene	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762254-01 (PH) - 6.9 at 17.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

Sample ID : MW-1

Collected By : Mark A. Molen
Collection Date : 04/29/15 11:50

ESC Sample # : L762254-01

Site ID : BRODA, AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/08/15	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/08/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/08/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/08/15	1
Chloroform	BDL	0.0050	mg/l	8260B	05/08/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/08/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/08/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/08/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/08/15	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/08/15	1
Iodomethane	BDL	0.010	mg/l	8260B	05/08/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/08/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/08/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/08/15	1
Styrene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
Toluene	BDL	0.0050	mg/l	8260B	05/08/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/08/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/08/15	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/08/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/08/15	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/08/15	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	05/08/15	1
Dibromofluoromethane	103.		% Rec.	8260B	05/08/15	1
a,a,a-Trifluorotoluene	106.		% Rec.	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762254-01 (PH) - 6.9 at 17.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

Sample ID : MW-1

Collected By : Mark A. Molen
Collection Date : 04/29/15 11:50

ESC Sample # : L762254-01

Site ID : BRODA, AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	108.		% Rec.	8260B	05/08/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/12/15 20:36 Printed: 05/12/15 20:53
L762254-01 (PH) - 6.9 at 17.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

ESC Sample # : L762254-02

Sample ID : MW-2

Site ID : BRODA, AL

Collected By : Mark A. Molen
Collection Date : 04/29/15 12:35

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	250	10.	mg/l	9056MOD	05/01/15	10
Nitrate	BDL	0.10	mg/l	9056MOD	04/30/15	1
Nitrite	BDL	0.10	mg/l	9056MOD	04/30/15	1
Sulfate	320	50.	mg/l	9056MOD	05/01/15	10
Alkalinity	130	20.	mg/l	2320 B-2011	05/07/15	1
Alkalinity,Bicarbonate	130	20.	mg/l	2320 B-2011	05/08/15	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/08/15	1
pH	7.2		su	9040C	05/01/15	1
Specific Conductance	1400		umhos/cm	9050A	05/02/15	1
TOC (Total Organic Carbon)	5.8	1.0	mg/l	9060A	05/01/15	1
Antimony	BDL	0.0020	mg/l	6020	05/06/15	1
Arsenic	0.0031	0.0020	mg/l	6020	05/06/15	1
Beryllium	BDL	0.0020	mg/l	6020	05/06/15	1
Cadmium	BDL	0.0010	mg/l	6020	05/06/15	1
Copper	BDL	0.0050	mg/l	6020	05/06/15	1
Lead	BDL	0.0020	mg/l	6020	05/06/15	1
Selenium	BDL	0.0020	mg/l	6020	05/06/15	1
Thallium	BDL	0.0020	mg/l	6020	05/06/15	1
Zinc	BDL	0.025	mg/l	6020	05/06/15	1
Mercury	BDL	0.00020	mg/l	7470A	05/01/15	1
Barium	0.13	0.0050	mg/l	6010B	05/05/15	1
Calcium	69.	1.0	mg/l	6010B	05/05/15	1
Chromium	BDL	0.010	mg/l	6010B	05/05/15	1
Cobalt	BDL	0.010	mg/l	6010B	05/05/15	1
Magnesium	21.	1.0	mg/l	6010B	05/05/15	1
Nickel	BDL	0.020	mg/l	6010B	05/05/15	1
Potassium	12.	1.0	mg/l	6010B	05/05/15	1
Silver	BDL	0.010	mg/l	6010B	05/05/15	1
Sodium	200	1.0	mg/l	6010B	05/05/15	1
Vanadium	BDL	0.020	mg/l	6010B	05/05/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/08/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/08/15	1
Benzene	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762254-02 (PH) - 7.2 at 17.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

ESC Sample # : L762254-02

Sample ID : MW-2

Site ID : BRODA, AL

Collected By : Mark A. Molen
Collection Date : 04/29/15 12:35

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/08/15	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/08/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/08/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/08/15	1
Chloroform	BDL	0.0050	mg/l	8260B	05/08/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/08/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/08/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/08/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/08/15	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/08/15	1
Iodomethane	BDL	0.010	mg/l	8260B	05/08/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/08/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/08/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/08/15	1
Styrene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
Toluene	BDL	0.0050	mg/l	8260B	05/08/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/08/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/08/15	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/08/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/08/15	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/08/15	1
Surrogate Recovery						
Toluene-d8	105.		% Rec.	8260B	05/08/15	1
Dibromofluoromethane	102.		% Rec.	8260B	05/08/15	1
a,a,a-Trifluorotoluene	107.		% Rec.	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762254-02 (PH) - 7.2 at 17.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

Sample ID : MW-2

Collected By : Mark A. Molen
Collection Date : 04/29/15 12:35

ESC Sample # : L762254-02

Site ID : BRODA, AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	108.		% Rec.	8260B	05/08/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/12/15 20:36 Printed: 05/12/15 20:53
L762254-02 (PH) - 7.2 at 17.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

ESC Sample # : L762254-03

Sample ID : MW-3

Site ID : BRODA, AL

Collected By : Mark A. Molen
Collection Date : 04/29/15 13:45

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	190	10.	mg/l	9056MOD	05/01/15	10
Nitrate	10.	1.0	mg/l	9056MOD	05/12/15	10
Nitrite	BDL	0.10	mg/l	9056MOD	04/30/15	1
Sulfate	160	50.	mg/l	9056MOD	05/01/15	10
Alkalinity	190	20.	mg/l	2320 B-2011	05/07/15	1
Alkalinity,Bicarbonate	190	20.	mg/l	2320 B-2011	05/11/15	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/11/15	1
pH	6.8		su	9040C	05/01/15	1
Specific Conductance	1100		umhos/cm	9050A	05/02/15	1
TOC (Total Organic Carbon)	2.4	1.0	mg/l	9060A	05/01/15	1
Antimony	BDL	0.0020	mg/l	6020	05/06/15	1
Arsenic	BDL	0.0020	mg/l	6020	05/06/15	1
Beryllium	BDL	0.0020	mg/l	6020	05/06/15	1
Cadmium	BDL	0.0010	mg/l	6020	05/06/15	1
Copper	BDL	0.0050	mg/l	6020	05/06/15	1
Lead	BDL	0.0020	mg/l	6020	05/06/15	1
Selenium	0.0032	0.0020	mg/l	6020	05/06/15	1
Thallium	BDL	0.0020	mg/l	6020	05/06/15	1
Zinc	BDL	0.025	mg/l	6020	05/06/15	1
Mercury	BDL	0.00020	mg/l	7470A	05/01/15	1
Barium	0.057	0.0050	mg/l	6010B	05/05/15	1
Calcium	96.	1.0	mg/l	6010B	05/05/15	1
Chromium	BDL	0.010	mg/l	6010B	05/05/15	1
Cobalt	BDL	0.010	mg/l	6010B	05/05/15	1
Magnesium	20.	1.0	mg/l	6010B	05/05/15	1
Nickel	BDL	0.020	mg/l	6010B	05/05/15	1
Potassium	7.7	1.0	mg/l	6010B	05/05/15	1
Silver	BDL	0.010	mg/l	6010B	05/05/15	1
Sodium	110	1.0	mg/l	6010B	05/05/15	1
Vanadium	BDL	0.020	mg/l	6010B	05/05/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/08/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/08/15	1
Benzene	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762254-03 (PH) - 6.8 at 17.6c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

ESC Sample # : L762254-03

Sample ID : MW-3

Site ID : BRODA, AL

Collected By : Mark A. Molen
Collection Date : 04/29/15 13:45

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/08/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/08/15	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/08/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/08/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/08/15	1
Chloroform	BDL	0.0050	mg/l	8260B	05/08/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/08/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/08/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/08/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/08/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/08/15	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/08/15	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/08/15	1
Iodomethane	BDL	0.010	mg/l	8260B	05/08/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/08/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/08/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/08/15	1
Styrene	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
Toluene	BDL	0.0050	mg/l	8260B	05/08/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/08/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/08/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/08/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/08/15	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/08/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/08/15	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/08/15	1
Surrogate Recovery						
Toluene-d8	107.		% Rec.	8260B	05/08/15	1
Dibromofluoromethane	95.3		% Rec.	8260B	05/08/15	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L762254-03 (PH) - 6.8 at 17.6c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 12, 2015

Date Received : April 30, 2015
Description : Broda AL Inert Fill

Sample ID : MW-3

Collected By : Mark A. Molen
Collection Date : 04/29/15 13:45

ESC Sample # : L762254-03

Site ID : BRODA, AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	105.		% Rec.	8260B	05/08/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
Reported: 05/12/15 20:36 Printed: 05/12/15 20:53
L762254-03 (PH) - 6.8 at 17.6c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L762254-01	WG786042	SAMP	Acetone	R3035772	J4
	WG786042	SAMP	Carbon disulfide	R3035772	J3
	WG785909	SAMP	pH	R3034431	T8
L762254-02	WG786042	SAMP	Acetone	R3035772	J4
	WG786042	SAMP	Carbon disulfide	R3035772	J3
	WG785909	SAMP	pH	R3034431	T8
L762254-03	WG786042	SAMP	Acetone	R3035772	J4
	WG786042	SAMP	Carbon disulfide	R3035772	J3
	WG785909	SAMP	pH	R3034431	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TOC (Total Organic Carbon)	< 1	mg/l			WG785933	04/30/15 19:01
Mercury	< .0002	mg/l			WG786105	05/01/15 18:22
Specific Conductance	1.10	umhos/cm			WG786217	05/02/15 04:30
Barium	< .005	mg/l			WG786595	05/05/15 01:28
Calcium	< 1	mg/l			WG786595	05/05/15 01:28
Chromium	< .01	mg/l			WG786595	05/05/15 01:28
Cobalt	< .01	mg/l			WG786595	05/05/15 01:28
Magnesium	< 1	mg/l			WG786595	05/05/15 01:28
Nickel	< .02	mg/l			WG786595	05/05/15 01:28
Potassium	< 1	mg/l			WG786595	05/05/15 01:28
Silver	< .01	mg/l			WG786595	05/05/15 01:28
Sodium	< 1	mg/l			WG786595	05/05/15 01:28
Vanadium	< .02	mg/l			WG786595	05/05/15 01:28
Antimony	< .002	mg/l			WG786739	05/06/15 02:10
Arsenic	< .002	mg/l			WG786739	05/06/15 02:10
Beryllium	< .002	mg/l			WG786739	05/06/15 02:10
Cadmium	< .001	mg/l			WG786739	05/06/15 02:10
Copper	< .005	mg/l			WG786739	05/06/15 02:10
Lead	< .002	mg/l			WG786739	05/06/15 02:10
Selenium	< .002	mg/l			WG786739	05/06/15 02:10
Thallium	< .002	mg/l			WG786739	05/06/15 02:10
Zinc	< .025	mg/l			WG786739	05/06/15 02:10
Chloride	< 1	mg/l			WG785790	04/30/15 08:20
Nitrate	< .1	mg/l			WG785790	04/30/15 08:20
Nitrite	< .1	mg/l			WG785790	04/30/15 08:20
Sulfate	< 5	mg/l			WG785790	04/30/15 08:20
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG786042	05/07/15 20:46
1,1,1-Trichloroethane	< .001	mg/l			WG786042	05/07/15 20:46
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG786042	05/07/15 20:46
1,1,2-Trichloroethane	< .001	mg/l			WG786042	05/07/15 20:46
1,1-Dichloroethane	< .001	mg/l			WG786042	05/07/15 20:46
1,1-Dichloroethene	< .001	mg/l			WG786042	05/07/15 20:46
1,2,3-Trichloropropane	< .001	mg/l			WG786042	05/07/15 20:46
1,2-Dichlorobenzene	< .001	mg/l			WG786042	05/07/15 20:46
1,2-Dichloroethane	< .001	mg/l			WG786042	05/07/15 20:46
1,2-Dichloropropane	< .001	mg/l			WG786042	05/07/15 20:46
1,4-Dichlorobenzene	< .001	mg/l			WG786042	05/07/15 20:46
2-Butanone (MEK)	< .01	mg/l			WG786042	05/07/15 20:46
2-Hexanone	< .01	mg/l			WG786042	05/07/15 20:46
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG786042	05/07/15 20:46
Acetone	< .05	mg/l			WG786042	05/07/15 20:46
Acrylonitrile	< .01	mg/l			WG786042	05/07/15 20:46
Benzene	< .001	mg/l			WG786042	05/07/15 20:46
Bromochloromethane	< .001	mg/l			WG786042	05/07/15 20:46
Bromodichloromethane	< .001	mg/l			WG786042	05/07/15 20:46
Bromoform	< .001	mg/l			WG786042	05/07/15 20:46
Bromomethane	< .005	mg/l			WG786042	05/07/15 20:46

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Carbon disulfide	< .001	mg/l			WG786042	05/07/15 20:46
Carbon tetrachloride	< .001	mg/l			WG786042	05/07/15 20:46
Chlorobenzene	< .001	mg/l			WG786042	05/07/15 20:46
Chlorodibromomethane	< .001	mg/l			WG786042	05/07/15 20:46
Chloroethane	< .005	mg/l			WG786042	05/07/15 20:46
Chloroform	< .005	mg/l			WG786042	05/07/15 20:46
Chloromethane	< .0025	mg/l			WG786042	05/07/15 20:46
cis-1,2-Dichloroethene	< .001	mg/l			WG786042	05/07/15 20:46
cis-1,3-Dichloropropene	< .001	mg/l			WG786042	05/07/15 20:46
Dibromomethane	< .001	mg/l			WG786042	05/07/15 20:46
Ethylbenzene	< .001	mg/l			WG786042	05/07/15 20:46
Iodomethane	< .01	mg/l			WG786042	05/07/15 20:46
Methylene Chloride	< .005	mg/l			WG786042	05/07/15 20:46
Styrene	< .001	mg/l			WG786042	05/07/15 20:46
Tetrachloroethene	< .001	mg/l			WG786042	05/07/15 20:46
Toluene	< .005	mg/l			WG786042	05/07/15 20:46
trans-1,2-Dichloroethene	< .001	mg/l			WG786042	05/07/15 20:46
trans-1,3-Dichloropropene	< .001	mg/l			WG786042	05/07/15 20:46
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG786042	05/07/15 20:46
Trichloroethene	< .001	mg/l			WG786042	05/07/15 20:46
Trichlorofluoromethane	< .005	mg/l			WG786042	05/07/15 20:46
Vinyl acetate	< .01	mg/l			WG786042	05/07/15 20:46
Vinyl chloride	< .001	mg/l			WG786042	05/07/15 20:46
Xylenes, Total	< .003	mg/l			WG786042	05/07/15 20:46
4-Bromofluorobenzene		% Rec.	108.0	71-126	WG786042	05/07/15 20:46
Dibromofluoromethane		% Rec.	102.0	78.3-121	WG786042	05/07/15 20:46
Toluene-d8		% Rec.	107.0	88.5-111	WG786042	05/07/15 20:46
a,a,a-Trifluorotoluene		% Rec.	107.0	85-114	WG786042	05/07/15 20:46
Alkalinity	< 20	mg/l			WG787237	05/07/15 12:31
Alkalinity	< 20	mg/l			WG787238	05/07/15 18:41
Nitrate	< .1	mg/l			WG787847	05/11/15 22:44

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
TOC (Total Organic Carbon)	mg/l	4.60	4.60		0.0	20	L761814-01	WG785933
TOC (Total Organic Carbon)	mg/l	21.0	21.0		0.0	20	L762281-01	WG785933
pH	su	6.20	6.30		0.797	1	L762145-01	WG785909
pH	su	7.40	7.40		0.542	1	L762273-01	WG785909
Specific Conductance	umhos/cm	1400	1400		2.82	20	L762254-02	WG786217
Specific Conductance	umhos/cm	18.0	18.0		0.0	20	L762465-01	WG786217
Nitrate	mg/l	0.0	0.0		0.0	20	L762155-01	WG785790
Nitrite	mg/l	0.0	0.0		0.0	20	L762155-01	WG785790
Sulfate	mg/l	63.0	62.7		1.00	20	L762155-01	WG785790
Nitrate	mg/l	0.0	0.0392		0.0	20	L762254-02	WG785790
Nitrite	mg/l	0.0	0.0		0.0	20	L762254-02	WG785790
Chloride	mg/l	250.	247.		2.00	20	L762254-02	WG785790

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Sulfate	mg/l	320.	322.	1.00	20	L762254-02	WG785790
Alkalinity	mg/l	390.	380.	2.08	20	L761954-02	WG787237
Alkalinity	mg/l	130.	130.	1.53	20	L762254-02	WG787237
Alkalinity	mg/l	190.	190.	0.528	20	L762254-03	WG787238
Alkalinity	mg/l	0.0	0.0	0.0	20	L762345-01	WG787238
Nitrate	mg/l	0.190	0.183	3.00	20	L763536-02	WG787847
Nitrate	mg/l	7.50	7.27	3.00	20	L762104-06	WG787847

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
TOC (Total Organic Carbon)	mg/l	75	75.5	101.	85-115	WG785933
pH	su	7.84	7.77	99.1	98.3-101.7	WG785909
Mercury	mg/l	.003	0.00312	104.	80-120	WG786105
Specific Conductance	umhos/cm	534	539.	101.	85-115	WG786217
Barium	mg/l	1	1.05	105.	80-120	WG786595
Calcium	mg/l	10	10.0	100.	80-120	WG786595
Chromium	mg/l	1	1.02	102.	80-120	WG786595
Cobalt	mg/l	1	1.02	102.	80-120	WG786595
Magnesium	mg/l	10	10.3	103.	80-120	WG786595
Nickel	mg/l	1	1.01	101.	80-120	WG786595
Potassium	mg/l	10	10.7	107.	80-120	WG786595
Silver	mg/l	1	1.01	101.	80-120	WG786595
Sodium	mg/l	10	10.2	102.	80-120	WG786595
Vanadium	mg/l	1	1.04	104.	80-120	WG786595
Antimony	mg/l	.05	0.0544	109.	80-120	WG786739
Arsenic	mg/l	.05	0.0530	106.	80-120	WG786739
Beryllium	mg/l	.05	0.0481	96.0	80-120	WG786739
Cadmium	mg/l	.05	0.0537	107.	80-120	WG786739
Copper	mg/l	.05	0.0524	105.	80-120	WG786739
Lead	mg/l	.05	0.0510	102.	80-120	WG786739
Selenium	mg/l	.05	0.0556	111.	80-120	WG786739
Thallium	mg/l	.05	0.0504	101.	80-120	WG786739
Zinc	mg/l	.05	0.0495	99.0	80-120	WG786739
Chloride	mg/l	40	39.8	99.0	90-110	WG785790
Nitrate	mg/l	8	8.01	100.	90-110	WG785790
Nitrite	mg/l	8	7.89	99.0	90-110	WG785790
Sulfate	mg/l	40	40.7	102.	90-110	WG785790
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0221	88.4	74.2-124	WG786042

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,1,1-Trichloroethane	mg/l	.025	0.0195	78.1	73.2-123	WG786042
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0254	102.	70.7-122	WG786042
1,1,2-Trichloroethane	mg/l	.025	0.0211	84.5	77.7-118	WG786042
1,1-Dichloroethane	mg/l	.025	0.0196	78.4	70.7-126	WG786042
1,1-Dichloroethene	mg/l	.025	0.0175	69.9	67.8-129	WG786042
1,2,3-Trichloropropane	mg/l	.025	0.0219	87.5	71.8-121	WG786042
1,2-Dichlorobenzene	mg/l	.025	0.0212	84.6	78.4-117	WG786042
1,2-Dichloroethane	mg/l	.025	0.0185	74.0	68.8-124	WG786042
1,2-Dichloropropane	mg/l	.025	0.0208	83.2	76.5-119	WG786042
1,4-Dichlorobenzene	mg/l	.025	0.0200	80.0	78.8-115	WG786042
2-Butanone (MEK)	mg/l	.125	0.140	112.	55-149	WG786042
2-Hexanone	mg/l	.125	0.133	106.	65.6-144	WG786042
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.116	93.0	70.5-133	WG786042
Acetone	mg/l	.125	0.200	160.	35.6-163	WG786042
Acrylonitrile	mg/l	.125	0.117	93.3	55.2-130	WG786042
Benzene	mg/l	.025	0.0199	79.4	74.8-121	WG786042
Bromochloromethane	mg/l	.025	0.0205	81.9	77.6-119	WG786042
Bromodichloromethane	mg/l	.025	0.0194	77.4	75.1-116	WG786042
Bromoform	mg/l	.025	0.0220	88.2	67.5-130	WG786042
Bromomethane	mg/l	.025	0.0196	78.4	49.9-162	WG786042
Carbon disulfide	mg/l	.025	0.0163	65.3	64.6-140	WG786042
Carbon tetrachloride	mg/l	.025	0.0195	78.2	70.2-123	WG786042
Chlorobenzene	mg/l	.025	0.0216	86.6	78.1-119	WG786042
Chlorodibromomethane	mg/l	.025	0.0214	85.5	74-121	WG786042
Chloroethane	mg/l	.025	0.0198	79.1	61.7-135	WG786042
Chloroform	mg/l	.025	0.0195	78.2	76-121	WG786042
Chloromethane	mg/l	.025	0.0191	76.3	61.5-129	WG786042
cis-1,2-Dichloroethene	mg/l	.025	0.0202	81.0	76-119	WG786042
cis-1,3-Dichloropropene	mg/l	.025	0.0210	84.0	78.2-120	WG786042
Dibromomethane	mg/l	.025	0.0200	79.9	79.5-118	WG786042
Ethylbenzene	mg/l	.025	0.0215	86.1	78.8-122	WG786042
Iodomethane	mg/l	.125	0.0907	72.6	61-130	WG786042
Methylene Chloride	mg/l	.025	0.0194	77.6	70.3-120	WG786042
Styrene	mg/l	.025	0.0221	88.6	80.4-126	WG786042
Tetrachloroethene	mg/l	.025	0.0214	85.5	72.6-126	WG786042
Toluene	mg/l	.025	0.0209	83.8	79.7-116	WG786042
trans-1,2-Dichloroethene	mg/l	.025	0.0196	78.4	72.6-121	WG786042
trans-1,3-Dichloropropene	mg/l	.025	0.0213	85.4	74.3-123	WG786042
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0205	82.0	65.1-123	WG786042
Trichloroethene	mg/l	.025	0.0195	78.0	77.7-118	WG786042
Trichlorofluoromethane	mg/l	.025	0.0199	79.7	63.5-135	WG786042
Vinyl acetate	mg/l	.125	0.120	96.0	65-138	WG786042
Vinyl chloride	mg/l	.025	0.0205	82.1	65.9-128	WG786042
Xylenes, Total	mg/l	.075	0.0662	88.3	78.7-121	WG786042
4-Bromofluorobenzene				106.0	71-126	WG786042
Dibromofluoromethane				103.0	78.3-121	WG786042
Toluene-d8				106.0	88.5-111	WG786042
a,a,a-Trifluorotoluene				106.0	85-114	WG786042
Alkalinity	mg/l	100	87.0	87.0	85-115	WG787237
Alkalinity	mg/l	100	110.	110.	85-115	WG787238
Nitrate	mg/l	8	8.12	102.	90-110	WG787847

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
TOC (Total Organic Carbon)	mg/l	75.4	75.5	100.	85-115	0.0398	20	WG785933
pH	su	7.76	7.77	99.0	98.3-101.7	0.129	20	WG785909
Mercury	mg/l	0.00338	0.00312	113.	80-120	8.00	20	WG786105
Specific Conductance	umhos/	539.	539.	101.	85-115	0.0	20	WG786217
Barium	mg/l	1.05	1.05	104.	80-120	0.0	20	WG786595
Calcium	mg/l	10.0	10.0	100.	80-120	0.0	20	WG786595
Chromium	mg/l	1.02	1.02	102.	80-120	0.0	20	WG786595
Cobalt	mg/l	1.02	1.02	102.	80-120	0.0	20	WG786595
Magnesium	mg/l	10.3	10.3	103.	80-120	0.0	20	WG786595
Nickel	mg/l	1.01	1.01	101.	80-120	0.0	20	WG786595
Potassium	mg/l	10.5	10.7	105.	80-120	2.00	20	WG786595
Silver	mg/l	1.01	1.01	101.	80-120	0.0	20	WG786595
Sodium	mg/l	10.1	10.2	101.	80-120	1.00	20	WG786595
Vanadium	mg/l	1.04	1.04	104.	80-120	0.0	20	WG786595
Antimony	mg/l	0.0544	0.0544	109.	80-120	0.0	20	WG786739
Arsenic	mg/l	0.0520	0.0530	104.	80-120	2.00	20	WG786739
Beryllium	mg/l	0.0482	0.0481	96.0	80-120	0.0	20	WG786739
Cadmium	mg/l	0.0527	0.0537	105.	80-120	2.00	20	WG786739
Copper	mg/l	0.0536	0.0524	107.	80-120	2.00	20	WG786739
Lead	mg/l	0.0513	0.0510	103.	80-120	1.00	20	WG786739
Selenium	mg/l	0.0552	0.0556	110.	80-120	1.00	20	WG786739
Thallium	mg/l	0.0512	0.0504	102.	80-120	1.00	20	WG786739
Zinc	mg/l	0.0506	0.0495	101.	80-120	2.00	20	WG786739
Chloride	mg/l	39.8	39.8	100.	90-110	0.0	20	WG785790
Nitrate	mg/l	8.02	8.01	100.	90-110	0.0	20	WG785790
Nitrite	mg/l	7.94	7.89	99.0	90-110	1.00	20	WG785790
Sulfate	mg/l	40.9	40.7	102.	90-110	0.0	20	WG785790
1,1,1,2-Tetrachloroethane	mg/l	0.0236	0.0221	94.0	74.2-124	6.74	20	WG786042
1,1,1-Trichloroethane	mg/l	0.0217	0.0195	87.0	73.2-123	10.6	20	WG786042
1,1,2,2-Tetrachloroethane	mg/l	0.0273	0.0254	109.	70.7-122	6.85	20	WG786042
1,1,2-Trichloroethane	mg/l	0.0236	0.0211	94.0	77.7-118	11.0	20	WG786042
1,1-Dichloroethane	mg/l	0.0226	0.0196	90.0	70.7-126	14.3	20	WG786042
1,1-Dichloroethene	mg/l	0.0212	0.0175	85.0	67.8-129	19.5	20	WG786042
1,2,3-Trichloropropane	mg/l	0.0244	0.0219	98.0	71.8-121	11.0	20	WG786042
1,2-Dichlorobenzene	mg/l	0.0236	0.0212	94.0	78.4-117	10.8	20	WG786042
1,2-Dichloroethane	mg/l	0.0211	0.0185	84.0	68.8-124	13.3	20	WG786042
1,2-Dichloropropane	mg/l	0.0230	0.0208	92.0	76.5-119	10.0	20	WG786042
1,4-Dichlorobenzene	mg/l	0.0226	0.0200	90.0	78.8-115	12.2	20	WG786042
2-Butanone (MEK)	mg/l	0.157	0.140	126.	55-149	11.8	20	WG786042
2-Hexanone	mg/l	0.153	0.133	122.	65.6-144	14.0	20	WG786042
4-Methyl-2-pentanone (MIBK)	mg/l	0.131	0.116	104.	70.5-133	11.7	20	WG786042
Acetone	mg/l	0.224	0.200	180*	35.6-163	11.6	23.9	WG786042
Acrylonitrile	mg/l	0.131	0.117	105.	55.2-130	11.8	20	WG786042
Benzene	mg/l	0.0228	0.0199	91.0	74.8-121	14.0	20	WG786042
Bromochloromethane	mg/l	0.0237	0.0205	95.0	77.6-119	14.4	20	WG786042
Bromodichloromethane	mg/l	0.0218	0.0194	87.0	75.1-116	12.1	20	WG786042

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Bromoform	mg/l	0.0252	0.0220	101.	67.5-130	13.3	20	WG786042
Bromomethane	mg/l	0.0220	0.0196	88.0	49.9-162	11.6	20	WG786042
Carbon disulfide	mg/l	0.0210	0.0163	84.0	64.6-140	25.2*	20	WG786042
Carbon tetrachloride	mg/l	0.0221	0.0195	88.0	70.2-123	12.2	20	WG786042
Chlorobenzene	mg/l	0.0241	0.0216	96.0	78.1-119	10.9	20	WG786042
Chlorodibromomethane	mg/l	0.0237	0.0214	95.0	74-121	10.2	20	WG786042
Chloroethane	mg/l	0.0226	0.0198	90.0	61.7-135	13.1	20	WG786042
Chloroform	mg/l	0.0223	0.0195	89.0	76-121	13.2	20	WG786042
Chloromethane	mg/l	0.0228	0.0191	91.0	61.5-129	17.9	20	WG786042
cis-1,2-Dichloroethene	mg/l	0.0228	0.0202	91.0	76-119	12.0	20	WG786042
cis-1,3-Dichloropropene	mg/l	0.0237	0.0210	95.0	78.2-120	12.0	20	WG786042
Dibromomethane	mg/l	0.0225	0.0200	90.0	79.5-118	11.7	20	WG786042
Ethylbenzene	mg/l	0.0236	0.0215	94.0	78.8-122	9.05	20	WG786042
Iodomethane	mg/l	0.111	0.0907	89.0	61-130	19.9	20	WG786042
Methylene Chloride	mg/l	0.0223	0.0194	89.0	70.3-120	13.8	20	WG786042
Styrene	mg/l	0.0246	0.0221	98.0	80.4-126	10.6	20	WG786042
Tetrachloroethene	mg/l	0.0236	0.0214	94.0	72.6-126	9.99	20	WG786042
Toluene	mg/l	0.0235	0.0209	94.0	79.7-116	11.7	20	WG786042
trans-1,2-Dichloroethene	mg/l	0.0233	0.0196	93.0	72.6-121	17.2	20	WG786042
trans-1,3-Dichloropropene	mg/l	0.0240	0.0213	96.0	74.3-123	11.5	20	WG786042
trans-1,4-Dichloro-2-butene	mg/l	0.0227	0.0205	91.0	65.1-123	10.1	20	WG786042
Trichloroethene	mg/l	0.0220	0.0195	88.0	77.7-118	12.2	20	WG786042
Trichlorofluoromethane	mg/l	0.0221	0.0199	88.0	63.5-135	10.4	20	WG786042
Vinyl acetate	mg/l	0.145	0.120	116.	65-138	18.6	20	WG786042
Vinyl chloride	mg/l	0.0235	0.0205	94.0	65.9-128	13.6	20	WG786042
Xylenes, Total	mg/l	0.0733	0.0662	98.0	78.7-121	10.2	20	WG786042
4-Bromofluorobenzene				106.0	71-126			WG786042
Dibromofluoromethane				103.0	78.3-121			WG786042
Toluene-d8				106.0	88.5-111			WG786042
a,a,a-Trifluorotoluene				105.0	85-114			WG786042
Alkalinity	mg/l	92.5	87.0	92.0	85-115	6.13	20	WG787237
Alkalinity	mg/l	110.	110.	110.	85-115	0.0	20	WG787238
Nitrate	mg/l	8.13	8.12	102.	90-110	0.0	20	WG787847

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
TOC (Total Organic Carbon)	mg/l	70.8	22.0	50	98.0	80-120	L761699-01	WG785933
Mercury	mg/l	0.00304	0.0000155	.003	100.	75-125	L762254-02	WG786105
Barium	mg/l	1.42	0.406	1	100.	75-125	L761991-01	WG786595
Calcium	mg/l	95.2	86.9	10	84.0	75-125	L761991-01	WG786595
Chromium	mg/l	1.00	0.00142	1	100.	75-125	L761991-01	WG786595
Cobalt	mg/l	1.02	0.00272	1	100.	75-125	L761991-01	WG786595
Magnesium	mg/l	77.8	69.0	10	88.0	75-125	L761991-01	WG786595
Nickel	mg/l	1.01	0.00399	1	100.	75-125	L761991-01	WG786595
Potassium	mg/l	11.0	0.278	10	110.	75-125	L761991-01	WG786595
Silver	mg/l	1.03	-0.000600	1	100.	75-125	L761991-01	WG786595
Sodium	mg/l	58.9	49.8	10	91.0	75-125	L761991-01	WG786595
Vanadium	mg/l	1.01	-0.00494	1	100.	75-125	L761991-01	WG786595

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Antimony	mg/l	0.0528	0.000625	.05	100.	75-125	L762079-01	WG786739
Arsenic	mg/l	0.0529	0.000146	.05	110.	75-125	L762079-01	WG786739
Beryllium	mg/l	0.0466	0.0000329	.05	93.0	75-125	L762079-01	WG786739
Cadmium	mg/l	0.0541	0.0000268	.05	110.	75-125	L762079-01	WG786739
Copper	mg/l	0.0523	0.000434	.05	100.	75-125	L762079-01	WG786739
Lead	mg/l	0.0510	0.000173	.05	100.	75-125	L762079-01	WG786739
Selenium	mg/l	0.0564	0.0000714	.05	110.	75-125	L762079-01	WG786739
Thallium	mg/l	0.0501	0.000109	.05	100.	75-125	L762079-01	WG786739
Zinc	mg/l	0.0557	0.00598	.05	99.0	75-125	L762079-01	WG786739
Chloride	mg/l	55.0	5.14	50	100.	80-120	L762238-07	WG785790
Nitrate	mg/l	5.00	0.0	5	100.	80-120	L762238-07	WG785790
Nitrite	mg/l	5.05	0.0	5	100.	80-120	L762238-07	WG785790
Sulfate	mg/l	50.9	0.0	50	100.	80-120	L762238-07	WG785790
1,1,1,2-Tetrachloroethane	mg/l	0.0208	0.0	.025	83.0	64-128	L762104-01	WG786042
1,1,1-Trichloroethane	mg/l	0.0191	0.0	.025	76.0	58.7-134	L762104-01	WG786042
1,1,2,2-Tetrachloroethane	mg/l	0.0242	0.0	.025	97.0	56-132	L762104-01	WG786042
1,1,2-Trichloroethane	mg/l	0.0199	0.0	.025	80.0	66.3-125	L762104-01	WG786042
1,1-Dichloroethane	mg/l	0.0190	0.0	.025	76.0	58.5-132	L762104-01	WG786042
1,1-Dichloroethene	mg/l	0.0169	0.0	.025	68.0	51.1-140	L762104-01	WG786042
1,2,3-Trichloropropane	mg/l	0.0212	0.0	.025	85.0	61.4-128	L762104-01	WG786042
1,2-Dichlorobenzene	mg/l	0.0204	0.0	.025	82.0	68.2-123	L762104-01	WG786042
1,2-Dichloroethane	mg/l	0.0179	0.0	.025	72.0	60-126	L762104-01	WG786042
1,2-Dichloropropane	mg/l	0.0198	0.0	.025	79.0	64.2-123	L762104-01	WG786042
1,4-Dichlorobenzene	mg/l	0.0192	0.0	.025	77.0	68.6-123	L762104-01	WG786042
2-Butanone (MEK)	mg/l	0.118	0.0	.125	94.0	22.4-138	L762104-01	WG786042
2-Hexanone	mg/l	0.116	0.0	.125	93.0	43.3-137	L762104-01	WG786042
4-Methyl-2-pentanone (MIBK)	mg/l	0.115	0.0	.125	92.0	60.8-140	L762104-01	WG786042
Acetone	mg/l	0.112	0.00287	.125	87.0	10-130	L762104-01	WG786042
Acrylonitrile	mg/l	0.118	0.0	.125	94.0	49.4-133	L762104-01	WG786042
Benzene	mg/l	0.0194	0.0	.025	78.0	54.3-133	L762104-01	WG786042
Bromochloromethane	mg/l	0.0198	0.0	.025	79.0	66.5-122	L762104-01	WG786042
Bromodichloromethane	mg/l	0.0187	0.0	.025	75.0	63.9-121	L762104-01	WG786042
Bromoform	mg/l	0.0208	0.0	.025	83.0	59.5-134	L762104-01	WG786042
Bromomethane	mg/l	0.0194	0.0	.025	78.0	41.7-155	L762104-01	WG786042
Carbon disulfide	mg/l	0.0162	0.0	.025	65.0	43.3-149	L762104-01	WG786042
Carbon tetrachloride	mg/l	0.0191	0.0	.025	77.0	55.7-134	L762104-01	WG786042
Chlorobenzene	mg/l	0.0204	0.0	.025	81.0	67-125	L762104-01	WG786042
Chlorodibromomethane	mg/l	0.0200	0.0	.025	80.0	64.3-125	L762104-01	WG786042
Chloroethane	mg/l	0.0193	0.0	.025	77.0	51.5-136	L762104-01	WG786042
Chloroform	mg/l	0.0188	0.0	.025	75.0	63-129	L762104-01	WG786042
Chloromethane	mg/l	0.0190	0.0	.025	76.0	42.4-135	L762104-01	WG786042
cis-1,2-Dichloroethene	mg/l	0.0196	0.0	.025	79.0	59.2-129	L762104-01	WG786042
cis-1,3-Dichloropropene	mg/l	0.0196	0.0	.025	78.0	66.4-125	L762104-01	WG786042
Dibromomethane	mg/l	0.0187	0.0	.025	75.0	68.2-124	L762104-01	WG786042
Ethylbenzene	mg/l	0.0204	0.0	.025	82.0	61.4-133	L762104-01	WG786042
Iodomethane	mg/l	0.0887	0.0	.125	71.0	49.7-132	L762104-01	WG786042
Methylene Chloride	mg/l	0.0185	0.0	.025	74.0	58.1-122	L762104-01	WG786042
Styrene	mg/l	0.0206	0.0	.025	83.0	66.8-133	L762104-01	WG786042
Tetrachloroethene	mg/l	0.0199	0.0	.025	80.0	53-139	L762104-01	WG786042
Toluene	mg/l	0.0201	0.0	.025	80.0	61.4-130	L762104-01	WG786042
trans-1,2-Dichloroethene	mg/l	0.0191	0.0	.025	76.0	56.5-129	L762104-01	WG786042
trans-1,3-Dichloropropene	mg/l	0.0208	0.0	.025	83.0	64.1-128	L762104-01	WG786042
trans-1,4-Dichloro-2-butene	mg/l	0.0199	0.0	.025	80.0	57.1-130	L762104-01	WG786042
Trichloroethene	mg/l	0.0186	0.0	.025	75.0	44.1-149	L762104-01	WG786042
Trichlorofluoromethane	mg/l	0.0196	0.0	.025	78.0	49.6-145	L762104-01	WG786042

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Vinyl acetate	mg/l	0.128	0.0	.125	100.	56.1-149	L762104-01	WG786042
Vinyl chloride	mg/l	0.0202	0.0	.025	81.0	47.8-137	L762104-01	WG786042
Xylenes, Total	mg/l	0.0631	0.0	.075	84.0	63.3-131	L762104-01	WG786042
4-Bromofluorobenzene					105.0	71-126		WG786042
Dibromofluoromethane					103.0	78.3-121		WG786042
Toluene-d8					107.0	88.5-111		WG786042
a,a,a-Trifluorotoluene					107.0	85-114		WG786042
Alkalinity	mg/l	403.	300.	100	52.0*	80-120	L761954-03	WG787237
Alkalinity	mg/l	1700	760.	100	94.0	80-120	L762255-01	WG787238
Nitrate	mg/l	265.	8.77	.1	100.	80-120	L763536-10	WG787847

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
TOC (Total Organic Carbon)	mg/l	70.3	70.8	96.5	80-120	0.737	20	L761699-01	WG785933
Mercury	mg/l	0.00300	0.00304	99.5	75-125	1.00	20	L762254-02	WG786105
Barium	mg/l	1.44	1.42	103.	75-125	1.00	20	L761991-01	WG786595
Calcium	mg/l	96.9	95.2	99.9	75-125	2.00	20	L761991-01	WG786595
Chromium	mg/l	1.01	1.00	101.	75-125	1.00	20	L761991-01	WG786595
Cobalt	mg/l	1.04	1.02	104.	75-125	2.00	20	L761991-01	WG786595
Magnesium	mg/l	78.7	77.8	97.2	75-125	1.00	20	L761991-01	WG786595
Nickel	mg/l	1.03	1.01	102.	75-125	1.00	20	L761991-01	WG786595
Potassium	mg/l	11.0	11.0	107.	75-125	0.0	20	L761991-01	WG786595
Silver	mg/l	1.04	1.03	104.	75-125	1.00	20	L761991-01	WG786595
Sodium	mg/l	59.1	58.9	92.1	75-125	0.0	20	L761991-01	WG786595
Vanadium	mg/l	1.03	1.01	103.	75-125	1.00	20	L761991-01	WG786595
Antimony	mg/l	0.0526	0.0528	104.	75-125	0.0	20	L762079-01	WG786739
Arsenic	mg/l	0.0526	0.0529	105.	75-125	1.00	20	L762079-01	WG786739
Beryllium	mg/l	0.0464	0.0466	92.8	75-125	0.0	20	L762079-01	WG786739
Cadmium	mg/l	0.0534	0.0541	107.	75-125	1.00	20	L762079-01	WG786739
Copper	mg/l	0.0513	0.0523	102.	75-125	2.00	20	L762079-01	WG786739
Lead	mg/l	0.0501	0.0510	99.8	75-125	2.00	20	L762079-01	WG786739
Selenium	mg/l	0.0541	0.0564	108.	75-125	4.00	20	L762079-01	WG786739
Thallium	mg/l	0.0491	0.0501	97.9	75-125	2.00	20	L762079-01	WG786739
Zinc	mg/l	0.0546	0.0557	97.2	75-125	2.00	20	L762079-01	WG786739
Chloride	mg/l	51.8	55.0	93.4	80-120	6.00	20	L762238-07	WG785790
Nitrate	mg/l	5.05	5.00	101.	80-120	1.00	20	L762238-07	WG785790
Nitrite	mg/l	5.12	5.05	102.	80-120	1.00	20	L762238-07	WG785790
Sulfate	mg/l	51.3	50.9	102.	80-120	1.00	20	L762238-07	WG785790
1,1,1,2-Tetrachloroethane	mg/l	0.0215	0.0208	86.1	64-128	3.52	20	L762104-01	WG786042
1,1,1-Trichloroethane	mg/l	0.0192	0.0191	76.6	58.7-134	0.260	20	L762104-01	WG786042
1,1,2,2-Tetrachloroethane	mg/l	0.0258	0.0242	103.	56-132	6.18	22.2	L762104-01	WG786042
1,1,2-Trichloroethane	mg/l	0.0205	0.0199	82.0	66.3-125	2.92	20	L762104-01	WG786042

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

L762254

May 12, 2015

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
1,1-Dichloroethane	mg/l	0.0191	0.0190	76.4	58.5-132	0.690	20	L762104-01	WG786042
1,1-Dichloroethene	mg/l	0.0172	0.0169	68.8	51.1-140	1.49	20.2	L762104-01	WG786042
1,2,3-Trichloropropane	mg/l	0.0226	0.0212	90.2	61.4-128	6.10	22.4	L762104-01	WG786042
1,2-Dichlorobenzene	mg/l	0.0205	0.0204	82.2	68.2-123	0.780	20	L762104-01	WG786042
1,2-Dichloroethane	mg/l	0.0180	0.0179	71.8	60-126	0.0700	20	L762104-01	WG786042
1,2-Dichloropropane	mg/l	0.0200	0.0198	80.0	64.2-123	1.28	20	L762104-01	WG786042
1,4-Dichlorobenzene	mg/l	0.0192	0.0192	76.7	68.6-123	0.250	20	L762104-01	WG786042
2-Butanone (MEK)	mg/l	0.126	0.118	101.	22.4-138	6.52	27	L762104-01	WG786042
2-Hexanone	mg/l	0.125	0.116	99.9	43.3-137	7.19	25.5	L762104-01	WG786042
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.115	97.9	60.8-140	6.00	25.1	L762104-01	WG786042
Acetone	mg/l	0.114	0.112	88.8	10-130	2.06	27.9	L762104-01	WG786042
Acrylonitrile	mg/l	0.122	0.118	97.5	49.4-133	3.68	25.3	L762104-01	WG786042
Benzene	mg/l	0.0197	0.0194	78.6	54.3-133	1.30	20	L762104-01	WG786042
Bromochloromethane	mg/l	0.0201	0.0198	80.3	66.5-122	1.37	20.8	L762104-01	WG786042
Bromodichloromethane	mg/l	0.0188	0.0187	75.3	63.9-121	0.770	20	L762104-01	WG786042
Bromoform	mg/l	0.0219	0.0208	87.8	59.5-134	5.47	20.5	L762104-01	WG786042
Bromomethane	mg/l	0.0197	0.0194	78.8	41.7-155	1.23	21.9	L762104-01	WG786042
Carbon disulfide	mg/l	0.0161	0.0162	64.5	43.3-149	0.260	20.3	L762104-01	WG786042
Carbon tetrachloride	mg/l	0.0190	0.0191	76.0	55.7-134	0.850	20	L762104-01	WG786042
Chlorobenzene	mg/l	0.0210	0.0204	83.9	67-125	2.98	20	L762104-01	WG786042
Chlorodibromomethane	mg/l	0.0206	0.0200	82.6	64.3-125	3.03	20.8	L762104-01	WG786042
Chloroethane	mg/l	0.0191	0.0193	76.6	51.5-136	0.560	40	L762104-01	WG786042
Chloroform	mg/l	0.0187	0.0188	74.6	63-129	0.750	20	L762104-01	WG786042
Chloromethane	mg/l	0.0190	0.0190	75.8	42.4-135	0.0900	20	L762104-01	WG786042
cis-1,2-Dichloroethene	mg/l	0.0198	0.0196	79.3	59.2-129	0.910	20	L762104-01	WG786042
cis-1,3-Dichloropropene	mg/l	0.0200	0.0196	80.1	66.4-125	2.00	20	L762104-01	WG786042
Dibromomethane	mg/l	0.0192	0.0187	76.9	68.2-124	2.57	20	L762104-01	WG786042
Ethylbenzene	mg/l	0.0209	0.0204	83.7	61.4-133	2.54	20	L762104-01	WG786042
Iodomethane	mg/l	0.0895	0.0887	71.6	49.7-132	0.820	20	L762104-01	WG786042
Methylene Chloride	mg/l	0.0188	0.0185	75.2	58.1-122	1.33	20	L762104-01	WG786042
Styrene	mg/l	0.0215	0.0206	85.8	66.8-133	3.85	20	L762104-01	WG786042
Tetrachloroethene	mg/l	0.0204	0.0199	81.7	53-139	2.43	20	L762104-01	WG786042
Toluene	mg/l	0.0205	0.0201	82.1	61.4-130	2.08	20	L762104-01	WG786042
trans-1,2-Dichloroethene	mg/l	0.0193	0.0191	77.2	56.5-129	1.25	20	L762104-01	WG786042
trans-1,3-Dichloropropene	mg/l	0.0210	0.0208	84.2	64.1-128	1.22	20	L762104-01	WG786042
trans-1,4-Dichloro-2-butene	mg/l	0.0204	0.0199	81.7	57.1-130	2.34	23.9	L762104-01	WG786042
Trichloroethene	mg/l	0.0189	0.0186	75.5	44.1-149	1.27	20	L762104-01	WG786042
Trichlorofluoromethane	mg/l	0.0195	0.0196	77.9	49.6-145	0.800	21.2	L762104-01	WG786042
Vinyl acetate	mg/l	0.132	0.128	106.	56.1-149	2.71	22.7	L762104-01	WG786042
Vinyl chloride	mg/l	0.0203	0.0202	81.1	47.8-137	0.540	20	L762104-01	WG786042
Xylenes, Total	mg/l	0.0642	0.0631	85.6	63.3-131	1.78	20	L762104-01	WG786042
4-Bromofluorobenzene				107.0	71-126				WG786042
Dibromofluoromethane				101.0	78.3-121				WG786042
Toluene-d8				107.0	88.5-111				WG786042
a,a,a-Trifluorotoluene				107.0	85-114				WG786042
Alkalinity	mg/l	428.	403.	64.0*	80-120	6.02	20	L761954-03	WG787237
Alkalinity	mg/l	1700	1700	94.0	80-120	0.0	20	L762255-01	WG787238
Nitrate	mg/l	255.	265.	4920*	80-120	4.00	20	L763536-10	WG787847

Post Spike

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 12, 2015

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG785933: R3034306: L762254-01 02 03
WG785909: R3034431: L762254-01 02 03
WG786105: R3034537: L762254-01 02 03
WG786217: R3034727: L762254-01 02 03
WG786595: R3034917: L762254-01 02 03
WG786739: R3035205: L762254-01 02 03
WG785790: R3035269: L762254-01 02 03
WG786042: R3035772: L762254-01 02 03
WG787237: R3035887: L762254-01 02
WG787527: R3035890: L762254-01 02
WG787528: R3035891: L762254-01 02
WG787238: R3036051: L762254-03
WG787578: R3036055: L762254-03
WG787579: R3036056: L762254-03
WG787847: R3036506: L762254-03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L762254

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

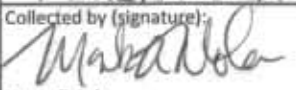
May 12, 2015

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address: Molen & Associates, LLC 2090 E. 104th Suite 205 Thornton, CO 80223				Billing Information: 				Analysis / Container / Preservative Mg, Na, K, Ca + AP1 Metals (1) 500ml HDPE w/HNO3 CARB, BICARB, ALK (1) 1L HDPE No Pres. Nitrate, Nitrite, Sulfate, Chloride (1) 500ml HDPE SPCON, pH (1) 250ml HDPE No Pres. TOC (1) 250ml Amb w/HCl V8260AP1 (3) Amb No Pres.										Chain of Custody Page ____ of ____  YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-757-5859 Fax: 615-758-5859 	
Report to: Mark Molen				Email To: molenassociates@gmail.com															
Project Description: Broda AI Inert Fill				City/State Collected: Brighton CO															
Phone: 303.450.1600 Fax: 303.452.4515		Client Project # 10-0133		Lab Project #															
Collected by (print): Mark A Molen		Site/Facility ID # BRODA AL		P.O. #															
Collected by (signature): 		Rush? (Lab MUST Be Notified) Same Day 200% Next Day 100% Two Day 50% Three Day 25%		Date Results Needed Email? ☐ No ☐ Yes FAX? ☐ No ☐ Yes		No. of Cntrs													
Immediately Packed on Ice N ☐ Y ☒																			

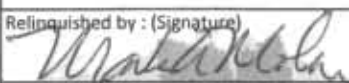
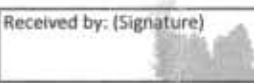
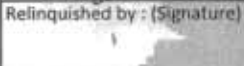
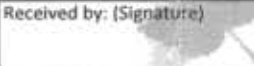
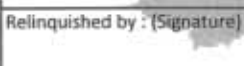
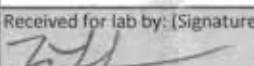
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Mg, Na, K, Ca + AP1 Metals (1) 500ml HDPE w/HNO3	CARB, BICARB, ALK (1) 1L HDPE No Pres.	Nitrate, Nitrite, Sulfate, Chloride (1) 500ml HDPE	SPCON, pH (1) 250ml HDPE No Pres.	TOC (1) 250ml Amb w/HCl	V8260AP1 (3) Amb No Pres.						
MW-1	Grab	GW		4/29/15	1150	8	X	X	X	X	X	X						-01
MW-2	Grab	GW		↓	1235	8	X	X	X	X	X	X						-02
MW-3	Grab	GW			1345	8	X	X	X	X	X	X						-03

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: _____

pH _____ Temp _____ 6309374059860

Flow _____ Other _____

Relinquished by: (Signature) 	Date: 4/29/15	Time: 1600	Received by: (Signature) 	Samples returned via: ☒ UPS ☐ FedEx ☐ Courier ☐ _____	Condition: (lab use only) 00 J03
Relinquished by: (Signature) 	Date:	Time:	Received by: (Signature) 	Temp: 1.8 °C Bottles Received: 24	COC Seal Intact: ☐ Y ☐ N ☐ NA
Relinquished by: (Signature) 	Date:	Time:	Received for lab by: (Signature) 	Date: 4/30/15 Time: 0900	pH Checked: 42 NCF:

Molen & Associates, LLC

Sample Delivery Group: L800095
Samples Received: 11/11/2015
Project Number: 10-0133
Description: Broda AI
Site: BRODA AI
Report To: Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Entire Report Reviewed By:



Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



¹Cp: Cover Page	1
²Tc: Table of Contents	2
³Ss: Sample Summary	3
⁴Cn: Case Narrative	4
⁵Sr: Sample Results	5
MW-1 L800095-01	5
MW-2 L800095-02	8
MW-3 L800095-03	11
⁶Qc: Quality Control Summary	14
Wet Chemistry by Method 2320 B-2011	14
Wet Chemistry by Method 9040C	15
Wet Chemistry by Method 9050A	16
Wet Chemistry by Method 9056MOD	17
Wet Chemistry by Method 9060A	23
Mercury by Method 7470A	24
Metals (ICP) by Method 6010B	25
Metals (ICPMS) by Method 6020	27
Volatile Organic Compounds (GC/MS) by Method 8260B	29
⁷Gl: Glossary of Terms	34
⁸Al: Accreditations & Locations	35
⁹Sc: Chain of Custody	36



SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-1 L800095-01 GW

Collected by
Mark Molen

Collected date/time
11/10/15 14:15

Received date/time
11/11/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG828278	1	11/11/15 18:10	11/12/15 11:42	BRJ
Metals (ICP) by Method 6010B	WG828588	1	11/12/15 14:48	11/13/15 03:02	LTB
Metals (ICPMS) by Method 6020	WG828690	1	11/14/15 09:54	11/16/15 00:16	JDG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG828439	1	11/12/15 15:24	11/12/15 15:24	ACG
Wet Chemistry by Method 2320 B-2011	WG828765	1	11/15/15 10:38	11/15/15 10:38	CSU
Wet Chemistry by Method 2320 B-2011	WG829751	1	11/15/15 10:38	11/15/15 10:38	MCG
Wet Chemistry by Method 2320 B-2011	WG829753	1	11/15/15 10:38	11/15/15 10:38	MCG
Wet Chemistry by Method 9040C	WG828313	1	11/12/15 12:08	11/12/15 12:08	AMC
Wet Chemistry by Method 9050A	WG828354	1	11/12/15 13:44	11/12/15 13:44	SAM
Wet Chemistry by Method 9056MOD	WG828250	1	11/11/15 18:15	11/11/15 18:15	CM
Wet Chemistry by Method 9056MOD	WG829106	10	11/15/15 01:46	11/15/15 01:46	NJM
Wet Chemistry by Method 9056MOD	WG829643	5	11/19/15 11:34	11/19/15 11:34	DJD
Wet Chemistry by Method 9060A	WG828398	1	11/13/15 12:17	11/13/15 12:17	LLS

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

MW-2 L800095-02 GW

Collected by
Mark Molen

Collected date/time
11/10/15 14:50

Received date/time
11/11/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG828278	1	11/11/15 18:10	11/12/15 11:48	BRJ
Metals (ICP) by Method 6010B	WG828588	1	11/12/15 14:48	11/13/15 02:28	LTB
Metals (ICPMS) by Method 6020	WG828690	1	11/14/15 09:54	11/16/15 00:30	JDG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG828439	1	11/12/15 16:37	11/12/15 16:37	ACG
Wet Chemistry by Method 2320 B-2011	WG828765	1	11/15/15 10:38	11/15/15 10:38	CSU
Wet Chemistry by Method 2320 B-2011	WG829751	1	11/15/15 10:38	11/15/15 10:38	MCG
Wet Chemistry by Method 2320 B-2011	WG829753	1	11/15/15 10:38	11/15/15 10:38	MCG
Wet Chemistry by Method 9040C	WG828313	1	11/12/15 12:08	11/12/15 12:08	AMC
Wet Chemistry by Method 9050A	WG828354	1	11/12/15 13:44	11/12/15 13:44	SAM
Wet Chemistry by Method 9056MOD	WG828252	1	11/11/15 23:24	11/11/15 23:24	DJD
Wet Chemistry by Method 9056MOD	WG828252	5	11/12/15 07:01	11/12/15 07:01	DJD
Wet Chemistry by Method 9060A	WG828398	1	11/13/15 12:31	11/13/15 12:31	LLS

MW-3 L800095-03 GW

Collected by
Mark Molen

Collected date/time
11/10/15 15:30

Received date/time
11/11/15 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7470A	WG828278	1	11/11/15 18:10	11/12/15 11:50	BRJ
Metals (ICP) by Method 6010B	WG828588	1	11/12/15 14:48	11/13/15 03:05	LTB
Metals (ICPMS) by Method 6020	WG828690	1	11/14/15 09:54	11/16/15 00:32	JDG
Volatile Organic Compounds (GC/MS) by Method 8260B	WG828439	1	11/12/15 16:55	11/12/15 16:55	ACG
Wet Chemistry by Method 2320 B-2011	WG828765	1	11/15/15 10:38	11/15/15 10:38	CSU
Wet Chemistry by Method 2320 B-2011	WG829751	1	11/15/15 10:38	11/15/15 10:38	MCG
Wet Chemistry by Method 2320 B-2011	WG829753	1	11/15/15 10:38	11/15/15 10:38	MCG
Wet Chemistry by Method 9040C	WG828313	1	11/12/15 12:08	11/12/15 12:08	AMC
Wet Chemistry by Method 9050A	WG828354	1	11/12/15 13:44	11/12/15 13:44	SAM
Wet Chemistry by Method 9056MOD	WG828252	1	11/11/15 23:39	11/11/15 23:39	DJD
Wet Chemistry by Method 9056MOD	WG828252	2	11/12/15 07:16	11/12/15 07:16	DJD
Wet Chemistry by Method 9060A	WG828398	1	11/13/15 12:47	11/13/15 12:47	LLS



All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne Richards
Technical Service Representative

Sample Handling and Receiving

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

<u>ESC Sample ID</u>	<u>Project Sample ID</u>	<u>Method</u>
L800095-01	MW-1	9040C
L800095-02	MW-2	9040C
L800095-03	MW-3	9040C

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	194		20.0	1	11/15/2015 10:38	WG828765
Alkalinity,Bicarbonate	194		20.0	1	11/15/2015 10:38	WG829751
Alkalinity,Carbonate	ND		20.0	1	11/15/2015 10:38	WG829753

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	SU			date / time	
pH	7.29		1	11/12/2015 12:08	WG828313

Sample Narrative:

9040C L800095-01 WG828313: 7.29 at 20.6c

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	umhos/cm			date / time	
Specific Conductance	1130		1	11/12/2015 13:44	WG828354

Wet Chemistry by Method 9056MOD

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	120		10.0	10	11/15/2015 01:46	WG829106
Nitrate	6.58		0.100	1	11/11/2015 18:15	WG828250
Nitrite	ND		0.100	1	11/11/2015 18:15	WG828250
Sulfate	88.4		25.0	5	11/19/2015 11:34	WG829643

Wet Chemistry by Method 9060A

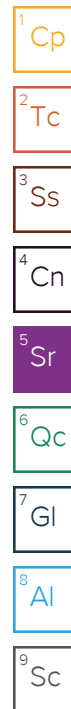
Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
TOC (Total Organic Carbon)	2.23		1.00	1	11/13/2015 12:17	WG828398

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	11/12/2015 11:42	WG828278

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0694		0.00500	1	11/13/2015 03:02	WG828588
Calcium	75.3		1.00	1	11/13/2015 03:02	WG828588
Chromium	ND		0.0100	1	11/13/2015 03:02	WG828588
Cobalt	ND		0.0100	1	11/13/2015 03:02	WG828588
Magnesium	23.5		1.00	1	11/13/2015 03:02	WG828588
Nickel	ND		0.0100	1	11/13/2015 03:02	WG828588
Potassium	8.64		1.00	1	11/13/2015 03:02	WG828588
Silver	ND		0.00500	1	11/13/2015 03:02	WG828588
Sodium	120		1.00	1	11/13/2015 03:02	WG828588
Vanadium	ND		0.0200	1	11/13/2015 03:02	WG828588





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	11/16/2015 00:16	WG828690
Arsenic	ND		0.00200	1	11/16/2015 00:16	WG828690
Beryllium	ND		0.00200	1	11/16/2015 00:16	WG828690
Cadmium	ND		0.00100	1	11/16/2015 00:16	WG828690
Copper	ND		0.00500	1	11/16/2015 00:16	WG828690
Lead	ND		0.00200	1	11/16/2015 00:16	WG828690
Selenium	ND		0.00200	1	11/16/2015 00:16	WG828690
Thallium	ND		0.00200	1	11/16/2015 00:16	WG828690
Zinc	ND		0.0250	1	11/16/2015 00:16	WG828690

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	11/12/2015 15:24	WG828439
Acrylonitrile	ND		0.0100	1	11/12/2015 15:24	WG828439
Benzene	ND		0.00100	1	11/12/2015 15:24	WG828439
Bromochloromethane	ND		0.00100	1	11/12/2015 15:24	WG828439
Bromodichloromethane	ND		0.00100	1	11/12/2015 15:24	WG828439
Bromoform	ND		0.00100	1	11/12/2015 15:24	WG828439
Bromomethane	ND		0.00500	1	11/12/2015 15:24	WG828439
Carbon disulfide	ND		0.00100	1	11/12/2015 15:24	WG828439
Carbon tetrachloride	ND		0.00100	1	11/12/2015 15:24	WG828439
Chlorobenzene	ND		0.00100	1	11/12/2015 15:24	WG828439
Chlorodibromomethane	ND		0.00100	1	11/12/2015 15:24	WG828439
Chloroethane	ND		0.00500	1	11/12/2015 15:24	WG828439
Chloroform	ND		0.00500	1	11/12/2015 15:24	WG828439
Chloromethane	ND		0.00250	1	11/12/2015 15:24	WG828439
Dibromomethane	ND		0.00100	1	11/12/2015 15:24	WG828439
1,2-Dichlorobenzene	ND		0.00100	1	11/12/2015 15:24	WG828439
1,4-Dichlorobenzene	ND		0.00100	1	11/12/2015 15:24	WG828439
trans-1,4-Dichloro-2-butene	ND		0.00250	1	11/12/2015 15:24	WG828439
1,1-Dichloroethane	ND		0.00100	1	11/12/2015 15:24	WG828439
1,2-Dichloroethane	ND		0.00100	1	11/12/2015 15:24	WG828439
1,1-Dichloroethene	ND		0.00100	1	11/12/2015 15:24	WG828439
cis-1,2-Dichloroethene	ND		0.00100	1	11/12/2015 15:24	WG828439
trans-1,2-Dichloroethene	ND		0.00100	1	11/12/2015 15:24	WG828439
1,2-Dichloropropane	ND		0.00100	1	11/12/2015 15:24	WG828439
cis-1,3-Dichloropropene	ND		0.00100	1	11/12/2015 15:24	WG828439
trans-1,3-Dichloropropene	ND		0.00100	1	11/12/2015 15:24	WG828439
Ethylbenzene	ND		0.00100	1	11/12/2015 15:24	WG828439
2-Hexanone	ND		0.0100	1	11/12/2015 15:24	WG828439
Iodomethane	ND		0.0100	1	11/12/2015 15:24	WG828439
2-Butanone (MEK)	ND		0.0100	1	11/12/2015 15:24	WG828439
Methylene Chloride	ND		0.00500	1	11/12/2015 15:24	WG828439
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	11/12/2015 15:24	WG828439
Styrene	ND		0.00100	1	11/12/2015 15:24	WG828439
1,1,1-Tetrachloroethane	ND		0.00100	1	11/12/2015 15:24	WG828439
1,1,2,2-Tetrachloroethane	ND		0.00100	1	11/12/2015 15:24	WG828439
Tetrachloroethene	ND		0.00100	1	11/12/2015 15:24	WG828439
Toluene	ND		0.00500	1	11/12/2015 15:24	WG828439
1,1,1-Trichloroethane	ND		0.00100	1	11/12/2015 15:24	WG828439
1,1,2-Trichloroethane	ND		0.00100	1	11/12/2015 15:24	WG828439
Trichloroethene	ND		0.00100	1	11/12/2015 15:24	WG828439
Trichlorofluoromethane	ND		0.00500	1	11/12/2015 15:24	WG828439
1,2,3-Trichloropropane	ND		0.00250	1	11/12/2015 15:24	WG828439
Vinyl acetate	ND		0.0100	1	11/12/2015 15:24	WG828439

⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Vinyl chloride	ND	<u>J3</u>	0.00100	1	11/12/2015 15:24	WG828439
Xylenes, Total	ND		0.00300	1	11/12/2015 15:24	WG828439
(S) Toluene-d8	104		90.0-115		11/12/2015 15:24	WG828439
(S) Dibromofluoromethane	100		79.0-121		11/12/2015 15:24	WG828439
(S) <i>o,o,o</i> -Trifluorotoluene	110		90.4-116		11/12/2015 15:24	WG828439
(S) 4-Bromofluorobenzene	103		80.1-120		11/12/2015 15:24	WG828439

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	165		20.0	1	11/15/2015 10:38	WG828765
Alkalinity,Bicarbonate	165		20.0	1	11/15/2015 10:38	WG829751
Alkalinity,Carbonate	ND		20.0	1	11/15/2015 10:38	WG829753

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	SU			date / time	
pH	7.44		1	11/12/2015 12:08	WG828313

Sample Narrative:

9040C L800095-02 WG828313: 7.44 at 20.9c

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	umhos/cm			date / time	
Specific Conductance	1510		1	11/12/2015 13:44	WG828354

Wet Chemistry by Method 9056MOD

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	180		5.00	5	11/12/2015 07:01	WG828252
Nitrate	ND		0.100	1	11/11/2015 23:24	WG828252
Nitrite	ND		0.100	1	11/11/2015 23:24	WG828252
Sulfate	303		25.0	5	11/12/2015 07:01	WG828252

Wet Chemistry by Method 9060A

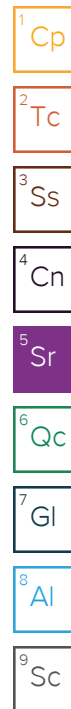
Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
TOC (Total Organic Carbon)	6.02		1.00	1	11/13/2015 12:31	WG828398

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	11/12/2015 11:48	WG828278

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.134		0.00500	1	11/13/2015 02:28	WG828588
Calcium	79.1		1.00	1	11/13/2015 02:28	WG828588
Chromium	ND		0.0100	1	11/13/2015 02:28	WG828588
Cobalt	ND		0.0100	1	11/13/2015 02:28	WG828588
Magnesium	22.3		1.00	1	11/13/2015 02:28	WG828588
Nickel	ND		0.0100	1	11/13/2015 02:28	WG828588
Potassium	11.9		1.00	1	11/13/2015 02:28	WG828588
Silver	ND		0.00500	1	11/13/2015 02:28	WG828588
Sodium	191	<u>V</u>	1.00	1	11/13/2015 02:28	WG828588
Vanadium	ND		0.0200	1	11/13/2015 02:28	WG828588





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	11/16/2015 00:30	WG828690
Arsenic	0.00432		0.00200	1	11/16/2015 00:30	WG828690
Beryllium	ND		0.00200	1	11/16/2015 00:30	WG828690
Cadmium	ND		0.00100	1	11/16/2015 00:30	WG828690
Copper	ND		0.00500	1	11/16/2015 00:30	WG828690
Lead	ND		0.00200	1	11/16/2015 00:30	WG828690
Selenium	ND		0.00200	1	11/16/2015 00:30	WG828690
Thallium	ND		0.00200	1	11/16/2015 00:30	WG828690
Zinc	ND		0.0250	1	11/16/2015 00:30	WG828690

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	11/12/2015 16:37	WG828439
Acrylonitrile	ND		0.0100	1	11/12/2015 16:37	WG828439
Benzene	ND		0.00100	1	11/12/2015 16:37	WG828439
Bromochloromethane	ND		0.00100	1	11/12/2015 16:37	WG828439
Bromodichloromethane	ND		0.00100	1	11/12/2015 16:37	WG828439
Bromoform	ND		0.00100	1	11/12/2015 16:37	WG828439
Bromomethane	ND		0.00500	1	11/12/2015 16:37	WG828439
Carbon disulfide	ND		0.00100	1	11/12/2015 16:37	WG828439
Carbon tetrachloride	ND		0.00100	1	11/12/2015 16:37	WG828439
Chlorobenzene	ND		0.00100	1	11/12/2015 16:37	WG828439
Chlorodibromomethane	ND		0.00100	1	11/12/2015 16:37	WG828439
Chloroethane	ND		0.00500	1	11/12/2015 16:37	WG828439
Chloroform	ND		0.00500	1	11/12/2015 16:37	WG828439
Chloromethane	ND		0.00250	1	11/12/2015 16:37	WG828439
Dibromomethane	ND		0.00100	1	11/12/2015 16:37	WG828439
1,2-Dichlorobenzene	ND		0.00100	1	11/12/2015 16:37	WG828439
1,4-Dichlorobenzene	ND		0.00100	1	11/12/2015 16:37	WG828439
trans-1,4-Dichloro-2-butene	ND		0.00250	1	11/12/2015 16:37	WG828439
1,1-Dichloroethane	ND		0.00100	1	11/12/2015 16:37	WG828439
1,2-Dichloroethane	ND		0.00100	1	11/12/2015 16:37	WG828439
1,1-Dichloroethene	ND		0.00100	1	11/12/2015 16:37	WG828439
cis-1,2-Dichloroethene	ND		0.00100	1	11/12/2015 16:37	WG828439
trans-1,2-Dichloroethene	ND		0.00100	1	11/12/2015 16:37	WG828439
1,2-Dichloropropane	ND		0.00100	1	11/12/2015 16:37	WG828439
cis-1,3-Dichloropropene	ND		0.00100	1	11/12/2015 16:37	WG828439
trans-1,3-Dichloropropene	ND		0.00100	1	11/12/2015 16:37	WG828439
Ethylbenzene	ND		0.00100	1	11/12/2015 16:37	WG828439
2-Hexanone	ND		0.0100	1	11/12/2015 16:37	WG828439
Iodomethane	ND		0.0100	1	11/12/2015 16:37	WG828439
2-Butanone (MEK)	ND		0.0100	1	11/12/2015 16:37	WG828439
Methylene Chloride	ND		0.00500	1	11/12/2015 16:37	WG828439
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	11/12/2015 16:37	WG828439
Styrene	ND		0.00100	1	11/12/2015 16:37	WG828439
1,1,1,2-Tetrachloroethane	ND		0.00100	1	11/12/2015 16:37	WG828439
1,1,2,2-Tetrachloroethane	ND		0.00100	1	11/12/2015 16:37	WG828439
Tetrachloroethene	ND		0.00100	1	11/12/2015 16:37	WG828439
Toluene	ND		0.00500	1	11/12/2015 16:37	WG828439
1,1,1-Trichloroethane	ND		0.00100	1	11/12/2015 16:37	WG828439
1,1,2-Trichloroethane	ND		0.00100	1	11/12/2015 16:37	WG828439
Trichloroethene	ND		0.00100	1	11/12/2015 16:37	WG828439
Trichlorofluoromethane	ND		0.00500	1	11/12/2015 16:37	WG828439
1,2,3-Trichloropropane	ND		0.00250	1	11/12/2015 16:37	WG828439
Vinyl acetate	ND		0.0100	1	11/12/2015 16:37	WG828439

⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Vinyl chloride	ND		0.00100	1	11/12/2015 16:37	WG828439
Xylenes, Total	ND		0.00300	1	11/12/2015 16:37	WG828439
(S) Toluene-d8	104		90.0-115		11/12/2015 16:37	WG828439
(S) Dibromofluoromethane	97.7		79.0-121		11/12/2015 16:37	WG828439
(S) o,o,a-Trifluorotoluene	114		90.4-116		11/12/2015 16:37	WG828439
(S) 4-Bromofluorobenzene	103		80.1-120		11/12/2015 16:37	WG828439

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	159		20.0	1	11/15/2015 10:38	WG828765
Alkalinity,Bicarbonate	159		20.0	1	11/15/2015 10:38	WG829751
Alkalinity,Carbonate	ND		20.0	1	11/15/2015 10:38	WG829753

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	SU			date / time	
pH	7.07		1	11/12/2015 12:08	WG828313

Sample Narrative:

9040C L800095-03 WG828313: 7.07 at 21.2c

Wet Chemistry by Method 9050A

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	umhos/cm			date / time	
Specific Conductance	988		1	11/12/2015 13:44	WG828354

Wet Chemistry by Method 9056MOD

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	117		2.00	2	11/12/2015 07:16	WG828252
Nitrate	11.2		0.200	2	11/12/2015 07:16	WG828252
Nitrite	ND		0.100	1	11/11/2015 23:39	WG828252
Sulfate	101		10.0	2	11/12/2015 07:16	WG828252

Wet Chemistry by Method 9060A

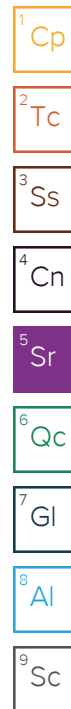
Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
TOC (Total Organic Carbon)	2.29		1.00	1	11/13/2015 12:47	WG828398

Mercury by Method 7470A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	11/12/2015 11:50	WG828278

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Barium	0.0709		0.00500	1	11/13/2015 03:05	WG828588
Calcium	78.4		1.00	1	11/13/2015 03:05	WG828588
Chromium	ND		0.0100	1	11/13/2015 03:05	WG828588
Cobalt	ND		0.0100	1	11/13/2015 03:05	WG828588
Magnesium	16.5		1.00	1	11/13/2015 03:05	WG828588
Nickel	ND		0.0100	1	11/13/2015 03:05	WG828588
Potassium	8.18		1.00	1	11/13/2015 03:05	WG828588
Silver	ND		0.00500	1	11/13/2015 03:05	WG828588
Sodium	92.0		1.00	1	11/13/2015 03:05	WG828588
Vanadium	ND		0.0200	1	11/13/2015 03:05	WG828588





Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	11/16/2015 00:32	WG828690
Arsenic	ND		0.00200	1	11/16/2015 00:32	WG828690
Beryllium	ND		0.00200	1	11/16/2015 00:32	WG828690
Cadmium	ND		0.00100	1	11/16/2015 00:32	WG828690
Copper	ND		0.00500	1	11/16/2015 00:32	WG828690
Lead	0.00217		0.00200	1	11/16/2015 00:32	WG828690
Selenium	0.00220		0.00200	1	11/16/2015 00:32	WG828690
Thallium	ND		0.00200	1	11/16/2015 00:32	WG828690
Zinc	ND		0.0250	1	11/16/2015 00:32	WG828690

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	11/12/2015 16:55	WG828439
Acrylonitrile	ND		0.0100	1	11/12/2015 16:55	WG828439
Benzene	ND		0.00100	1	11/12/2015 16:55	WG828439
Bromochloromethane	ND		0.00100	1	11/12/2015 16:55	WG828439
Bromodichloromethane	ND		0.00100	1	11/12/2015 16:55	WG828439
Bromoform	ND		0.00100	1	11/12/2015 16:55	WG828439
Bromomethane	ND		0.00500	1	11/12/2015 16:55	WG828439
Carbon disulfide	ND		0.00100	1	11/12/2015 16:55	WG828439
Carbon tetrachloride	ND		0.00100	1	11/12/2015 16:55	WG828439
Chlorobenzene	ND		0.00100	1	11/12/2015 16:55	WG828439
Chlorodibromomethane	ND		0.00100	1	11/12/2015 16:55	WG828439
Chloroethane	ND		0.00500	1	11/12/2015 16:55	WG828439
Chloroform	ND		0.00500	1	11/12/2015 16:55	WG828439
Chloromethane	ND		0.00250	1	11/12/2015 16:55	WG828439
Dibromomethane	ND		0.00100	1	11/12/2015 16:55	WG828439
1,2-Dichlorobenzene	ND		0.00100	1	11/12/2015 16:55	WG828439
1,4-Dichlorobenzene	ND		0.00100	1	11/12/2015 16:55	WG828439
trans-1,4-Dichloro-2-butene	ND		0.00250	1	11/12/2015 16:55	WG828439
1,1-Dichloroethane	ND		0.00100	1	11/12/2015 16:55	WG828439
1,2-Dichloroethane	ND		0.00100	1	11/12/2015 16:55	WG828439
1,1-Dichloroethene	ND		0.00100	1	11/12/2015 16:55	WG828439
cis-1,2-Dichloroethene	ND		0.00100	1	11/12/2015 16:55	WG828439
trans-1,2-Dichloroethene	ND		0.00100	1	11/12/2015 16:55	WG828439
1,2-Dichloropropane	ND		0.00100	1	11/12/2015 16:55	WG828439
cis-1,3-Dichloropropene	ND		0.00100	1	11/12/2015 16:55	WG828439
trans-1,3-Dichloropropene	ND		0.00100	1	11/12/2015 16:55	WG828439
Ethylbenzene	ND		0.00100	1	11/12/2015 16:55	WG828439
2-Hexanone	ND		0.0100	1	11/12/2015 16:55	WG828439
Iodomethane	ND		0.0100	1	11/12/2015 16:55	WG828439
2-Butanone (MEK)	ND		0.0100	1	11/12/2015 16:55	WG828439
Methylene Chloride	ND		0.00500	1	11/12/2015 16:55	WG828439
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	11/12/2015 16:55	WG828439
Styrene	ND		0.00100	1	11/12/2015 16:55	WG828439
1,1,1,2-Tetrachloroethane	ND		0.00100	1	11/12/2015 16:55	WG828439
1,1,2,2-Tetrachloroethane	ND		0.00100	1	11/12/2015 16:55	WG828439
Tetrachloroethene	ND		0.00100	1	11/12/2015 16:55	WG828439
Toluene	ND		0.00500	1	11/12/2015 16:55	WG828439
1,1,1-Trichloroethane	ND		0.00100	1	11/12/2015 16:55	WG828439
1,1,2-Trichloroethane	ND		0.00100	1	11/12/2015 16:55	WG828439
Trichloroethene	ND		0.00100	1	11/12/2015 16:55	WG828439
Trichlorofluoromethane	ND		0.00500	1	11/12/2015 16:55	WG828439
1,2,3-Trichloropropane	ND		0.00250	1	11/12/2015 16:55	WG828439
Vinyl acetate	ND		0.0100	1	11/12/2015 16:55	WG828439

⁶ Qc⁷ Gl⁸ Al⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Vinyl chloride	ND		0.00100	1	11/12/2015 16:55	WG828439
Xylenes, Total	ND		0.00300	1	11/12/2015 16:55	WG828439
(S) Toluene-d8	108		90.0-115		11/12/2015 16:55	WG828439
(S) Dibromofluoromethane	100		79.0-121		11/12/2015 16:55	WG828439
(S) a,a,a-Trifluorotoluene	116		90.4-116		11/12/2015 16:55	WG828439
(S) 4-Bromofluorobenzene	103		80.1-120		11/12/2015 16:55	WG828439

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) 11/15/15 10:38

	MB Result	MB Qualifier	MB RDL
Analyte	mg/l		mg/l
Alkalinity	ND		20.0

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L798950-01 Original Sample (OS) • Duplicate (DUP)

(OS) 11/15/15 10:38 • (DUP) 11/15/15 10:38

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	27.5	26.9	1	2.21		20

L799873-01 Original Sample (OS) • Duplicate (DUP)

(OS) 11/15/15 10:38 • (DUP) 11/15/15 10:38

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Alkalinity	287	294	1	2.41		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/15/15 10:38 • (LCSD) 11/15/15 10:38

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Alkalinity	100	102	100	102	100	85.0-115			1.98	20

L799201-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/15/15 10:38 • (MS) 11/15/15 10:38 • (MSD) 11/15/15 10:38

	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	mg/l	%	%		%			%	%
Alkalinity	100	87.8	167	161	79.2	73.2	1	80.0-120	J6	J6	3.66	20



L799931-01 Original Sample (OS) • Duplicate (DUP)

(OS) 11/12/15 12:08 • (DUP) 11/12/15 12:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	SU	SU		%		%
pH	6.73	6.72	1	0.149	1	

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

L800114-02 Original Sample (OS) • Duplicate (DUP)

(OS) 11/12/15 12:08 • (DUP) 11/12/15 12:08

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	SU	SU		%		%
pH	7.39	7.40	1	0.135	1	

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/12/15 12:08 • (LCSD) 11/12/15 12:08

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	SU	SU	SU	%	%	%			%	%
pH	6.72	6.75	6.75	100	100	98.5-102			0.000	1

Method Blank (MB)

(MB) 11/12/15 13:44

	MB Result	MB Qualifier	MB RDL
Analyte	umhos/cm		umhos/cm
Specific Conductance	1.22		

L800095-03 Original Sample (OS) • Duplicate (DUP)

(OS) 11/12/15 13:44 • (DUP) 11/12/15 13:44

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	umhos/cm	umhos/cm		%		%
Specific Conductance	988	984	1	0.406		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/12/15 13:44 • (LCSD) 11/12/15 13:44

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	umhos/cm	umhos/cm	umhos/cm	%	%	%			%	%
Specific Conductance	915	951	954	104	104	90.0-110			0.315	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) 11/11/15 08:48

	MB Result	MB Qualifier	MB RDL
Analyte	mg/l		mg/l
Nitrate	ND		0.100
Nitrite	ND		0.100

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L800051-01 Original Sample (OS) • Duplicate (DUP)

(OS) 11/11/15 13:53 • (DUP) 11/11/15 14:08

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate	0.0453	0.0467	1	0		20
Nitrite	ND	0.000	1	0		20

L800063-01 Original Sample (OS) • Duplicate (DUP)

(OS) 11/11/15 16:20 • (DUP) 11/11/15 16:34

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Nitrate	18.9	18.9	10	0		20
Nitrite	0.208	0.158	10	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/11/15 11:58 • (LCSD) 11/11/15 12:13

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Nitrate	8.00	8.17	8.18	102	102	90-110			0	20
Nitrite	8.00	7.92	7.94	99	99	90-110			0	20

L800051-02 Original Sample (OS) • Matrix Spike (MS)

(OS) 11/11/15 14:22 • (MS) 11/11/15 14:37

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Nitrate	5.00	0.0380	5.15	102	1	80-120	
Nitrite	5.00	0.00610	5.23	105	1	80-120	



L800063-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/11/15 16:49 • (MS) 11/11/15 17:03 • (MSD) 11/11/15 17:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Nitrate	0.500	40.0	96.1	96.3	112	113	10	80-120			0	20
Nitrite	0.500	ND	50.1	50.1	100	100	10	80-120			0	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) 11/11/15 20:34

	MB Result	MB Qualifier	MB RDL
Analyte	mg/l		mg/l
Chloride	ND		1.00
Nitrate	ND		0.100
Nitrite	ND		0.100
Sulfate	ND		5.00

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

L800033-05 Original Sample (OS) • Duplicate (DUP)

(OS) 11/11/15 21:51 • (DUP) 11/11/15 22:07

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	52.3	52.0	10	1		20
Nitrate	43.5	47.5	10	9		20
Nitrite	0.0444	0.0186	10	0		20
Sulfate	410	412	10	1		20

L800119-07 Original Sample (OS) • Duplicate (DUP)

(OS) 11/12/15 03:31 • (DUP) 11/12/15 03:46

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	28.8	28.8	1	0		20
Nitrate	0.0254	0.0247	1	0		20
Nitrite	ND	0.000	1	0		20
Sulfate	3.03	2.95	1	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/11/15 20:50 • (LCSD) 11/11/15 21:05

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	40.0	40.1	100	100	90-110			0	20
Nitrate	8.00	8.14	8.16	102	102	90-110			0	20
Nitrite	8.00	7.96	7.97	100	100	90-110			0	20
Sulfate	40.0	40.5	40.5	101	101	90-110			0	20



L800051-04 Original Sample (OS) • Matrix Spike (MS)

(OS) 11/11/15 22:53 • (MS) 11/11/15 23:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	0.0584	49.5	99	1	80-120	
Nitrate	5.00	ND	4.85	97	1	80-120	
Nitrite	5.00	ND	5.04	101	1	80-120	
Sulfate	50.0	ND	49.8	100	1	80-120	

L800119-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/12/15 04:01 • (MS) 11/12/15 04:17 • (MSD) 11/12/15 04:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	47.6	95.6	95.5	96	96	1	80-120			0	20
Nitrate	5.00	3.61	8.58	8.45	100	97	1	80-120			2	20
Nitrite	5.00	0.0824	5.22	5.20	103	102	1	80-120			0	20
Sulfate	50.0	29.7	78.7	78.7	98	98	1	80-120			0	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) 11/14/15 17:50

	MB Result	MB Qualifier	MB RDL
Analyte	mg/l		mg/l
Chloride	ND		1.00

L801090-01 Original Sample (OS) • Duplicate (DUP)

(OS) 11/14/15 19:02 • (DUP) 11/14/15 19:16

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Chloride	379	378	10	0		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/14/15 18:04 • (LCSD) 11/14/15 18:19

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Chloride	40.0	39.1	39.3	98	98	90-110			1	20

L801090-02 Original Sample (OS) • Matrix Spike (MS)

(OS) 11/14/15 19:31 • (MS) 11/14/15 19:45

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Chloride	5.00	315	816	100	10	80-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) 11/19/15 06:56

	MB Result	MB Qualifier	MB RDL
Analyte	mg/l		mg/l
Sulfate	ND		5.00

L801035-13 Original Sample (OS) • Duplicate (DUP)

(OS) 11/19/15 10:08 • (DUP) 11/19/15 10:22

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/l	mg/l		%		%
Sulfate	595	602	10	1		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/19/15 07:10 • (LCSD) 11/19/15 08:08

	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Analyte	mg/l	mg/l	mg/l	%	%	%			%	%
Sulfate	40.0	43.1	43.2	108	108	90-110			0	20

L801074-01 Original Sample (OS) • Matrix Spike (MS)

(OS) 11/19/15 10:50 • (MS) 11/19/15 11:05

	Spike Amount	Original Result	MS Result	MS Rec.	Dilution	Rec. Limits	MS Qualifier
Analyte	mg/l	mg/l	mg/l	%		%	
Sulfate	5.00	42.0	546	101	10	80-120	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



Method Blank (MB)

(MB) 11/13/15 02:40

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
TOC	ND		1.00

L799783-10 Original Sample (OS) • Duplicate (DUP)

(OS) 11/13/15 08:02 • (DUP) 11/13/15 08:14

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC	ND	ND	1	0.000		20

L800033-05 Original Sample (OS) • Duplicate (DUP)

(OS) 11/13/15 11:11 • (DUP) 11/13/15 11:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
TOC	5.91	5.85	1	1.02		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/13/15 03:55 • (LCSD) 11/13/15 04:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TOC	75.0	76.8	76.7	102	102	85.0-115			0.169	20

L799783-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/13/15 06:25 • (MS) 11/13/15 06:47 • (MSD) 11/13/15 07:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TOC	50.0	0.690	55.2	55.9	110	112	1	80.0-120			1.26	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) 11/12/15 11:35

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Mercury	ND		0.000200

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/12/15 11:37 • (LCSD) 11/12/15 11:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	0.00286	0.00269	95	90	80-120			6	20

L800095-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/12/15 11:42 • (MS) 11/12/15 11:44 • (MSD) 11/12/15 11:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00287	0.00293	96	98	1	75-125			2	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) 11/13/15 02:20

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Barium	ND		0.00500
Calcium	ND		1.00
Chromium	ND		0.0100
Cobalt	ND		0.0100
Magnesium	ND		1.00
Nickel	ND		0.0100
Potassium	ND		1.00
Silver	ND		0.00500
Vanadium	ND		0.0200

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) 11/13/15 09:01

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Sodium	ND		1.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/13/15 02:23 • (LCSD) 11/13/15 02:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.984	0.986	98	99	80-120			0	20
Calcium	10.0	9.84	9.92	98	99	80-120			1	20
Chromium	1.00	1.03	1.03	103	103	80-120			0	20
Cobalt	1.00	1.02	1.02	102	102	80-120			0	20
Magnesium	10.0	10.2	10.1	102	101	80-120			1	20
Nickel	1.00	1.01	1.01	101	101	80-120			0	20
Potassium	10.0	9.37	9.35	94	93	80-120			0	20
Silver	1.00	0.978	0.975	98	98	80-120			0	20
Sodium	10.0	10.1	10.1	101	101	80-120			0	20
Vanadium	1.00	1.03	1.02	103	102	80-120			0	20



L800095-01,02,03

L800095-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/13/15 02:28 • (MS) 11/13/15 02:40 • (MSD) 11/13/15 02:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Barium	1.00	0.134	1.15	1.09	102	96	1	75-125			5	20
Calcium	10.0	79.1	90.6	87.6	115	85	1	75-125			3	20
Chromium	1.00	0.000669	1.06	0.997	106	100	1	75-125			6	20
Cobalt	1.00	0.00172	1.07	1.01	107	101	1	75-125			6	20
Magnesium	10.0	22.3	32.6	31.5	104	93	1	75-125			3	20
Nickel	1.00	0.00408	1.05	0.996	105	99	1	75-125			5	20
Potassium	10.0	11.9	21.9	20.8	100	90	1	75-125			5	20
Silver	1.00	0.000210	1.03	0.967	103	97	1	75-125			6	20
Sodium	10.0	191	205	198	136	72	1	75-125	V	V	3	20
Vanadium	1.00	ND	1.08	1.01	108	101	1	75-125			7	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) 11/16/15 00:09

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Antimony	ND		0.00200
Arsenic	ND		0.00200
Beryllium	ND		0.00200
Cadmium	ND		0.00100
Copper	ND		0.00500
Lead	ND		0.00200
Selenium	ND		0.00200
Thallium	ND		0.00200
Zinc	ND		0.0250

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/16/15 00:12 • (LCSD) 11/16/15 00:14

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.0503	0.0513	101	103	80-120			2	20
Arsenic	0.0500	0.0489	0.0485	98	97	80-120			1	20
Beryllium	0.0500	0.0495	0.0480	99	96	80-120			3	20
Cadmium	0.0500	0.0507	0.0512	101	102	80-120			1	20
Copper	0.0500	0.0523	0.0511	105	102	80-120			2	20
Lead	0.0500	0.0502	0.0492	100	98	80-120			2	20
Selenium	0.0500	0.0495	0.0497	99	99	80-120			0	20
Thallium	0.0500	0.0492	0.0490	98	98	80-120			0	20
Zinc	0.0500	0.0499	0.0483	100	97	80-120			3	20

L800095-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/16/15 00:16 • (MS) 11/16/15 00:21 • (MSD) 11/16/15 00:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	0.0500	0.000344	0.0517	0.0524	103	104	1	75-125			1	20
Arsenic	0.0500	0.000662	0.0498	0.0522	98	103	1	75-125			5	20
Beryllium	0.0500	ND	0.0475	0.0483	95	97	1	75-125			2	20
Cadmium	0.0500	0.0000929	0.0511	0.0533	102	106	1	75-125			4	20
Copper	0.0500	0.00148	0.0512	0.0512	99	99	1	75-125			0	20



[L800095-01,02,03](#)

L800095-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/16/15 00:16 • (MS) 11/16/15 00:21 • (MSD) 11/16/15 00:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	<u>MS Qualifier</u>	<u>MSD Qualifier</u>	RPD %	RPD Limits %
Lead	0.0500	0.000334	0.0482	0.0491	96	98	1	75-125			2	20
Selenium	0.0500	0.00187	0.0512	0.0507	99	98	1	75-125			1	20
Thallium	0.0500	0.0000700	0.0476	0.0494	95	99	1	75-125			4	20
Zinc	0.0500	0.00691	0.0499	0.0488	86	84	1	75-125			2	20

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) 11/12/15 13:21

Analyte	MB Result	MB Qualifier	MB RDL
	mg/l		mg/l
Acetone	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromochloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
Carbon disulfide	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
trans-1,4-Dichloro-2-butene	ND		0.00250
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100
Ethylbenzene	ND		0.00100
2-Hexanone	ND		0.0100
Iodomethane	ND		0.0100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) 11/12/15 13:21

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Toluene	ND		0.00500
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
Vinyl chloride	ND		0.00100
Vinyl acetate	ND		0.0100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	107		90.0-115
(S) Dibromofluoromethane	100		79.0-121
(S) a,a,a-Trifluorotoluene	108		90.4-116
(S) 4-Bromofluorobenzene	108		80.1-120

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/12/15 11:49 • (LCSD) 11/12/15 12:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.119	0.121	95.2	96.6	28.7-175			1.48	20.9
Benzene	0.0250	0.0211	0.0220	84.4	87.9	73.0-122			4.02	20
Acrylonitrile	0.125	0.0846	0.0847	67.7	67.8	58.2-145			0.200	20
Bromodichloromethane	0.0250	0.0289	0.0291	116	117	75.5-121			0.840	20
Bromochloromethane	0.0250	0.0228	0.0229	91.1	91.7	78.9-123			0.730	20
Bromoform	0.0250	0.0255	0.0255	102	102	71.5-131			0.330	20
Bromomethane	0.0250	0.0255	0.0260	102	104	22.4-187			2.10	20
Carbon tetrachloride	0.0250	0.0280	0.0274	112	110	70.9-129			2.27	20
Carbon disulfide	0.0250	0.0252	0.0256	101	102	53.0-134			1.43	20
Chlorobenzene	0.0250	0.0247	0.0252	98.6	101	79.7-122			2.09	20
Chlorodibromomethane	0.0250	0.0263	0.0259	105	104	78.2-124			1.20	20
Chloroethane	0.0250	0.0251	0.0258	100	103	41.2-153			2.71	20
Chloroform	0.0250	0.0270	0.0259	108	103	73.2-125			4.21	20
Chloromethane	0.0250	0.0211	0.0228	84.4	91.3	55.8-134			7.81	20
1,2-Dichlorobenzene	0.0250	0.0244	0.0244	97.7	97.8	84.7-118			0.0400	20
Dibromomethane	0.0250	0.0249	0.0251	99.5	100	79.5-118			0.920	20
1,4-Dichlorobenzene	0.0250	0.0233	0.0239	93.0	95.6	82.2-114			2.70	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) 11/12/15 11:49 • (LCSD) 11/12/15 12:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
trans-1,4-Dichloro-2-butene	0.0250	0.0260	0.0250	104	99.9	58.3-129			4.12	20
1,1-Dichloroethane	0.0250	0.0238	0.0248	95.4	99.0	71.7-127			3.79	20
1,2-Dichloroethane	0.0250	0.0290	0.0291	116	117	65.3-126			0.520	20
1,1-Dichloroethene	0.0250	0.0288	0.0297	115	119	59.9-137			2.87	20
trans-1,2-Dichloroethene	0.0250	0.0232	0.0225	92.8	89.9	72.6-125			3.19	20
cis-1,2-Dichloroethene	0.0250	0.0219	0.0230	87.7	92.0	77.3-122			4.79	20
1,2-Dichloropropane	0.0250	0.0237	0.0244	94.6	97.4	77.4-125			2.89	20
cis-1,3-Dichloropropene	0.0250	0.0252	0.0261	101	105	77.7-124			3.46	20
trans-1,3-Dichloropropene	0.0250	0.0269	0.0272	108	109	73.5-127			1.26	20
Ethylbenzene	0.0250	0.0246	0.0262	98.5	105	80.9-121			6.31	20
2-Hexanone	0.125	0.100	0.0994	80.3	79.5	59.4-151			0.960	20
Iodomethane	0.125	0.114	0.117	91.4	93.4	64.6-137			2.17	20
2-Butanone (MEK)	0.125	0.0885	0.0878	70.8	70.3	46.4-155			0.720	20
Methylene Chloride	0.0250	0.0214	0.0220	85.5	87.9	69.5-120			2.72	20
4-Methyl-2-pentanone (MIBK)	0.125	0.0930	0.0955	74.4	76.4	63.3-138			2.59	20
Styrene	0.0250	0.0245	0.0260	97.9	104	79.9-124			6.08	20
1,1,2,2-Tetrachloroethane	0.0250	0.0216	0.0216	86.5	86.4	79.3-123			0.140	20
1,1,1,2-Tetrachloroethane	0.0250	0.0261	0.0267	105	107	78.5-125			2.06	20
Tetrachloroethene	0.0250	0.0262	0.0250	105	100	73.5-130			4.61	20
Toluene	0.0250	0.0242	0.0240	97.0	95.9	77.9-116			1.11	20
1,1,1-Trichloroethane	0.0250	0.0282	0.0285	113	114	71.1-129			1.27	20
1,1,2-Trichloroethane	0.0250	0.0227	0.0226	90.9	90.5	81.6-120			0.480	20
Trichloroethene	0.0250	0.0250	0.0259	100	104	79.5-121			3.33	20
Trichlorofluoromethane	0.0250	0.0301	0.0311	120	124	49.1-157			3.22	20
1,2,3-Trichloropropane	0.0250	0.0251	0.0246	100	98.6	74.9-124			1.82	20
Vinyl chloride	0.0250	0.0250	0.0270	100	108	61.5-134			7.40	20
Vinyl acetate	0.125	0.104	0.101	83.1	80.6	41.7-159			3.06	20
Xylenes, Total	0.0750	0.0734	0.0752	97.8	100	79.2-122			2.39	20
(S) Toluene-d8				107	106	90.0-115				
(S) Dibromofluoromethane				98.1	96.4	79.0-121				
(S) a,a,a-Trifluorotoluene				109	112	90.4-116				
(S) 4-Bromofluorobenzene				109	105	80.1-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L800095-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/12/15 15:24 • (MS) 11/12/15 15:42 • (MSD) 11/12/15 16:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.000667	0.103	0.114	81.7	90.4	1	25.0-156			10.0	21.5
Acrylonitrile	0.125	ND	0.0762	0.0792	61.0	63.4	1	55.9-161			3.85	20
Benzene	0.0250	ND	0.0188	0.0199	75.4	79.5	1	58.6-133			5.37	20
Bromodichloromethane	0.0250	ND	0.0264	0.0272	106	109	1	69.2-127			2.69	20
Bromochloromethane	0.0250	ND	0.0200	0.0215	80.2	86.0	1	74.4-128			7.00	20
Bromoform	0.0250	ND	0.0244	0.0246	97.7	98.5	1	66.3-140			0.760	20
Bromomethane	0.0250	ND	0.0186	0.0227	74.6	90.7	1	16.6-183			19.5	20.5
Carbon disulfide	0.0250	ND	0.0181	0.0208	72.5	83.2	1	34.9-138			13.7	20
Carbon tetrachloride	0.0250	ND	0.0252	0.0269	101	108	1	60.6-139			6.45	20
Chlorobenzene	0.0250	ND	0.0229	0.0232	91.7	93.0	1	70.1-130			1.43	20
Chlorodibromomethane	0.0250	ND	0.0244	0.0260	97.5	104	1	71.6-132			6.40	20
Chloroethane	0.0250	ND	0.0193	0.0232	77.1	92.8	1	33.3-155			18.5	20
Chloroform	0.0250	ND	0.0234	0.0254	93.6	102	1	66.1-133			8.35	20
Chloromethane	0.0250	ND	0.0154	0.0182	61.4	72.7	1	40.7-139			16.9	20
1,2-Dichlorobenzene	0.0250	ND	0.0214	0.0224	85.5	89.6	1	77.4-127			4.70	20
Dibromomethane	0.0250	ND	0.0244	0.0244	97.6	97.6	1	72.8-127			0.0200	20
1,4-Dichlorobenzene	0.0250	ND	0.0214	0.0221	85.7	88.3	1	74.4-123			2.98	20
trans-1,4-Dichloro-2-butene	0.0250	ND	0.0245	0.0256	98.2	102	1	57.6-136			4.27	20
1,1-Dichloroethane	0.0250	ND	0.0208	0.0221	83.0	88.4	1	64.0-134			6.33	20
1,2-Dichloroethane	0.0250	ND	0.0252	0.0275	101	110	1	60.7-132			8.81	20
1,1-Dichloroethene	0.0250	ND	0.0243	0.0272	97.2	109	1	48.8-144			11.4	20
trans-1,2-Dichloroethene	0.0250	ND	0.0195	0.0213	78.0	85.4	1	61.0-132			9.05	20
cis-1,2-Dichloroethene	0.0250	ND	0.0198	0.0215	79.2	85.8	1	60.6-136			7.98	20
1,2-Dichloropropane	0.0250	ND	0.0201	0.0225	80.3	90.1	1	69.7-130			11.5	20
cis-1,3-Dichloropropene	0.0250	ND	0.0226	0.0249	90.2	99.7	1	71.1-129			9.97	20
trans-1,3-Dichloropropene	0.0250	ND	0.0241	0.0260	96.3	104	1	66.3-136			7.66	20
Ethylbenzene	0.0250	ND	0.0233	0.0237	93.2	94.6	1	62.7-136			1.55	20
2-Hexanone	0.125	ND	0.0851	0.0925	68.1	74.0	1	59.4-154			8.30	20.1
Iodomethane	0.125	0.000481	0.0939	0.104	74.8	82.6	1	55.2-140			9.84	20
2-Butanone (MEK)	0.125	ND	0.0752	0.0836	60.2	66.9	1	45.0-156			10.5	20.8
Methylene Chloride	0.0250	ND	0.0176	0.0199	70.6	79.5	1	61.5-125			11.8	20
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.0851	0.0887	68.1	71.0	1	60.7-150			4.09	20
Styrene	0.0250	ND	0.0230	0.0236	92.2	94.4	1	68.2-133			2.46	20
1,1,1,2-Tetrachloroethane	0.0250	ND	0.0260	0.0249	104	99.7	1	70.5-132			4.17	20
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0202	0.0213	80.8	85.3	1	64.9-145			5.43	20
Tetrachloroethene	0.0250	ND	0.0241	0.0238	96.3	95.1	1	57.4-141			1.28	20

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L800095-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 11/12/15 15:24 • (MS) 11/12/15 15:42 • (MSD) 11/12/15 16:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Toluene	0.0250	ND	0.0217	0.0229	86.9	91.7	1	67.8-124			5.36	20
1,1,1-Trichloroethane	0.0250	ND	0.0259	0.0272	104	109	1	58.7-134			4.68	20
1,1,2-Trichloroethane	0.0250	ND	0.0214	0.0227	85.5	91.0	1	74.1-130			6.24	20
Trichloroethene	0.0250	ND	0.0230	0.0230	92.0	92.2	1	48.9-148			0.160	20
Trichlorofluoromethane	0.0250	ND	0.0250	0.0276	99.9	110	1	39.9-165			10.0	20
1,2,3-Trichloropropane	0.0250	ND	0.0217	0.0236	86.9	94.6	1	71.5-134			8.50	20
Vinyl acetate	0.125	ND	0.0924	0.0997	73.9	79.8	1	42.8-181			7.59	20
Vinyl chloride	0.0250	ND	0.0194	0.0239	77.4	95.5	1	44.3-143		J3	20.9	20
Xylenes, Total	0.0750	ND	0.0689	0.0698	91.9	93.0	1	65.6-133			1.28	20
(S) Toluene-d8					104	107		90.0-115				
(S) Dibromofluoromethane					95.8	103		79.0-121				
(S) a,a,a-Trifluorotoluene					114	111		90.4-116				
(S) 4-Bromofluorobenzene					111	112		80.1-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE**.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

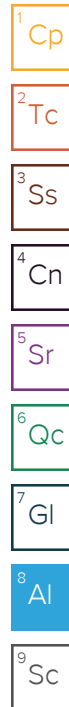
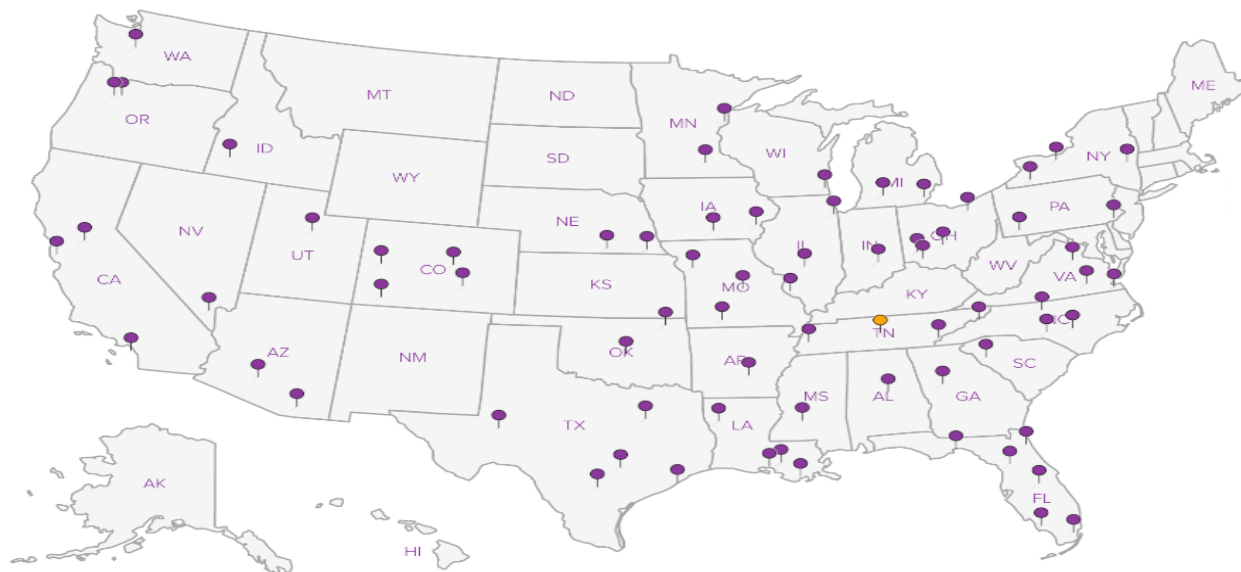
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ^{n/a} Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**





12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Report Summary

Thursday May 15, 2014

Report Number: L697086

Samples Received: 05/06/14

Client Project: 10-0133

Description: Broda Al Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

T. Alan Harvill , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BI0041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

ESC Sample # : L697086-01

Sample ID : MW-1

Site ID : BRODA AL

Collected By : Mark A. Molen
Collection Date : 05/05/14 11:20

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	5.0	mg/l	9056	05/06/14	5
Nitrate	4.3	0.10	mg/l	9056	05/06/14	1
Nitrite	BDL	0.10	mg/l	9056	05/06/14	1
Sulfate	160	25.	mg/l	9056	05/06/14	5
Alkalinity	160	20.	mg/l	2320 B-2011	05/08/14	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320 B-2011	05/09/14	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320 B-2011	05/09/14	1
pH	7.4		su	9040C	05/07/14	1
Specific Conductance	1000		umhos/cm	9050A	05/07/14	1
TOC (Total Organic Carbon)	2.0	1.0	mg/l	9060A	05/08/14	1
Antimony	BDL	0.0010	mg/l	6020	05/13/14	1
Arsenic	0.0012	0.0010	mg/l	6020	05/13/14	1
Beryllium	BDL	0.0010	mg/l	6020	05/13/14	1
Cadmium	0.00098	0.00050	mg/l	6020	05/13/14	1
Copper	0.012	0.0020	mg/l	6020	05/14/14	1
Lead	0.0047	0.0010	mg/l	6020	05/13/14	1
Selenium	0.0021	0.0010	mg/l	6020	05/13/14	1
Thallium	BDL	0.0010	mg/l	6020	05/13/14	1
Zinc	0.039	0.010	mg/l	6020	05/13/14	1
Mercury	BDL	0.00020	mg/l	7470A	05/08/14	1
Barium	0.12	0.0050	mg/l	6010B	05/07/14	1
Calcium	69.	0.50	mg/l	6010B	05/07/14	1
Chromium	BDL	0.010	mg/l	6010B	05/07/14	1
Cobalt	BDL	0.010	mg/l	6010B	05/07/14	1
Magnesium	23.	0.10	mg/l	6010B	05/07/14	1
Nickel	BDL	0.020	mg/l	6010B	05/07/14	1
Potassium	9.1	0.50	mg/l	6010B	05/07/14	1
Silver	BDL	0.010	mg/l	6010B	05/12/14	1
Sodium	120	0.50	mg/l	6010B	05/07/14	1
Vanadium	BDL	0.010	mg/l	6010B	05/07/14	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/07/14	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/07/14	1
Benzene	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/07/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L697086-01 (PH) - 7.4@18.8c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Mark A. Molen
Collection Date : 05/05/14 11:20

ESC Sample # : L697086-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/07/14	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/07/14	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/07/14	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/07/14	1
Chloroform	BDL	0.0050	mg/l	8260B	05/07/14	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/07/14	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/07/14	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/07/14	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/07/14	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/07/14	1
Iodomethane	BDL	0.010	mg/l	8260B	05/07/14	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/07/14	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/07/14	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/07/14	1
Styrene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
Toluene	BDL	0.0050	mg/l	8260B	05/07/14	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/07/14	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/07/14	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/07/14	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/07/14	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/07/14	1
Surrogate Recovery						
Toluene-d8	98.1		% Rec.	8260B	05/07/14	1
Dibromofluoromethane	109.		% Rec.	8260B	05/07/14	1
a,a,a-Trifluorotoluene	99.6		% Rec.	8260B	05/07/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L697086-01 (PH) - 7.4@18.8c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Mark A. Molen
Collection Date : 05/05/14 11:20

ESC Sample # : L697086-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	82.2		% Rec.	8260B	05/07/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/15/14 10:23 Printed: 05/15/14 10:23
L697086-01 (PH) - 7.4@18.8c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

ESC Sample # : L697086-02

Sample ID : MW-2

Site ID : BRODA AL

Collected By : Mark A. Molen
Collection Date : 05/05/14 12:35

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	190	5.0	mg/l	9056	05/06/14	5
Nitrate	BDL	0.10	mg/l	9056	05/06/14	1
Nitrite	BDL	0.10	mg/l	9056	05/06/14	1
Sulfate	280	25.	mg/l	9056	05/06/14	5
Alkalinity	120	20.	mg/l	2320 B-2011	05/08/14	1
Alkalinity,Bicarbonate	120	20.	mg/l	2320 B-2011	05/09/14	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/09/14	1
pH	7.4		su	9040C	05/07/14	1
Specific Conductance	1400		umhos/cm	9050A	05/07/14	1
TOC (Total Organic Carbon)	6.5	1.0	mg/l	9060A	05/08/14	1
Antimony	BDL	0.0010	mg/l	6020	05/13/14	1
Arsenic	0.016	0.0010	mg/l	6020	05/13/14	1
Beryllium	BDL	0.0010	mg/l	6020	05/13/14	1
Cadmium	0.00057	0.00050	mg/l	6020	05/13/14	1
Copper	0.0056	0.0020	mg/l	6020	05/14/14	1
Lead	0.0020	0.0010	mg/l	6020	05/13/14	1
Selenium	0.0021	0.0010	mg/l	6020	05/13/14	1
Thallium	BDL	0.0010	mg/l	6020	05/13/14	1
Zinc	0.012	0.010	mg/l	6020	05/13/14	1
Mercury	BDL	0.00020	mg/l	7470A	05/08/14	1
Barium	0.42	0.0050	mg/l	6010B	05/07/14	1
Calcium	78.	0.50	mg/l	6010B	05/07/14	1
Chromium	BDL	0.010	mg/l	6010B	05/07/14	1
Cobalt	BDL	0.010	mg/l	6010B	05/07/14	1
Magnesium	23.	0.10	mg/l	6010B	05/07/14	1
Nickel	BDL	0.020	mg/l	6010B	05/07/14	1
Potassium	12.	0.50	mg/l	6010B	05/07/14	1
Silver	BDL	0.010	mg/l	6010B	05/12/14	1
Sodium	210	0.50	mg/l	6010B	05/07/14	1
Vanadium	BDL	0.010	mg/l	6010B	05/07/14	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/07/14	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/07/14	1
Benzene	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/07/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L697086-02 (PH) - 7.4@18.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

ESC Sample # : L697086-02

Sample ID : MW-2

Site ID : BRODA AL

Collected By : Mark A. Molen
Collection Date : 05/05/14 12:35

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/07/14	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/07/14	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/07/14	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/07/14	1
Chloroform	BDL	0.0050	mg/l	8260B	05/07/14	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/07/14	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/07/14	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/07/14	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/07/14	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/07/14	1
Iodomethane	BDL	0.010	mg/l	8260B	05/07/14	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/07/14	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/07/14	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/07/14	1
Styrene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
Toluene	BDL	0.0050	mg/l	8260B	05/07/14	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/07/14	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/07/14	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/07/14	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/07/14	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/07/14	1
Surrogate Recovery						
Toluene-d8	98.9		% Rec.	8260B	05/07/14	1
Dibromofluoromethane	110.		% Rec.	8260B	05/07/14	1
a,a,a-Trifluorotoluene	99.5		% Rec.	8260B	05/07/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L697086-02 (PH) - 7.4@18.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Mark A. Molen
Collection Date : 05/05/14 12:35

ESC Sample # : L697086-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	83.3		% Rec.	8260B	05/07/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/15/14 10:23 Printed: 05/15/14 10:23
L697086-02 (PH) - 7.4@18.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

ESC Sample # : L697086-03

Sample ID : MW-3

Site ID : BRODA AL

Collected By : Mark A. Molen
Collection Date : 05/05/14 11:50

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	94.	1.0	mg/l	9056	05/06/14	1
Nitrate	12.	0.50	mg/l	9056	05/06/14	5
Nitrite	BDL	0.10	mg/l	9056	05/06/14	1
Sulfate	120	25.	mg/l	9056	05/06/14	5
Alkalinity	130	20.	mg/l	2320 B-2011	05/08/14	1
Alkalinity,Bicarbonate	130	20.	mg/l	2320 B-2011	05/09/14	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/09/14	1
pH	7.3		su	9040C	05/07/14	1
Specific Conductance	950		umhos/cm	9050A	05/07/14	1
TOC (Total Organic Carbon)	1.9	1.0	mg/l	9060A	05/08/14	1
Antimony	BDL	0.0010	mg/l	6020	05/13/14	1
Arsenic	0.0014	0.0010	mg/l	6020	05/13/14	1
Beryllium	BDL	0.0010	mg/l	6020	05/13/14	1
Cadmium	BDL	0.00050	mg/l	6020	05/13/14	1
Copper	0.0057	0.0020	mg/l	6020	05/14/14	1
Lead	0.0045	0.0010	mg/l	6020	05/13/14	1
Selenium	0.0040	0.0010	mg/l	6020	05/13/14	1
Thallium	BDL	0.0010	mg/l	6020	05/13/14	1
Zinc	0.032	0.010	mg/l	6020	05/13/14	1
Mercury	BDL	0.00020	mg/l	7470A	05/09/14	1
Barium	0.098	0.0050	mg/l	6010B	05/07/14	1
Calcium	81.	0.50	mg/l	6010B	05/07/14	1
Chromium	BDL	0.010	mg/l	6010B	05/07/14	1
Cobalt	BDL	0.010	mg/l	6010B	05/07/14	1
Magnesium	18.	0.10	mg/l	6010B	05/07/14	1
Nickel	BDL	0.020	mg/l	6010B	05/07/14	1
Potassium	11.	0.50	mg/l	6010B	05/07/14	1
Silver	BDL	0.010	mg/l	6010B	05/12/14	1
Sodium	100	0.50	mg/l	6010B	05/07/14	1
Vanadium	BDL	0.010	mg/l	6010B	05/07/14	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/07/14	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/07/14	1
Benzene	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/07/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L697086-03 (PH) - 7.3@18.2c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

ESC Sample # : L697086-03

Sample ID : MW-3

Site ID : BRODA AL

Collected By : Mark A. Molen
Collection Date : 05/05/14 11:50

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/07/14	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/07/14	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/07/14	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/07/14	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/07/14	1
Chloroform	BDL	0.0050	mg/l	8260B	05/07/14	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/07/14	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/07/14	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/07/14	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/07/14	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/07/14	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/07/14	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/07/14	1
Iodomethane	BDL	0.010	mg/l	8260B	05/07/14	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/07/14	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/07/14	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/07/14	1
Styrene	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
Toluene	BDL	0.0050	mg/l	8260B	05/07/14	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/07/14	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/07/14	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/07/14	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/07/14	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/07/14	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/07/14	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/07/14	1
Surrogate Recovery						
Toluene-d8	97.9		% Rec.	8260B	05/07/14	1
Dibromofluoromethane	112.		% Rec.	8260B	05/07/14	1
a,a,a-Trifluorotoluene	98.2		% Rec.	8260B	05/07/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L697086-03 (PH) - 7.3@18.2c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

May 15, 2014

Date Received : May 06, 2014
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Mark A. Molen
Collection Date : 05/05/14 11:50

ESC Sample # : L697086-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	82.3		% Rec.	8260B	05/07/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/15/14 10:23 Printed: 05/15/14 10:23
L697086-03 (PH) - 7.3@18.2c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L697086-01	WG719458	SAMP	pH	R2916605	T8
	WG719511	SAMP	Acetone	R2916985	J5
L697086-02	WG719458	SAMP	pH	R2916605	T8
L697086-03	WG719458	SAMP	pH	R2916605	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
05/15/14 at 10:23:49

TSR Signing Reports: 288
R5 - Desired TAT

Do Not report Hg on East Regional Landfill-GW Monitoring ONLY report Hg on the ERLF-Leachate sample. Put all East Regional LF samples on same L#, MW-1 through MW-4 and CMW-1

Sample: L697086-01 Account: MOLENTCO Received: 05/06/14 09:00 Due Date: 05/13/14 00:00 RPT Date: 05/15/14 10:23

Sample: L697086-02 Account: MOLENTCO Received: 05/06/14 09:00 Due Date: 05/13/14 00:00 RPT Date: 05/15/14 10:23

Sample: L697086-03 Account: MOLENTCO Received: 05/06/14 09:00 Due Date: 05/13/14 00:00 RPT Date: 05/15/14 10:23



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG719360	05/06/14 08:34
Nitrate	< .1	mg/l			WG719360	05/06/14 08:34
Nitrite	< .1	mg/l			WG719360	05/06/14 08:34
Sulfate	< 5	mg/l			WG719360	05/06/14 08:34
Barium	< .005	mg/l			WG719586	05/07/14 16:31
Calcium	< .5	mg/l			WG719586	05/07/14 16:31
Chromium	< .01	mg/l			WG719586	05/07/14 16:31
Cobalt	< .01	mg/l			WG719586	05/07/14 16:31
Magnesium	< .1	mg/l			WG719586	05/07/14 16:31
Nickel	< .02	mg/l			WG719586	05/07/14 16:31
Potassium	< .5	mg/l			WG719586	05/07/14 16:31
Sodium	< .5	mg/l			WG719586	05/07/14 16:31
Vanadium	< .01	mg/l			WG719586	05/07/14 16:31
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG719511	05/07/14 12:19
1,1,1-Trichloroethane	< .001	mg/l			WG719511	05/07/14 12:19
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG719511	05/07/14 12:19
1,1,2-Trichloroethane	< .001	mg/l			WG719511	05/07/14 12:19
1,1-Dichloroethane	< .001	mg/l			WG719511	05/07/14 12:19
1,1-Dichloroethene	< .001	mg/l			WG719511	05/07/14 12:19
1,2,3-Trichloropropane	< .001	mg/l			WG719511	05/07/14 12:19
1,2-Dichlorobenzene	< .001	mg/l			WG719511	05/07/14 12:19
1,2-Dichloroethane	< .001	mg/l			WG719511	05/07/14 12:19
1,2-Dichloropropane	< .001	mg/l			WG719511	05/07/14 12:19
1,4-Dichlorobenzene	< .001	mg/l			WG719511	05/07/14 12:19
2-Butanone (MEK)	< .01	mg/l			WG719511	05/07/14 12:19
2-Hexanone	< .01	mg/l			WG719511	05/07/14 12:19
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG719511	05/07/14 12:19
Acetone	< .05	mg/l			WG719511	05/07/14 12:19
Acrylonitrile	< .01	mg/l			WG719511	05/07/14 12:19
Benzene	< .001	mg/l			WG719511	05/07/14 12:19
Bromochloromethane	< .001	mg/l			WG719511	05/07/14 12:19
Bromodichloromethane	< .001	mg/l			WG719511	05/07/14 12:19
Bromoform	< .001	mg/l			WG719511	05/07/14 12:19
Bromomethane	< .005	mg/l			WG719511	05/07/14 12:19
Carbon disulfide	< .001	mg/l			WG719511	05/07/14 12:19
Carbon tetrachloride	< .001	mg/l			WG719511	05/07/14 12:19
Chlorobenzene	< .001	mg/l			WG719511	05/07/14 12:19
Chlorodibromomethane	< .001	mg/l			WG719511	05/07/14 12:19
Chloroethane	< .005	mg/l			WG719511	05/07/14 12:19
Chloroform	< .005	mg/l			WG719511	05/07/14 12:19
Chloromethane	< .0025	mg/l			WG719511	05/07/14 12:19
cis-1,2-Dichloroethene	< .001	mg/l			WG719511	05/07/14 12:19
cis-1,3-Dichloropropene	< .001	mg/l			WG719511	05/07/14 12:19
Dibromomethane	< .001	mg/l			WG719511	05/07/14 12:19
Ethylbenzene	< .001	mg/l			WG719511	05/07/14 12:19
Iodomethane	< .01	mg/l			WG719511	05/07/14 12:19
Methylene Chloride	< .005	mg/l			WG719511	05/07/14 12:19
Styrene	< .001	mg/l			WG719511	05/07/14 12:19
Tetrachloroethene	< .001	mg/l			WG719511	05/07/14 12:19
Toluene	< .005	mg/l			WG719511	05/07/14 12:19
trans-1,2-Dichloroethene	< .001	mg/l			WG719511	05/07/14 12:19
trans-1,3-Dichloropropene	< .001	mg/l			WG719511	05/07/14 12:19
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG719511	05/07/14 12:19
Trichloroethene	< .001	mg/l			WG719511	05/07/14 12:19
Trichlorofluoromethane	< .005	mg/l			WG719511	05/07/14 12:19

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Vinyl acetate	< .01	mg/l			WG719511	05/07/14 12:19
Vinyl chloride	< .001	mg/l			WG719511	05/07/14 12:19
Xylenes, Total	< .003	mg/l			WG719511	05/07/14 12:19
4-Bromofluorobenzene		% Rec.	84.60	71-126	WG719511	05/07/14 12:19
Dibromofluoromethane		% Rec.	107.0	78.3-121	WG719511	05/07/14 12:19
Toluene-d8		% Rec.	98.20	88.5-111	WG719511	05/07/14 12:19
a,a,a-Trifluorotoluene		% Rec.	98.80	85-114	WG719511	05/07/14 12:19
Mercury	< .0002	mg/l			WG719398	05/08/14 08:41
TOC (Total Organic Carbon)	< 1	mg/l			WG719496	05/08/14 15:52
Specific Conductance	1.20	umhos/cm			WG719489	05/07/14 15:42
Mercury	< .0002	mg/l			WG719675	05/09/14 09:03
Alkalinity	< 20	mg/l			WG719650	05/08/14 13:10
Silver	< .01	mg/l			WG719586	05/12/14 09:46
Antimony	< .001	mg/l			WG719792	05/13/14 01:49
Arsenic	< .001	mg/l			WG719792	05/13/14 01:49
Beryllium	< .001	mg/l			WG719792	05/13/14 01:49
Cadmium	< .0005	mg/l			WG719792	05/13/14 01:49
Lead	< .001	mg/l			WG719792	05/13/14 01:49
Selenium	< .001	mg/l			WG719792	05/13/14 01:49
Thallium	< .001	mg/l			WG719792	05/13/14 01:49
Zinc	< .01	mg/l			WG719792	05/13/14 01:49
Copper	< .002	mg/l			WG720643	05/14/14 11:04

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Nitrate	mg/l	7.80	7.80	0.0	20	L697048-01	WG719360
Nitrate	mg/l	0.0	0.0	0.0	20	L697231-01	WG719360
Nitrite	mg/l	0.0	0.0	0.0	20	L697231-01	WG719360
pH	su	7.20	7.30	0.687	1	L696882-01	WG719458
pH	su	7.10	7.10	0.0	1	L697195-01	WG719458
Barium	mg/l	0.140	0.139	3.00	20	L697156-01	WG719586
Calcium	mg/l	130.	129.	0.0	20	L697156-01	WG719586
Chromium	mg/l	0.0	0.00428	26.0*	20	L697156-01	WG719586
Cobalt	mg/l	0.0	0.00289	3.00	20	L697156-01	WG719586
Magnesium	mg/l	24.0	24.1	2.00	20	L697156-01	WG719586
Nickel	mg/l	0.0440	0.0449	1.00	20	L697156-01	WG719586
Potassium	mg/l	6.60	6.51	2.00	20	L697156-01	WG719586
Sodium	mg/l	83.0	79.9	4.00	20	L697156-01	WG719586

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

Analyte	Units	Result	Duplicate Duplicate	RPD	Limit	Ref Samp	Batch
Vanadium	mg/l	0.0190	0.0186	2.00	20	L697156-01	WG719586
Mercury	mg/l	0.0	0.0000312	22.0*	20	L697063-04	WG719398
TOC (Total Organic Carbon)	mg/l	1.37	1.60	15.5	20	L697063-02	WG719496
TOC (Total Organic Carbon)	mg/l	1.98	2.00	1.01	20	L697086-01	WG719496
Specific Conductance	umhos/cm	34000	34000	0.590	20	L696655-01	WG719489
Specific Conductance	umhos/cm	950.	950.	0.315	20	L697086-03	WG719489
Mercury	mg/l	0.0	0.0000347	2.00	20	L697384-06	WG719675
Alkalinity	mg/l	160.	160.	3.08	20	L697086-01	WG719650
Alkalinity	mg/l	410.	420.	1.44	20	L696930-19	WG719650
Silver	mg/l	0.0	-0.0000912	383.*	20	L697156-01	WG719586
Antimony	mg/l	0.0	-0.0000280	0.0	20	L697385-03	WG719792
Arsenic	mg/l	0.00120	0.00141	14.0	20	L697385-03	WG719792
Beryllium	mg/l	0.0	-0.0000900	29.0*	20	L697385-03	WG719792
Cadmium	mg/l	0.0	-0.0000110	10.0	20	L697385-03	WG719792
Lead	mg/l	0.0	-0.0000270	20.0	20	L697385-03	WG719792
Selenium	mg/l	0.0	0.00114	20.0	20	L697385-03	WG719792
Thallium	mg/l	0.0	0.0000800	0.0	20	L697385-03	WG719792
Zinc	mg/l	0.0	0.00283	0.0	20	L697385-03	WG719792
Copper	mg/l	0.0	0.000730	34.0*	20	L698446-01	WG720643

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Chloride	mg/l	40	40.6	102.	90-110	WG719360
Nitrate	mg/l	8	8.23	103.	90-110	WG719360
Nitrite	mg/l	8	8.09	101.	90-110	WG719360
Sulfate	mg/l	40	40.2	101.	90-110	WG719360
pH	su	5.93	5.90	99.5	98.3-101.7	WG719458
Barium	mg/l	1	1.09	109.	80-120	WG719586
Calcium	mg/l	10	10.5	105.	80-120	WG719586
Chromium	mg/l	1	1.08	108.	80-120	WG719586
Cobalt	mg/l	1	1.10	110.	80-120	WG719586
Magnesium	mg/l	10	11.0	110.	80-120	WG719586
Nickel	mg/l	1	1.01	101.	80-120	WG719586
Potassium	mg/l	10	10.5	105.	80-120	WG719586
Sodium	mg/l	10	10.7	107.	80-120	WG719586
Vanadium	mg/l	1	1.08	108.	80-120	WG719586

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0253	101.	74.2-124	WG719511
1,1,1-Trichloroethane	mg/l	.025	0.0248	99.2	73.2-123	WG719511
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0234	93.8	70.7-122	WG719511
1,1,2-Trichloroethane	mg/l	.025	0.0241	96.4	77.7-118	WG719511
1,1-Dichloroethane	mg/l	.025	0.0236	94.5	70.7-126	WG719511
1,1-Dichloroethene	mg/l	.025	0.0258	103.	67.8-129	WG719511
1,2,3-Trichloropropane	mg/l	.025	0.0244	97.6	71.8-121	WG719511
1,2-Dichlorobenzene	mg/l	.025	0.0249	99.5	78.4-117	WG719511
1,2-Dichloroethane	mg/l	.025	0.0254	101.	68.8-124	WG719511
1,2-Dichloropropane	mg/l	.025	0.0229	91.6	76.5-119	WG719511
1,4-Dichlorobenzene	mg/l	.025	0.0252	101.	78.8-115	WG719511
2-Butanone (MEK)	mg/l	.125	0.116	93.2	55-149	WG719511
2-Hexanone	mg/l	.125	0.118	94.6	65.6-144	WG719511
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.124	98.9	70.5-133	WG719511
Acetone	mg/l	.125	0.147	117.	35.6-163	WG719511
Acrylonitrile	mg/l	.125	0.117	93.8	55.2-130	WG719511
Benzene	mg/l	.025	0.0235	94.2	74.8-121	WG719511
Bromochloromethane	mg/l	.025	0.0248	99.1	77.6-119	WG719511
Bromodichloromethane	mg/l	.025	0.0247	98.9	75.1-116	WG719511
Bromoform	mg/l	.025	0.0261	104.	67.5-130	WG719511
Bromomethane	mg/l	.025	0.0270	108.	49.9-162	WG719511
Carbon disulfide	mg/l	.025	0.0261	105.	64.6-140	WG719511
Carbon tetrachloride	mg/l	.025	0.0248	99.4	70.2-123	WG719511
Chlorobenzene	mg/l	.025	0.0240	96.0	78.1-119	WG719511
Chlorodibromomethane	mg/l	.025	0.0251	100.	74-121	WG719511
Chloroethane	mg/l	.025	0.0248	99.0	61.7-135	WG719511
Chloroform	mg/l	.025	0.0239	95.4	76-121	WG719511
Chloromethane	mg/l	.025	0.0215	86.1	61.5-129	WG719511
cis-1,2-Dichloroethene	mg/l	.025	0.0242	96.8	76-119	WG719511
cis-1,3-Dichloropropene	mg/l	.025	0.0269	108.	78.2-120	WG719511
Dibromomethane	mg/l	.025	0.0245	98.1	79.5-118	WG719511
Ethylbenzene	mg/l	.025	0.0245	97.8	78.8-122	WG719511
Iodomethane	mg/l	.125	0.121	96.5	61-130	WG719511
Methylene Chloride	mg/l	.025	0.0227	90.9	70.3-120	WG719511
Styrene	mg/l	.025	0.0256	102.	80.4-126	WG719511
Tetrachloroethene	mg/l	.025	0.0241	96.3	72.6-126	WG719511
Toluene	mg/l	.025	0.0235	94.1	79.7-116	WG719511
trans-1,2-Dichloroethene	mg/l	.025	0.0235	94.1	72.6-121	WG719511
trans-1,3-Dichloropropene	mg/l	.025	0.0269	108.	74.3-123	WG719511
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0236	94.3	65.1-123	WG719511
Trichloroethene	mg/l	.025	0.0238	95.3	77.7-118	WG719511
Trichlorofluoromethane	mg/l	.025	0.0269	108.	63.5-135	WG719511
Vinyl acetate	mg/l	.125	0.123	98.4	65-138	WG719511
Vinyl chloride	mg/l	.025	0.0205	82.0	65.9-128	WG719511
Xylenes, Total	mg/l	.075	0.0719	95.9	78.7-121	WG719511
4-Bromofluorobenzene				90.20	71-126	WG719511
Dibromofluoromethane				101.0	78.3-121	WG719511
Toluene-d8				100.0	88.5-111	WG719511
a,a,a-Trifluorotoluene				97.30	85-114	WG719511
Mercury	mg/l	.003	0.00285	95.0	85-115	WG719398
TOC (Total Organic Carbon)	mg/l	75	74.4	99.2	85-115	WG719496
Specific Conductance	umhos/cm	510	520.	102.	85-115	WG719489

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/l	.003	0.00303	101.	85-115	WG719675
Alkalinity	mg/l	100	100.	100.	85-115	WG719650
Silver	mg/l	1	1.13	113.	80-120	WG719586
Antimony	mg/l	.05	0.0499	100.	85-115	WG719792
Arsenic	mg/l	.05	0.0490	98.0	85-115	WG719792
Beryllium	mg/l	.05	0.0509	102.	85-115	WG719792
Cadmium	mg/l	.05	0.0499	100.	85-115	WG719792
Lead	mg/l	.05	0.0493	99.0	85-115	WG719792
Selenium	mg/l	.05	0.0519	104.	85-115	WG719792
Thallium	mg/l	.05	0.0490	98.0	85-115	WG719792
Zinc	mg/l	.05	0.0497	99.0	85-115	WG719792
Copper	mg/l	.05	0.0476	95.0	85-115	WG720643

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	40.5	40.6	101.	90-110	0.247	20	WG719360
Nitrate	mg/l	8.23	8.23	103.	90-110	0.0	20	WG719360
Nitrite	mg/l	8.13	8.09	102.	90-110	0.493	20	WG719360
Sulfate	mg/l	40.3	40.2	101.	90-110	0.248	20	WG719360
pH	su	5.90	5.90	99.0	98.3-101.7	0.0	20	WG719458
1,1,1,2-Tetrachloroethane	mg/l	0.0249	0.0253	100.	74.2-124	1.43	20	WG719511
1,1,1-Trichloroethane	mg/l	0.0251	0.0248	100.	73.2-123	1.05	20	WG719511
1,1,2,2-Tetrachloroethane	mg/l	0.0234	0.0234	94.0	70.7-122	0.160	20	WG719511
1,1,2-Trichloroethane	mg/l	0.0241	0.0241	96.0	77.7-118	0.0600	20	WG719511
1,1-Dichloroethane	mg/l	0.0239	0.0236	96.0	70.7-126	1.01	20	WG719511
1,1-Dichloroethene	mg/l	0.0253	0.0258	101.	67.8-129	1.96	20	WG719511
1,2,3-Trichloropropane	mg/l	0.0244	0.0244	98.0	71.8-121	0.0900	20	WG719511
1,2-Dichlorobenzene	mg/l	0.0247	0.0249	99.0	78.4-117	0.780	20	WG719511
1,2-Dichloroethane	mg/l	0.0252	0.0254	101.	68.8-124	0.700	20	WG719511
1,2-Dichloropropane	mg/l	0.0226	0.0229	90.0	76.5-119	1.40	20	WG719511
1,4-Dichlorobenzene	mg/l	0.0245	0.0252	98.0	78.8-115	2.74	20	WG719511
2-Butanone (MEK)	mg/l	0.118	0.116	94.0	55-149	1.09	20	WG719511
2-Hexanone	mg/l	0.120	0.118	96.0	65.6-144	1.06	20	WG719511
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.124	98.0	70.5-133	1.25	20	WG719511
Acetone	mg/l	0.148	0.147	118.	35.6-163	0.940	23.9	WG719511
Acrylonitrile	mg/l	0.121	0.117	97.0	55.2-130	3.48	20	WG719511
Benzene	mg/l	0.0236	0.0235	94.0	74.8-121	0.350	20	WG719511
Bromochloromethane	mg/l	0.0248	0.0248	99.0	77.6-119	0.0200	20	WG719511
Bromodichloromethane	mg/l	0.0242	0.0247	97.0	75.1-116	1.96	20	WG719511
Bromoform	mg/l	0.0258	0.0261	103.	67.5-130	1.24	20	WG719511
Bromomethane	mg/l	0.0269	0.0270	108.	49.9-162	0.500	20	WG719511
Carbon disulfide	mg/l	0.0257	0.0261	103.	64.6-140	1.48	20	WG719511
Carbon tetrachloride	mg/l	0.0247	0.0248	99.0	70.2-123	0.750	20	WG719511
Chlorobenzene	mg/l	0.0237	0.0240	95.0	78.1-119	1.44	20	WG719511
Chlorodibromomethane	mg/l	0.0247	0.0251	99.0	74-121	1.63	20	WG719511

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

L697086

May 15, 2014

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloroethane	mg/l	0.0245	0.0248	98.0	61.7-135	1.00	20	WG719511
Chloroform	mg/l	0.0239	0.0239	96.0	76-121	0.190	20	WG719511
Chloromethane	mg/l	0.0217	0.0215	87.0	61.5-129	0.850	20	WG719511
cis-1,2-Dichloroethene	mg/l	0.0242	0.0242	97.0	76-119	0.150	20	WG719511
cis-1,3-Dichloropropene	mg/l	0.0261	0.0269	104.	78.2-120	2.93	20	WG719511
Dibromomethane	mg/l	0.0240	0.0245	96.0	79.5-118	2.23	20	WG719511
Ethylbenzene	mg/l	0.0241	0.0245	96.0	78.8-122	1.41	20	WG719511
Iodomethane	mg/l	0.119	0.121	95.0	61-130	1.69	20	WG719511
Methylene Chloride	mg/l	0.0230	0.0227	92.0	70.3-120	1.13	20	WG719511
Styrene	mg/l	0.0254	0.0256	102.	80.4-126	0.650	20	WG719511
Tetrachloroethene	mg/l	0.0240	0.0241	96.0	72.6-126	0.250	20	WG719511
Toluene	mg/l	0.0231	0.0235	92.0	79.7-116	1.84	20	WG719511
trans-1,2-Dichloroethene	mg/l	0.0237	0.0235	95.0	72.6-121	0.730	20	WG719511
trans-1,3-Dichloropropene	mg/l	0.0264	0.0269	106.	74.3-123	1.93	20	WG719511
trans-1,4-Dichloro-2-butene	mg/l	0.0236	0.0236	94.0	65.1-123	0.220	20	WG719511
Trichloroethene	mg/l	0.0237	0.0238	95.0	77.7-118	0.390	20	WG719511
Trichlorofluoromethane	mg/l	0.0262	0.0269	105.	63.5-135	2.48	20	WG719511
Vinyl acetate	mg/l	0.123	0.123	99.0	65-138	0.360	20	WG719511
Vinyl chloride	mg/l	0.0205	0.0205	82.0	65.9-128	0.0900	20	WG719511
Xylenes, Total	mg/l	0.0710	0.0719	95.0	78.7-121	1.23	20	WG719511
4-Bromofluorobenzene				89.90	71-126			WG719511
Dibromofluoromethane				103.0	78.3-121			WG719511
Toluene-d8				98.10	88.5-111			WG719511
a,a,a-Trifluorotoluene				96.90	85-114			WG719511
TOC (Total Organic Carbon)	mg/l	75.6	74.4	101.	85-115	1.63	20	WG719496
Specific Conductance	umhos/	520.	520.	102.	85-115	0.0	20	WG719489
Alkalinity	mg/l	100.	100.	100.	85-115	0.0	20	WG719650

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Nitrate	mg/l	4.91	0.0	5	98.0	80-120	L697074-01	WG719360
Barium	mg/l	1.22	0.139	1	110.	75-125	L697156-01	WG719586
Calcium	mg/l	140.	129.	10	110.	75-125	L697156-01	WG719586
Chromium	mg/l	1.06	0.00428	1	110.	75-125	L697156-01	WG719586
Cobalt	mg/l	1.10	0.00289	1	110.	75-125	L697156-01	WG719586
Magnesium	mg/l	35.5	24.1	10	110.	75-125	L697156-01	WG719586
Nickel	mg/l	1.06	0.0449	1	100.	75-125	L697156-01	WG719586
Potassium	mg/l	17.4	6.51	10	110.	75-125	L697156-01	WG719586
Sodium	mg/l	93.8	79.9	10	140.*	75-125	L697156-01	WG719586
Vanadium	mg/l	1.10	0.0186	1	110.	75-125	L697156-01	WG719586
1,1,1,2-Tetrachloroethane	mg/l	0.0264	0.0	.025	110.	64-128	L697086-01	WG719511
1,1,1-Trichloroethane	mg/l	0.0271	0.0	.025	110.	58.7-134	L697086-01	WG719511
1,1,2,2-Tetrachloroethane	mg/l	0.0255	0.0	.025	100.	56-132	L697086-01	WG719511
1,1,2-Trichloroethane	mg/l	0.0253	0.0	.025	100.	66.3-125	L697086-01	WG719511
1,1-Dichloroethane	mg/l	0.0251	0.0	.025	100.	58.5-132	L697086-01	WG719511
1,1-Dichloroethene	mg/l	0.0277	0.0	.025	110.	51.1-140	L697086-01	WG719511
1,2,3-Trichloropropane	mg/l	0.0259	0.0	.025	100.	61.4-128	L697086-01	WG719511
1,2-Dichlorobenzene	mg/l	0.0263	0.0	.025	100.	68.2-123	L697086-01	WG719511

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
1,2-Dichloroethane	mg/l	0.0268	0.0	.025	110.	60-126	L697086-01	WG719511
1,2-Dichloropropane	mg/l	0.0238	0.0	.025	95.0	64.2-123	L697086-01	WG719511
1,4-Dichlorobenzene	mg/l	0.0264	0.0	.025	110.	68.6-123	L697086-01	WG719511
2-Butanone (MEK)	mg/l	0.130	0.0	.125	100.	22.4-138	L697086-01	WG719511
2-Hexanone	mg/l	0.130	0.0	.125	100.	43.3-137	L697086-01	WG719511
4-Methyl-2-pentanone (MIBK)	mg/l	0.135	0.0	.125	110.	60.8-140	L697086-01	WG719511
Acetone	mg/l	0.165	0.00410	.125	130.	10-130	L697086-01	WG719511
Acrylonitrile	mg/l	0.132	0.0	.125	100.	49.4-133	L697086-01	WG719511
Benzene	mg/l	0.0248	0.0	.025	99.0	54.3-133	L697086-01	WG719511
Bromochloromethane	mg/l	0.0262	0.0	.025	100.	66.5-122	L697086-01	WG719511
Bromodichloromethane	mg/l	0.0256	0.0	.025	100.	63.9-121	L697086-01	WG719511
Bromoform	mg/l	0.0280	0.0	.025	110.	59.5-134	L697086-01	WG719511
Bromomethane	mg/l	0.0290	0.0	.025	120.	41.7-155	L697086-01	WG719511
Carbon disulfide	mg/l	0.0279	0.0	.025	110.	43.3-149	L697086-01	WG719511
Carbon tetrachloride	mg/l	0.0265	0.0	.025	110.	55.7-134	L697086-01	WG719511
Chlorobenzene	mg/l	0.0249	0.0	.025	100.	67-125	L697086-01	WG719511
Chlorodibromomethane	mg/l	0.0263	0.0	.025	100.	64.3-125	L697086-01	WG719511
Chloroethane	mg/l	0.0272	0.0	.025	110.	51.5-136	L697086-01	WG719511
Chloroform	mg/l	0.0253	0.0	.025	100.	63-129	L697086-01	WG719511
Chloromethane	mg/l	0.0235	0.0	.025	94.0	42.4-135	L697086-01	WG719511
cis-1,2-Dichloroethene	mg/l	0.0256	0.0	.025	100.	59.2-129	L697086-01	WG719511
cis-1,3-Dichloropropene	mg/l	0.0279	0.0	.025	110.	66.4-125	L697086-01	WG719511
Dibromomethane	mg/l	0.0259	0.0	.025	100.	68.2-124	L697086-01	WG719511
Ethylbenzene	mg/l	0.0255	0.0	.025	100.	61.4-133	L697086-01	WG719511
Iodomethane	mg/l	0.127	0.0	.125	100.	49.7-132	L697086-01	WG719511
Methylene Chloride	mg/l	0.0243	0.0	.025	97.0	58.1-122	L697086-01	WG719511
Styrene	mg/l	0.0269	0.0	.025	110.	66.8-133	L697086-01	WG719511
Tetrachloroethene	mg/l	0.0248	0.0	.025	99.0	53-139	L697086-01	WG719511
Toluene	mg/l	0.0247	0.0	.025	99.0	61.4-130	L697086-01	WG719511
trans-1,2-Dichloroethene	mg/l	0.0251	0.0	.025	100.	56.5-129	L697086-01	WG719511
trans-1,3-Dichloropropene	mg/l	0.0282	0.0	.025	110.	64.1-128	L697086-01	WG719511
trans-1,4-Dichloro-2-butene	mg/l	0.0258	0.0	.025	100.	57.1-130	L697086-01	WG719511
Trichloroethene	mg/l	0.0248	0.0	.025	99.0	44.1-149	L697086-01	WG719511
Trichlorofluoromethane	mg/l	0.0294	0.0	.025	120.	49.6-145	L697086-01	WG719511
Vinyl acetate	mg/l	0.140	0.0	.125	110.	56.1-149	L697086-01	WG719511
Vinyl chloride	mg/l	0.0224	0.0	.025	90.0	47.8-137	L697086-01	WG719511
Xylenes, Total	mg/l	0.0762	0.0	.075	100.	63.3-131	L697086-01	WG719511
4-Bromofluorobenzene					90.00	71-126		WG719511
Dibromofluoromethane					103.0	78.3-121		WG719511
Toluene-d8					98.20	88.5-111		WG719511
a,a,a-Trifluorotoluene					98.10	85-114		WG719511
Mercury	mg/l	0.00293	0.0000312	.003	97.0	80-120	L697063-04	WG719398
TOC (Total Organic Carbon)	mg/l	97.9	36.0	50	124.*	80-120	L697063-04	WG719496
Mercury	mg/l	0.00310	0.0000347	.003	100.	80-120	L697384-06	WG719675
Alkalinity	mg/l	220.	130.	100	90.0	80-120	L697086-03	WG719650
Silver	mg/l	0.163	-0.000912	1	16.0*	75-125	L697156-01	WG719586
Antimony	mg/l	0.0505	-0.000280	.05	100.	75-125	L697385-03	WG719792

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

May 15, 2014

L697086

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Arsenic	mg/l	0.0518	0.00141	.05	100.	75-125	L697385-03	WG719792
Beryllium	mg/l	0.0522	-0.000090	.05	100.	75-125	L697385-03	WG719792
Cadmium	mg/l	0.0509	-0.000110	.05	100.	75-125	L697385-03	WG719792
Lead	mg/l	0.0484	-0.000270	.05	97.0	75-125	L697385-03	WG719792
Selenium	mg/l	0.0547	0.00114	.05	110.	75-125	L697385-03	WG719792
Thallium	mg/l	0.0489	0.0000800	.05	98.0	75-125	L697385-03	WG719792
Zinc	mg/l	0.0533	0.00283	.05	100.	75-125	L697385-03	WG719792
Copper	mg/l	0.0490	0.000730	.05	97.0	75-125	L698446-01	WG720643

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Nitrate	mg/l	4.92	4.91	98.4	80-120	0.203	20	L697074-01	WG719360
Barium	mg/l	1.22	1.22	108.	75-125	0.0	20	L697156-01	WG719586
Calcium	mg/l	141.	140.	121.	75-125	1.00	20	L697156-01	WG719586
Chromium	mg/l	1.07	1.06	107.	75-125	1.00	20	L697156-01	WG719586
Cobalt	mg/l	1.09	1.10	109.	75-125	0.0	20	L697156-01	WG719586
Magnesium	mg/l	35.5	35.5	114.	75-125	0.0	20	L697156-01	WG719586
Nickel	mg/l	1.06	1.06	102.	75-125	0.0	20	L697156-01	WG719586
Potassium	mg/l	17.3	17.4	108.	75-125	0.0	20	L697156-01	WG719586
Sodium	mg/l	94.9	93.8	150.*	75-125	1.00	20	L697156-01	WG719586
Vanadium	mg/l	1.09	1.10	107.	75-125	1.00	20	L697156-01	WG719586
1,1,1,2-Tetrachloroethane	mg/l	0.0266	0.0264	106.	64-128	0.450	20	L697086-01	WG719511
1,1,1-Trichloroethane	mg/l	0.0272	0.0271	109.	58.7-134	0.390	20	L697086-01	WG719511
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0255	105.	56-132	2.44	22.2	L697086-01	WG719511
1,1,2-Trichloroethane	mg/l	0.0257	0.0253	103.	66.3-125	1.66	20	L697086-01	WG719511
1,1-Dichloroethane	mg/l	0.0252	0.0251	101.	58.5-132	0.700	20	L697086-01	WG719511
1,1-Dichloroethene	mg/l	0.0272	0.0277	109.	51.1-140	1.58	20.2	L697086-01	WG719511
1,2,3-Trichloropropane	mg/l	0.0269	0.0259	108.	61.4-128	3.72	22.4	L697086-01	WG719511
1,2-Dichlorobenzene	mg/l	0.0266	0.0263	106.	68.2-123	0.860	20	L697086-01	WG719511
1,2-Dichloroethane	mg/l	0.0273	0.0268	109.	60-126	1.59	20	L697086-01	WG719511
1,2-Dichloropropane	mg/l	0.0242	0.0238	96.9	64.2-123	1.94	20	L697086-01	WG719511
1,4-Dichlorobenzene	mg/l	0.0265	0.0264	106.	68.6-123	0.570	20	L697086-01	WG719511
2-Butanone (MEK)	mg/l	0.136	0.130	109.	22.4-138	4.68	27	L697086-01	WG719511
2-Hexanone	mg/l	0.137	0.130	110.	43.3-137	5.63	25.5	L697086-01	WG719511
4-Methyl-2-pentanone (MIBK)	mg/l	0.141	0.135	112.	60.8-140	4.20	25.1	L697086-01	WG719511
Acetone	mg/l	0.172	0.165	134.*	10-130	3.85	27.9	L697086-01	WG719511
Acrylonitrile	mg/l	0.134	0.132	108.	49.4-133	2.11	25.3	L697086-01	WG719511
Benzene	mg/l	0.0250	0.0248	99.8	54.3-133	0.650	20	L697086-01	WG719511
Bromochloromethane	mg/l	0.0262	0.0262	105.	66.5-122	0.290	20.8	L697086-01	WG719511
Bromodichloromethane	mg/l	0.0258	0.0256	103.	63.9-121	0.790	20	L697086-01	WG719511
Bromoform	mg/l	0.0282	0.0280	113.	59.5-134	0.780	20.5	L697086-01	WG719511
Bromomethane	mg/l	0.0284	0.0290	113.	41.7-155	2.10	21.9	L697086-01	WG719511
Carbon disulfide	mg/l	0.0274	0.0279	110.	43.3-149	1.90	20.3	L697086-01	WG719511
Carbon tetrachloride	mg/l	0.0269	0.0265	107.	55.7-134	1.39	20	L697086-01	WG719511
Chlorobenzene	mg/l	0.0250	0.0249	100.	67-125	0.440	20	L697086-01	WG719511
Chlorodibromomethane	mg/l	0.0268	0.0263	107.	64.3-125	1.77	20.8	L697086-01	WG719511
Chloroethane	mg/l	0.0269	0.0272	108.	51.5-136	1.31	40	L697086-01	WG719511
Chloroform	mg/l	0.0253	0.0253	101.	63-129	0.0300	20	L697086-01	WG719511
Chloromethane	mg/l	0.0233	0.0235	93.3	42.4-135	0.650	20	L697086-01	WG719511
cis-1,2-Dichloroethene	mg/l	0.0256	0.0256	102.	59.2-129	0.0600	20	L697086-01	WG719511
cis-1,3-Dichloropropene	mg/l	0.0285	0.0279	114.	66.4-125	2.04	20	L697086-01	WG719511
Dibromomethane	mg/l	0.0262	0.0259	105.	68.2-124	0.900	20	L697086-01	WG719511

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

L697086

May 15, 2014

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Ethylbenzene	mg/l	0.0259	0.0255	104.	61.4-133	1.38	20	L697086-01	WG719511
Iodomethane	mg/l	0.126	0.127	101.	49.7-132	0.390	20	L697086-01	WG719511
Methylene Chloride	mg/l	0.0244	0.0243	97.8	58.1-122	0.620	20	L697086-01	WG719511
Styrene	mg/l	0.0271	0.0269	108.	66.8-133	0.620	20	L697086-01	WG719511
Tetrachloroethene	mg/l	0.0255	0.0248	102.	53-139	2.82	20	L697086-01	WG719511
Toluene	mg/l	0.0249	0.0247	99.5	61.4-130	0.770	20	L697086-01	WG719511
trans-1,2-Dichloroethene	mg/l	0.0252	0.0251	101.	56.5-129	0.510	20	L697086-01	WG719511
trans-1,3-Dichloropropene	mg/l	0.0284	0.0282	114.	64.1-128	0.460	20	L697086-01	WG719511
trans-1,4-Dichloro-2-butene	mg/l	0.0265	0.0258	106.	57.1-130	2.67	23.9	L697086-01	WG719511
Trichloroethene	mg/l	0.0250	0.0248	99.9	44.1-149	0.640	20	L697086-01	WG719511
Trichlorofluoromethane	mg/l	0.0291	0.0294	116.	49.6-145	1.06	21.2	L697086-01	WG719511
Vinyl acetate	mg/l	0.143	0.140	114.	56.1-149	1.85	22.7	L697086-01	WG719511
Vinyl chloride	mg/l	0.0227	0.0224	90.9	47.8-137	1.38	20	L697086-01	WG719511
Xylenes, Total	mg/l	0.0763	0.0762	102.	63.3-131	0.200	20	L697086-01	WG719511
4-Bromofluorobenzene				90.20	71-126				WG719511
Dibromofluoromethane				103.0	78.3-121				WG719511
Toluene-d8				99.00	88.5-111				WG719511
a,a,a-Trifluorotoluene				97.60	85-114				WG719511
Mercury	mg/l	0.00312	0.00293	103.	80-120	6.00	20	L697063-04	WG719398
TOC (Total Organic Carbon)	mg/l	94.0	97.9	116.	80-120	4.04	20	L697063-04	WG719496
Mercury	mg/l	0.00321	0.00310	106.	80-120	3.00	20	L697384-06	WG719675
Alkalinity	mg/l	220.	220.	90.0	80-120	0.0	20	L697086-03	WG719650
Silver	mg/l	0.529	0.163	53.0*	75-125	106.*	20	L697156-01	WG719586
Antimony	mg/l	0.0516	0.0505	104.	75-125	2.00	20	L697385-03	WG719792
Arsenic	mg/l	0.0516	0.0518	100.	75-125	0.0	20	L697385-03	WG719792
Beryllium	mg/l	0.0518	0.0522	104.	75-125	1.00	20	L697385-03	WG719792
Cadmium	mg/l	0.0520	0.0509	104.	75-125	2.00	20	L697385-03	WG719792
Lead	mg/l	0.0488	0.0484	98.2	75-125	1.00	20	L697385-03	WG719792
Selenium	mg/l	0.0541	0.0547	106.	75-125	1.00	20	L697385-03	WG719792
Thallium	mg/l	0.0491	0.0489	97.9	75-125	0.0	20	L697385-03	WG719792
Zinc	mg/l	0.0565	0.0533	107.	75-125	6.00	20	L697385-03	WG719792
Copper	mg/l	0.0471	0.0490	92.6	75-125	4.00	20	L698446-01	WG720643

Post Spike

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

May 15, 2014

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG719360: R2916385: L697086-01 02 03
WG719458: R2916605: L697086-01 02 03
WG719586: R2916948 R2919294: L697086-01 02 03
WG719511: R2916985: L697086-01 02 03
WG719398: R2917348: L697086-01 02
WG719496: R2917985: L697086-01 02 03

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

WG719489: R2918065: L697086-01 02 03
WG719675: R2918070: L697086-03
WG719650: R2918175: L697086-01 02 03
WG719651: R2918176: L697086-01 02 03
WG719652: R2918177: L697086-01 02 03
WG719792: R2920086: L697086-01 02 03
WG720643: R2921385: L697086-01 02 03

* * Calculations are performed prior to rounding of reported values.
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L697086

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 15, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

[illegible]



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Report Summary

Friday November 28, 2014

Report Number: L734625

Samples Received: 11/20/14

Client Project: 03-0155

Description: Broda Monaco

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BI0041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 11/19/14 10:30

ESC Sample # : L734625-01

Site ID : BRODA MON

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	5.0	mg/l	9056MOD	11/26/14	5
Nitrate	4.5	0.10	mg/l	9056MOD	11/20/14	1
Nitrite	BDL	0.10	mg/l	9056MOD	11/20/14	1
Sulfate	160	25.	mg/l	9056MOD	11/26/14	5
Alkalinity	170	20.	mg/l	2320 B-2011	11/23/14	1
Alkalinity,Bicarbonate	170	20.	mg/l	2320 B-2011	11/25/14	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	11/25/14	1
pH	7.8		su	9040C	11/21/14	1
Specific Conductance	1100		umhos/cm	9050A	11/22/14	1
TOC (Total Organic Carbon)	2.3	1.0	mg/l	9060A	11/24/14	1
Antimony	BDL	0.0020	mg/l	6020	11/24/14	1
Arsenic	BDL	0.0020	mg/l	6020	11/25/14	1
Beryllium	BDL	0.0020	mg/l	6020	11/24/14	1
Cadmium	BDL	0.0010	mg/l	6020	11/24/14	1
Copper	BDL	0.0050	mg/l	6020	11/24/14	1
Lead	BDL	0.0020	mg/l	6020	11/24/14	1
Selenium	BDL	0.0020	mg/l	6020	11/24/14	1
Thallium	BDL	0.0020	mg/l	6020	11/24/14	1
Zinc	BDL	0.025	mg/l	6020	11/24/14	1
Mercury	BDL	0.00020	mg/l	7470A	11/21/14	1
Barium	0.052	0.0050	mg/l	6010B	11/22/14	1
Calcium	130	1.0	mg/l	6010B	11/22/14	1
Chromium	BDL	0.010	mg/l	6010B	11/22/14	1
Cobalt	BDL	0.010	mg/l	6010B	11/22/14	1
Magnesium	7.2	1.0	mg/l	6010B	11/22/14	1
Nickel	BDL	0.020	mg/l	6010B	11/22/14	1
Potassium	BDL	1.0	mg/l	6010B	11/22/14	1
Silver	BDL	0.010	mg/l	6010B	11/22/14	1
Sodium	6.4	1.0	mg/l	6010B	11/22/14	1
Vanadium	BDL	0.020	mg/l	6010B	11/22/14	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	11/25/14	1
Acrylonitrile	BDL	0.010	mg/l	8260B	11/25/14	1
Benzene	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L734625-01 (PH) - 7.8@17.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 11/19/14 10:30

ESC Sample # : L734625-01

Site ID : BRODA MON

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromomethane	BDL	0.0050	mg/l	8260B	11/25/14	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	11/25/14	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/25/14	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Chloroethane	BDL	0.0050	mg/l	8260B	11/25/14	1
Chloroform	BDL	0.0050	mg/l	8260B	11/25/14	1
Chloromethane	BDL	0.0025	mg/l	8260B	11/25/14	1
Dibromomethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	11/25/14	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/25/14	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/25/14	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
2-Hexanone	BDL	0.010	mg/l	8260B	11/25/14	1
Iodomethane	BDL	0.010	mg/l	8260B	11/25/14	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	11/25/14	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/25/14	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	11/25/14	1
Styrene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
Toluene	BDL	0.0050	mg/l	8260B	11/25/14	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	11/25/14	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	11/25/14	1
Vinyl acetate	BDL	0.010	mg/l	8260B	11/25/14	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	11/25/14	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	11/25/14	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	11/25/14	1
Dibromofluoromethane	92.6		% Rec.	8260B	11/25/14	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L734625-01 (PH) - 7.8@17.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 28, 2014

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Date Received : November 20, 2014
Description : Broda Monaco
Sample ID : MW-1
Collected By : Mark Molen
Collection Date : 11/19/14 10:30

ESC Sample # : L734625-01

Site ID : BRODA MON

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	99.5		% Rec.	8260B	11/25/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/28/14 11:49 Printed: 11/28/14 11:49
L734625-01 (PH) - 7.8@17.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 11/19/14 10:55

ESC Sample # : L734625-02

Site ID : BRODA MON

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	190	10.	mg/l	9056MOD	11/26/14	10
Nitrate	BDL	0.10	mg/l	9056MOD	11/20/14	1
Nitrite	BDL	0.10	mg/l	9056MOD	11/20/14	1
Sulfate	280	50.	mg/l	9056MOD	11/26/14	10
Alkalinity	140	20.	mg/l	2320 B-2011	11/23/14	1
Alkalinity,Bicarbonate	140	20.	mg/l	2320 B-2011	11/25/14	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	11/25/14	1
pH	7.7		su	9040C	11/21/14	1
Specific Conductance	1400		umhos/cm	9050A	11/22/14	1
TOC (Total Organic Carbon)	5.0	1.0	mg/l	9060A	11/24/14	1
Antimony	BDL	0.0020	mg/l	6020	11/24/14	1
Arsenic	0.0037	0.0020	mg/l	6020	11/25/14	1
Beryllium	BDL	0.0020	mg/l	6020	11/24/14	1
Cadmium	BDL	0.0010	mg/l	6020	11/24/14	1
Copper	BDL	0.0050	mg/l	6020	11/24/14	1
Lead	BDL	0.0020	mg/l	6020	11/24/14	1
Selenium	BDL	0.0020	mg/l	6020	11/24/14	1
Thallium	BDL	0.0020	mg/l	6020	11/24/14	1
Zinc	BDL	0.025	mg/l	6020	11/24/14	1
Mercury	BDL	0.00020	mg/l	7470A	11/21/14	1
Barium	0.10	0.0050	mg/l	6010B	11/22/14	1
Calcium	120	1.0	mg/l	6010B	11/22/14	1
Chromium	BDL	0.010	mg/l	6010B	11/22/14	1
Cobalt	BDL	0.010	mg/l	6010B	11/22/14	1
Magnesium	17.	1.0	mg/l	6010B	11/22/14	1
Nickel	BDL	0.020	mg/l	6010B	11/22/14	1
Potassium	1.6	1.0	mg/l	6010B	11/22/14	1
Silver	BDL	0.010	mg/l	6010B	11/22/14	1
Sodium	6.8	1.0	mg/l	6010B	11/22/14	1
Vanadium	BDL	0.020	mg/l	6010B	11/22/14	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	11/25/14	1
Acrylonitrile	BDL	0.010	mg/l	8260B	11/25/14	1
Benzene	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L734625-02 (PH) - 7.7@16.7c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco

ESC Sample # : L734625-02

Sample ID : MW-2

Site ID : BRODA MON

Collected By : Mark Molen
Collection Date : 11/19/14 10:55

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromomethane	BDL	0.0050	mg/l	8260B	11/25/14	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	11/25/14	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/25/14	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Chloroethane	BDL	0.0050	mg/l	8260B	11/25/14	1
Chloroform	BDL	0.0050	mg/l	8260B	11/25/14	1
Chloromethane	BDL	0.0025	mg/l	8260B	11/25/14	1
Dibromomethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	11/25/14	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/25/14	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/25/14	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
2-Hexanone	BDL	0.010	mg/l	8260B	11/25/14	1
Iodomethane	BDL	0.010	mg/l	8260B	11/25/14	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	11/25/14	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/25/14	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	11/25/14	1
Styrene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
Toluene	BDL	0.0050	mg/l	8260B	11/25/14	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	11/25/14	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	11/25/14	1
Vinyl acetate	BDL	0.010	mg/l	8260B	11/25/14	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	11/26/14	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	11/25/14	1
Surrogate Recovery						
Toluene-d8	99.4		% Rec.	8260B	11/25/14	1
Dibromofluoromethane	92.2		% Rec.	8260B	11/25/14	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L734625-02 (PH) - 7.7@16.7c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 28, 2014

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Date Received : November 20, 2014
Description : Broda Monaco
Sample ID : MW-2
Collected By : Mark Molen
Collection Date : 11/19/14 10:55

ESC Sample # : L734625-02

Site ID : BRODA MON

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	98.4		% Rec.	8260B	11/25/14	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/28/14 11:49 Printed: 11/28/14 11:49
L734625-02 (PH) - 7.7@16.7c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco

ESC Sample # : L734625-03

Sample ID : MW-3

Site ID : BRODA MON

Collected By : Mark Molen
Collection Date : 11/19/14 11:25

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	5.0	mg/l	9056MOD	11/20/14	5
Nitrate	12.	0.50	mg/l	9056MOD	11/20/14	5
Nitrite	BDL	0.10	mg/l	9056MOD	11/20/14	1
Sulfate	140	25.	mg/l	9056MOD	11/20/14	5
Alkalinity	170	20.	mg/l	2320 B-2011	11/23/14	1
Alkalinity,Bicarbonate	170	20.	mg/l	2320 B-2011	11/25/14	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	11/25/14	1
pH	7.3		su	9040C	11/21/14	1
Specific Conductance	1100		umhos/cm	9050A	11/22/14	1
TOC (Total Organic Carbon)	1.6	1.0	mg/l	9060A	11/24/14	1
Antimony	BDL	0.0020	mg/l	6020	11/24/14	1
Arsenic	BDL	0.0020	mg/l	6020	11/25/14	1
Beryllium	BDL	0.0020	mg/l	6020	11/24/14	1
Cadmium	BDL	0.0010	mg/l	6020	11/24/14	1
Copper	BDL	0.0050	mg/l	6020	11/24/14	1
Lead	BDL	0.0020	mg/l	6020	11/24/14	1
Selenium	BDL	0.0020	mg/l	6020	11/24/14	1
Thallium	BDL	0.0020	mg/l	6020	11/24/14	1
Zinc	BDL	0.025	mg/l	6020	11/24/14	1
Mercury	BDL	0.00020	mg/l	7470A	11/21/14	1
Barium	0.16	0.0050	mg/l	6010B	11/22/14	1
Calcium	71.	1.0	mg/l	6010B	11/22/14	1
Chromium	BDL	0.010	mg/l	6010B	11/22/14	1
Cobalt	BDL	0.010	mg/l	6010B	11/22/14	1
Magnesium	14.	1.0	mg/l	6010B	11/22/14	1
Nickel	BDL	0.020	mg/l	6010B	11/22/14	1
Potassium	60.	1.0	mg/l	6010B	11/22/14	1
Silver	BDL	0.010	mg/l	6010B	11/22/14	1
Sodium	27.	1.0	mg/l	6010B	11/22/14	1
Vanadium	BDL	0.020	mg/l	6010B	11/22/14	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	11/25/14	1
Acrylonitrile	BDL	0.010	mg/l	8260B	11/25/14	1
Benzene	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L734625-03 (PH) - 7.3@17.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco

ESC Sample # : L734625-03

Sample ID : MW-3

Site ID : BRODA MON

Collected By : Mark Molen
Collection Date : 11/19/14 11:25

Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	11/25/14	1
Bromomethane	BDL	0.0050	mg/l	8260B	11/25/14	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	11/25/14	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/25/14	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Chloroethane	BDL	0.0050	mg/l	8260B	11/25/14	1
Chloroform	BDL	0.0050	mg/l	8260B	11/25/14	1
Chloromethane	BDL	0.0025	mg/l	8260B	11/25/14	1
Dibromomethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	11/25/14	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/25/14	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/25/14	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/25/14	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/25/14	1
2-Hexanone	BDL	0.010	mg/l	8260B	11/25/14	1
Iodomethane	BDL	0.010	mg/l	8260B	11/25/14	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	11/25/14	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/25/14	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	11/25/14	1
Styrene	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
Toluene	BDL	0.0050	mg/l	8260B	11/25/14	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	11/25/14	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/25/14	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	11/25/14	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	11/25/14	1
Vinyl acetate	BDL	0.010	mg/l	8260B	11/25/14	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	11/25/14	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	11/25/14	1
Surrogate Recovery						
Toluene-d8	98.9		% Rec.	8260B	11/25/14	1
Dibromofluoromethane	92.7		% Rec.	8260B	11/25/14	1
a,a,a-Trifluorotoluene	102.		% Rec.	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L734625-03 (PH) - 7.3@17.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

November 28, 2014

Date Received : November 20, 2014
Description : Broda Monaco
Sample ID : MW-3
Collected By : Mark Molen
Collection Date : 11/19/14 11:25

ESC Sample # : L734625-03
Site ID : BRODA MON
Project # : 03-0155

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	99.8		% Rec.	8260B	11/25/14	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
Reported: 11/28/14 11:49 Printed: 11/28/14 11:49
L734625-03 (PH) - 7.3@17.1c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L734625-01	WG755789	SAMP	pH	R3005784	T8
	WG756323	SAMP	Alkalinity	R3006426	J6
L734625-02	WG755789	SAMP	pH	R3005784	T8
L734625-03	WG755789	SAMP	pH	R3005784	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
11/28/14 at 11:49:59

TSR Signing Reports: 288
R5 - Desired TAT

Do Not report Hg on East Regional Landfill-GW Monitoring ONLY report Hg on the ERLF-Leachate sample. Put all East Regional LF samples on same L#, MW-1 through MW-4 and CMW-1

Sample: L734625-01 Account: MOLENTCO Received: 11/20/14 09:00 Due Date: 11/28/14 00:00 RPT Date: 11/28/14 11:49

Sample: L734625-02 Account: MOLENTCO Received: 11/20/14 09:00 Due Date: 11/28/14 00:00 RPT Date: 11/28/14 11:49

Sample: L734625-03 Account: MOLENTCO Received: 11/20/14 09:00 Due Date: 11/28/14 00:00 RPT Date: 11/28/14 11:49



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG755737	11/20/14 08:33
Nitrate	< .1	mg/l			WG755737	11/20/14 08:33
Nitrite	< .1	mg/l			WG755737	11/20/14 08:33
Sulfate	< 5	mg/l			WG755737	11/20/14 08:33
Mercury	< .0002	mg/l			WG755785	11/21/14 13:38
Barium	< .005	mg/l			WG755822	11/22/14 13:45
Calcium	< 1	mg/l			WG755822	11/22/14 13:45
Chromium	< .01	mg/l			WG755822	11/22/14 13:45
Cobalt	< .01	mg/l			WG755822	11/22/14 13:45
Magnesium	< 1	mg/l			WG755822	11/22/14 13:45
Nickel	< .02	mg/l			WG755822	11/22/14 13:45
Potassium	< 1	mg/l			WG755822	11/22/14 13:45
Silver	< .01	mg/l			WG755822	11/22/14 13:45
Sodium	< 1	mg/l			WG755822	11/22/14 13:45
Vanadium	< .02	mg/l			WG755822	11/22/14 13:45
Specific Conductance	1.74	umhos/cm			WG756086	11/22/14 16:41
Antimony	< .001	mg/l			WG756227	11/24/14 16:18
Beryllium	< .001	mg/l			WG756227	11/24/14 16:18
Cadmium	< .0005	mg/l			WG756227	11/24/14 16:18
Copper	< .002	mg/l			WG756227	11/24/14 16:18
Lead	< .001	mg/l			WG756227	11/24/14 16:18
Selenium	< .001	mg/l			WG756227	11/24/14 16:18
Thallium	< .001	mg/l			WG756227	11/24/14 16:18
Zinc	< .01	mg/l			WG756227	11/24/14 16:18
Alkalinity	< 20	mg/l			WG756323	11/23/14 10:18
TOC (Total Organic Carbon)	< 1	mg/l			WG756215	11/24/14 08:32
Arsenic	< .001	mg/l			WG756227	11/25/14 21:41
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG756012	11/25/14 14:36
1,1,1-Trichloroethane	< .001	mg/l			WG756012	11/25/14 14:36
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG756012	11/25/14 14:36
1,1,2-Trichloroethane	< .001	mg/l			WG756012	11/25/14 14:36
1,1-Dichloroethane	< .001	mg/l			WG756012	11/25/14 14:36
1,1-Dichloroethene	< .001	mg/l			WG756012	11/25/14 14:36
1,2,3-Trichloropropane	< .001	mg/l			WG756012	11/25/14 14:36
1,2-Dichlorobenzene	< .001	mg/l			WG756012	11/25/14 14:36
1,2-Dichloroethane	< .001	mg/l			WG756012	11/25/14 14:36
1,2-Dichloropropane	< .001	mg/l			WG756012	11/25/14 14:36
1,4-Dichlorobenzene	< .001	mg/l			WG756012	11/25/14 14:36
2-Butanone (MEK)	< .01	mg/l			WG756012	11/25/14 14:36
2-Hexanone	< .01	mg/l			WG756012	11/25/14 14:36
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG756012	11/25/14 14:36
Acetone	< .05	mg/l			WG756012	11/25/14 14:36
Acrylonitrile	< .01	mg/l			WG756012	11/25/14 14:36

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Benzene	< .001	mg/l			WG756012	11/25/14 14:36
Bromochloromethane	< .001	mg/l			WG756012	11/25/14 14:36
Bromodichloromethane	< .001	mg/l			WG756012	11/25/14 14:36
Bromoform	< .001	mg/l			WG756012	11/25/14 14:36
Bromomethane	< .005	mg/l			WG756012	11/25/14 14:36
Carbon disulfide	< .001	mg/l			WG756012	11/25/14 14:36
Carbon tetrachloride	< .001	mg/l			WG756012	11/25/14 14:36
Chlorobenzene	< .001	mg/l			WG756012	11/25/14 14:36
Chlorodibromomethane	< .001	mg/l			WG756012	11/25/14 14:36
Chloroethane	< .005	mg/l			WG756012	11/25/14 14:36
Chloroform	< .005	mg/l			WG756012	11/25/14 14:36
Chloromethane	< .0025	mg/l			WG756012	11/25/14 14:36
cis-1,2-Dichloroethene	< .001	mg/l			WG756012	11/25/14 14:36
cis-1,3-Dichloropropene	< .001	mg/l			WG756012	11/25/14 14:36
Dibromomethane	< .001	mg/l			WG756012	11/25/14 14:36
Ethylbenzene	< .001	mg/l			WG756012	11/25/14 14:36
Iodomethane	< .01	mg/l			WG756012	11/25/14 14:36
Methylene Chloride	< .005	mg/l			WG756012	11/25/14 14:36
Styrene	< .001	mg/l			WG756012	11/25/14 14:36
Tetrachloroethene	< .001	mg/l			WG756012	11/25/14 14:36
Toluene	< .005	mg/l			WG756012	11/25/14 14:36
trans-1,2-Dichloroethene	< .001	mg/l			WG756012	11/25/14 14:36
trans-1,3-Dichloropropene	< .001	mg/l			WG756012	11/25/14 14:36
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG756012	11/25/14 14:36
Trichloroethene	< .001	mg/l			WG756012	11/25/14 14:36
Trichlorofluoromethane	< .005	mg/l			WG756012	11/25/14 14:36
Vinyl acetate	< .01	mg/l			WG756012	11/25/14 14:36
Vinyl chloride	< .001	mg/l			WG756012	11/25/14 14:36
Xylenes, Total	< .003	mg/l			WG756012	11/25/14 14:36
4-Bromofluorobenzene		% Rec.	99.70	71-126	WG756012	11/25/14 14:36
Dibromofluoromethane		% Rec.	89.80	78.3-121	WG756012	11/25/14 14:36
Toluene-d8		% Rec.	101.0	88.5-111	WG756012	11/25/14 14:36
a,a,a-Trifluorotoluene		% Rec.	107.0	85-114	WG756012	11/25/14 14:36
Vinyl chloride	< .001	mg/l			WG757019	11/26/14 19:25
4-Bromofluorobenzene		% Rec.	100.0	71-126	WG757019	11/26/14 19:25
Dibromofluoromethane		% Rec.	103.0	78.3-121	WG757019	11/26/14 19:25
Toluene-d8		% Rec.	106.0	88.5-111	WG757019	11/26/14 19:25
a,a,a-Trifluorotoluene		% Rec.	99.80	85-114	WG757019	11/26/14 19:25
Chloride	< 1	mg/l			WG756798	11/26/14 08:15
Sulfate	< 5	mg/l			WG756798	11/26/14 08:15

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Nitrate	mg/l	0.0	0.0	0.0	20	L734575-04	WG755737
Sulfate	mg/l	86.0	85.7	0.0	20	L734575-04	WG755737
Nitrate	mg/l	0.0	0.0	0.0	20	L734642-03	WG755737
Sulfate	mg/l	19.0	18.8	0.0	20	L734642-03	WG755737
pH	su	7.20	7.30	0.825	1	L733881-01	WG755789
pH	su	6.50	6.50	0.613	1	L734628-02	WG755789
Specific Conductance	umhos/cm	640.	630.	0.948	20	L734470-01	WG756086

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Specific Conductance	umhos/cm	760.	760.	0.394	20	L734951-01	WG756086
Alkalinity	mg/l	0.0	0.0	0.0	20	L734357-01	WG756323
Alkalinity	mg/l	280.	280.	1.77	20	L734652-01	WG756323
TOC (Total Organic Carbon)	mg/l	130.	140.	7.41	20	L733545-06	WG756215
TOC (Total Organic Carbon)	mg/l	0.750	0.700	6.90	20	L734633-04	WG756215
Chloride	mg/l	110.	114.	2.00	20	L734283-01	WG756798
Chloride	mg/l	4.60	4.41	4.00	20	L734628-03	WG756798
Sulfate	mg/l	15.0	14.7	1.00	20	L734628-03	WG756798

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloride	mg/l	40	39.1	98.0	90-110	WG755737
Nitrate	mg/l	8	8.12	102.	90-110	WG755737
Nitrite	mg/l	8	7.90	99.0	90-110	WG755737
Sulfate	mg/l	40	40.2	101.	90-110	WG755737
pH	su	5.9	5.90	100.	98.3-101.7	WG755789
Mercury	mg/l	.003	0.00295	98.0	85-115	WG755785
Barium	mg/l	1	1.08	108.	80-120	WG755822
Calcium	mg/l	10	9.93	99.0	80-120	WG755822
Chromium	mg/l	1	1.02	102.	80-120	WG755822
Cobalt	mg/l	1	1.07	107.	80-120	WG755822
Magnesium	mg/l	10	9.89	99.0	80-120	WG755822
Nickel	mg/l	1	1.06	106.	80-120	WG755822
Potassium	mg/l	10	10.2	102.	80-120	WG755822
Silver	mg/l	1	1.08	108.	80-120	WG755822
Sodium	mg/l	10	10.3	103.	80-120	WG755822
Vanadium	mg/l	1	1.07	107.	80-120	WG755822
Specific Conductance	umhos/cm	759	779.	103.	85-115	WG756086
Antimony	mg/l	.05	0.0534	107.	85-115	WG756227
Beryllium	mg/l	.05	0.0481	96.0	85-115	WG756227
Cadmium	mg/l	.05	0.0506	101.	85-115	WG756227
Copper	mg/l	.05	0.0512	102.	85-115	WG756227
Lead	mg/l	.05	0.0509	102.	85-115	WG756227
Selenium	mg/l	.05	0.0506	101.	85-115	WG756227
Thallium	mg/l	.05	0.0492	98.0	85-115	WG756227
Zinc	mg/l	.05	0.0476	95.0	85-115	WG756227
Alkalinity	mg/l	100	95.0	95.0	85-115	WG756323
TOC (Total Organic Carbon)	mg/l	75	74.5	99.3	85-115	WG756215

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Arsenic	mg/l	.05	0.0475	95.0	85-115	WG756227
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0257	103.	74.2-124	WG756012
1,1,1-Trichloroethane	mg/l	.025	0.0253	101.	73.2-123	WG756012
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0257	103.	70.7-122	WG756012
1,1,2-Trichloroethane	mg/l	.025	0.0277	111.	77.7-118	WG756012
1,1-Dichloroethane	mg/l	.025	0.0239	95.5	70.7-126	WG756012
1,1-Dichloroethene	mg/l	.025	0.0237	94.8	67.8-129	WG756012
1,2,3-Trichloropropane	mg/l	.025	0.0242	96.6	71.8-121	WG756012
1,2-Dichlorobenzene	mg/l	.025	0.0261	105.	78.4-117	WG756012
1,2-Dichloroethane	mg/l	.025	0.0234	93.5	68.8-124	WG756012
1,2-Dichloropropane	mg/l	.025	0.0246	98.5	76.5-119	WG756012
1,4-Dichlorobenzene	mg/l	.025	0.0259	103.	78.8-115	WG756012
2-Butanone (MEK)	mg/l	.125	0.158	126.	55-149	WG756012
2-Hexanone	mg/l	.125	0.150	120.	65.6-144	WG756012
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.122	97.5	70.5-133	WG756012
Acetone	mg/l	.125	0.176	141.	35.6-163	WG756012
Acrylonitrile	mg/l	.125	0.117	93.5	55.2-130	WG756012
Benzene	mg/l	.025	0.0242	96.7	74.8-121	WG756012
Bromochloromethane	mg/l	.025	0.0251	100.	77.6-119	WG756012
Bromodichloromethane	mg/l	.025	0.0251	101.	75.1-116	WG756012
Bromoform	mg/l	.025	0.0250	100.	67.5-130	WG756012
Bromomethane	mg/l	.025	0.0232	92.9	49.9-162	WG756012
Carbon disulfide	mg/l	.025	0.0228	91.2	64.6-140	WG756012
Carbon tetrachloride	mg/l	.025	0.0242	96.8	70.2-123	WG756012
Chlorobenzene	mg/l	.025	0.0270	108.	78.1-119	WG756012
Chlorodibromomethane	mg/l	.025	0.0274	110.	74-121	WG756012
Chloroethane	mg/l	.025	0.0234	93.6	61.7-135	WG756012
Chloroform	mg/l	.025	0.0247	99.0	76-121	WG756012
Chloromethane	mg/l	.025	0.0210	84.0	61.5-129	WG756012
cis-1,2-Dichloroethene	mg/l	.025	0.0247	98.9	76-119	WG756012
cis-1,3-Dichloropropene	mg/l	.025	0.0255	102.	78.2-120	WG756012
Dibromomethane	mg/l	.025	0.0243	97.2	79.5-118	WG756012
Ethylbenzene	mg/l	.025	0.0268	107.	78.8-122	WG756012
Iodomethane	mg/l	.125	0.127	101.	61-130	WG756012
Methylene Chloride	mg/l	.025	0.0233	93.1	70.3-120	WG756012
Styrene	mg/l	.025	0.0268	107.	80.4-126	WG756012
Tetrachloroethene	mg/l	.025	0.0281	112.	72.6-126	WG756012
Toluene	mg/l	.025	0.0257	103.	79.7-116	WG756012
trans-1,2-Dichloroethene	mg/l	.025	0.0241	96.6	72.6-121	WG756012
trans-1,3-Dichloropropene	mg/l	.025	0.0254	102.	74.3-123	WG756012
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0248	99.4	65.1-123	WG756012
Trichloroethene	mg/l	.025	0.0264	106.	77.7-118	WG756012
Trichlorofluoromethane	mg/l	.025	0.0267	107.	63.5-135	WG756012
Vinyl acetate	mg/l	.125	0.118	94.3	65-138	WG756012
Vinyl chloride	mg/l	.025	0.0225	89.9	65.9-128	WG756012
Xylenes, Total	mg/l	.075	0.0802	107.	78.7-121	WG756012
4-Bromofluorobenzene				101.0	71-126	WG756012
Dibromofluoromethane				95.20	78.3-121	WG756012
Toluene-d8				100.0	88.5-111	WG756012
a,a,a-Trifluorotoluene				103.0	85-114	WG756012
Vinyl chloride	mg/l	.025	0.0286	115.	65.9-128	WG757019
4-Bromofluorobenzene				90.70	71-126	WG757019
Dibromofluoromethane				107.0	78.3-121	WG757019
Toluene-d8				105.0	88.5-111	WG757019
a,a,a-Trifluorotoluene				103.0	85-114	WG757019

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	Laboratory Control		Sample	% Rec	Limit	Batch
		Known Val	Result				
Chloride	mg/l	40	39.0		98.0	90-110	WG756798
Sulfate	mg/l	40	39.7		99.0	90-110	WG756798

Analyte	Units	Laboratory Control		Sample Duplicate	Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	39.2	39.1	98.0	90-110	0.0	20	WG755737
Nitrate	mg/l	8.10	8.12	101.	90-110	0.0	20	WG755737
Nitrite	mg/l	7.95	7.90	99.0	90-110	1.00	20	WG755737
Sulfate	mg/l	40.1	40.2	100.	90-110	0.0	20	WG755737
pH	su	5.90	5.90	100.	98.3-101.7	0.0	20	WG755789
Mercury	mg/l	0.00295	0.00295	98.0	85-115	0.0	20	WG755785
Barium	mg/l	1.07	1.08	107.	80-120	1.00	20	WG755822
Calcium	mg/l	10.0	9.93	100.	80-120	1.00	20	WG755822
Chromium	mg/l	1.02	1.02	102.	80-120	0.0	20	WG755822
Cobalt	mg/l	1.06	1.07	106.	80-120	1.00	20	WG755822
Magnesium	mg/l	9.88	9.89	99.0	80-120	0.0	20	WG755822
Nickel	mg/l	1.04	1.06	104.	80-120	1.00	20	WG755822
Potassium	mg/l	10.2	10.2	102.	80-120	0.0	20	WG755822
Silver	mg/l	1.09	1.08	109.	80-120	1.00	20	WG755822
Sodium	mg/l	10.4	10.3	104.	80-120	1.00	20	WG755822
Vanadium	mg/l	1.07	1.07	107.	80-120	0.0	20	WG755822
Specific Conductance	umhos/	777.	779.	102.	85-115	0.257	20	WG756086
Antimony	mg/l	0.0542	0.0534	108.	85-115	2.00	20	WG756227
Beryllium	mg/l	0.0510	0.0481	102.	85-115	6.00	20	WG756227
Cadmium	mg/l	0.0515	0.0506	103.	85-115	2.00	20	WG756227
Copper	mg/l	0.0519	0.0512	104.	85-115	1.00	20	WG756227
Lead	mg/l	0.0518	0.0509	104.	85-115	2.00	20	WG756227
Selenium	mg/l	0.0475	0.0506	95.0	85-115	6.00	20	WG756227
Thallium	mg/l	0.0498	0.0492	100.	85-115	1.00	20	WG756227
Zinc	mg/l	0.0515	0.0476	103.	85-115	8.00	20	WG756227
Alkalinity	mg/l	96.0	95.0	96.0	85-115	1.05	20	WG756323
TOC (Total Organic Carbon)	mg/l	75.0	74.5	100.	85-115	0.669	20	WG756215
Arsenic	mg/l	0.0489	0.0475	98.0	85-115	3.00	20	WG756227
1,1,1,2-Tetrachloroethane	mg/l	0.0268	0.0257	107.	74.2-124	4.35	20	WG756012
1,1,1-Trichloroethane	mg/l	0.0261	0.0253	104.	73.2-123	3.08	20	WG756012
1,1,2,2-Tetrachloroethane	mg/l	0.0272	0.0257	109.	70.7-122	5.84	20	WG756012
1,1,2-Trichloroethane	mg/l	0.0283	0.0277	113.	77.7-118	2.21	20	WG756012
1,1-Dichloroethane	mg/l	0.0247	0.0239	99.0	70.7-126	3.31	20	WG756012
1,1-Dichloroethene	mg/l	0.0241	0.0237	96.0	67.8-129	1.83	20	WG756012
1,2,3-Trichloropropane	mg/l	0.0253	0.0242	101.	71.8-121	4.54	20	WG756012

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
1,2-Dichlorobenzene	mg/l	0.0266	0.0261	106.	78.4-117	1.88	20	WG756012
1,2-Dichloroethane	mg/l	0.0240	0.0234	96.0	68.8-124	2.54	20	WG756012
1,2-Dichloropropane	mg/l	0.0255	0.0246	102.	76.5-119	3.64	20	WG756012
1,4-Dichlorobenzene	mg/l	0.0263	0.0259	105.	78.8-115	1.47	20	WG756012
2-Butanone (MEK)	mg/l	0.157	0.158	126.	55-149	0.270	20	WG756012
2-Hexanone	mg/l	0.150	0.150	120.	65.6-144	0.210	20	WG756012
4-Methyl-2-pentanone (MIBK)	mg/l	0.123	0.122	98.0	70.5-133	0.520	20	WG756012
Acetone	mg/l	0.179	0.176	144.	35.6-163	2.06	23.9	WG756012
Acrylonitrile	mg/l	0.119	0.117	95.0	55.2-130	2.04	20	WG756012
Benzene	mg/l	0.0245	0.0242	98.0	74.8-121	1.24	20	WG756012
Bromochloromethane	mg/l	0.0258	0.0251	103.	77.6-119	2.92	20	WG756012
Bromodichloromethane	mg/l	0.0255	0.0251	102.	75.1-116	1.43	20	WG756012
Bromoform	mg/l	0.0259	0.0250	104.	67.5-130	3.49	20	WG756012
Bromomethane	mg/l	0.0233	0.0232	93.0	49.9-162	0.180	20	WG756012
Carbon disulfide	mg/l	0.0231	0.0228	92.0	64.6-140	1.34	20	WG756012
Carbon tetrachloride	mg/l	0.0252	0.0242	101.	70.2-123	4.10	20	WG756012
Chlorobenzene	mg/l	0.0278	0.0270	111.	78.1-119	2.62	20	WG756012
Chlorodibromomethane	mg/l	0.0283	0.0274	113.	74-121	3.33	20	WG756012
Chloroethane	mg/l	0.0242	0.0234	97.0	61.7-135	3.41	20	WG756012
Chloroform	mg/l	0.0252	0.0247	101.	76-121	1.66	20	WG756012
Chloromethane	mg/l	0.0216	0.0210	86.0	61.5-129	2.88	20	WG756012
cis-1,2-Dichloroethene	mg/l	0.0256	0.0247	102.	76-119	3.38	20	WG756012
cis-1,3-Dichloropropene	mg/l	0.0263	0.0255	105.	78.2-120	2.79	20	WG756012
Dibromomethane	mg/l	0.0250	0.0243	100.	79.5-118	2.91	20	WG756012
Ethylbenzene	mg/l	0.0275	0.0268	110.	78.8-122	2.53	20	WG756012
Iodomethane	mg/l	0.130	0.127	104.	61-130	2.86	20	WG756012
Methylene Chloride	mg/l	0.0240	0.0233	96.0	70.3-120	3.23	20	WG756012
Styrene	mg/l	0.0280	0.0268	112.	80.4-126	4.14	20	WG756012
Tetrachloroethene	mg/l	0.0295	0.0281	118.	72.6-126	4.93	20	WG756012
Toluene	mg/l	0.0263	0.0257	105.	79.7-116	2.28	20	WG756012
trans-1,2-Dichloroethene	mg/l	0.0245	0.0241	98.0	72.6-121	1.45	20	WG756012
trans-1,3-Dichloropropene	mg/l	0.0253	0.0254	101.	74.3-123	0.710	20	WG756012
trans-1,4-Dichloro-2-butene	mg/l	0.0251	0.0248	100.	65.1-123	1.14	20	WG756012
Trichloroethene	mg/l	0.0261	0.0264	104.	77.7-118	1.37	20	WG756012
Trichlorofluoromethane	mg/l	0.0265	0.0267	106.	63.5-135	0.900	20	WG756012
Vinyl acetate	mg/l	0.127	0.118	101.	65-138	7.18	20	WG756012
Vinyl chloride	mg/l	0.0229	0.0225	91.0	65.9-128	1.65	20	WG756012
Xylenes, Total	mg/l	0.0829	0.0802	110.	78.7-121	3.34	20	WG756012
4-Bromofluorobenzene				104.0	71-126			WG756012
Dibromofluoromethane				94.70	78.3-121			WG756012
Toluene-d8				101.0	88.5-111			WG756012
a,a,a-Trifluorotoluene				104.0	85-114			WG756012
Vinyl chloride	mg/l	0.0271	0.0286	108.	65.9-128	5.64	20	WG757019
4-Bromofluorobenzene				90.60	71-126			WG757019
Dibromofluoromethane				103.0	78.3-121			WG757019
Toluene-d8				107.0	88.5-111			WG757019
a,a,a-Trifluorotoluene				99.50	85-114			WG757019
Chloride	mg/l	39.0	39.0	98.0	90-110	0.0	20	WG756798
Sulfate	mg/l	39.8	39.7	99.0	90-110	0.0	20	WG756798

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Chloride	mg/l	66.8	18.2	50	97.0	80-120	L734644-01	WG755737
Nitrate	mg/l	8.45	3.60	5	97.0	80-120	L734644-01	WG755737

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	MS Res	Matrix Spike			% Rec	Limit	Ref Samp	Batch
			Ref Res	TV					
Mercury	mg/l	0.00480	0.00231	.003		83.0	80-120	L734811-01	WG755785
Barium	mg/l	1.08	0.0401	1		100.	75-125	L734593-01	WG755822
Chromium	mg/l	0.985	0.000774	1		98.0	75-125	L734593-01	WG755822
Nickel	mg/l	1.05	0.000647	1		100.	75-125	L734593-01	WG755822
Silver	mg/l	1.14	-0.000655	1		110.	75-125	L734593-01	WG755822
Antimony	mg/l	0.0558	0.0000492	.05		110.	75-125	L734625-01	WG756227
Beryllium	mg/l	0.0500	0.0000587	.05		100.	75-125	L734625-01	WG756227
Cadmium	mg/l	0.0522	0.0000865	.05		100.	75-125	L734625-01	WG756227
Copper	mg/l	0.0526	0.00160	.05		100.	75-125	L734625-01	WG756227
Lead	mg/l	0.0497	0.000658	.05		98.0	75-125	L734625-01	WG756227
Selenium	mg/l	0.0540	0.000572	.05		110.	75-125	L734625-01	WG756227
Thallium	mg/l	0.0474	-0.000034	.05		95.0	75-125	L734625-01	WG756227
Zinc	mg/l	0.0506	0.00264	.05		96.0	75-125	L734625-01	WG756227
Alkalinity	mg/l	240.	170.	100		70.0*	80-120	L734625-01	WG756323
TOC (Total Organic Carbon)	mg/l	49.7	2.30	50		94.7	80-120	L734625-01	WG756215
Arsenic	mg/l	0.0540	0.000686	.05		110.	75-125	L734625-01	WG756227
1,1,1,2-Tetrachloroethane	mg/l	0.0247	0.0	.025		99.0	64-128	L734625-01	WG756012
1,1,1-Trichloroethane	mg/l	0.0243	0.0	.025		97.0	58.7-134	L734625-01	WG756012
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0	.025		100.	56-132	L734625-01	WG756012
1,1,2-Trichloroethane	mg/l	0.0265	0.0	.025		110.	66.3-125	L734625-01	WG756012
1,1-Dichloroethane	mg/l	0.0232	0.0	.025		93.0	58.5-132	L734625-01	WG756012
1,1-Dichloroethene	mg/l	0.0223	0.0	.025		89.0	51.1-140	L734625-01	WG756012
1,2,3-Trichloropropane	mg/l	0.0238	0.0	.025		95.0	61.4-128	L734625-01	WG756012
1,2-Dichlorobenzene	mg/l	0.0264	0.0	.025		110.	68.2-123	L734625-01	WG756012
1,2-Dichloroethane	mg/l	0.0227	0.0	.025		91.0	60-126	L734625-01	WG756012
1,2-Dichloropropane	mg/l	0.0238	0.0	.025		95.0	64.2-123	L734625-01	WG756012
1,4-Dichlorobenzene	mg/l	0.0259	0.0	.025		100.	68.6-123	L734625-01	WG756012
2-Butanone (MEK)	mg/l	0.118	0.0	.125		94.0	22.4-138	L734625-01	WG756012
2-Hexanone	mg/l	0.123	0.0	.125		99.0	43.3-137	L734625-01	WG756012
4-Methyl-2-pentanone (MIBK)	mg/l	0.119	0.0	.125		95.0	60.8-140	L734625-01	WG756012
Acetone	mg/l	0.107	0.00731	.125		80.0	10-130	L734625-01	WG756012
Acrylonitrile	mg/l	0.120	0.0	.125		96.0	49.4-133	L734625-01	WG756012
Benzene	mg/l	0.0228	0.0	.025		91.0	54.3-133	L734625-01	WG756012
Bromochloromethane	mg/l	0.0243	0.0	.025		97.0	66.5-122	L734625-01	WG756012
Bromodichloromethane	mg/l	0.0244	0.0	.025		98.0	63.9-121	L734625-01	WG756012
Bromoform	mg/l	0.0246	0.0	.025		98.0	59.5-134	L734625-01	WG756012
Bromomethane	mg/l	0.0216	0.0	.025		86.0	41.7-155	L734625-01	WG756012
Carbon disulfide	mg/l	0.0198	0.0	.025		79.0	43.3-149	L734625-01	WG756012
Carbon tetrachloride	mg/l	0.0233	0.0	.025		93.0	55.7-134	L734625-01	WG756012
Chlorobenzene	mg/l	0.0258	0.0	.025		100.	67-125	L734625-01	WG756012
Chlorodibromomethane	mg/l	0.0264	0.0	.025		110.	64.3-125	L734625-01	WG756012
Chloroethane	mg/l	0.0213	0.0	.025		85.0	51.5-136	L734625-01	WG756012
Chloroform	mg/l	0.0237	0.0	.025		95.0	63-129	L734625-01	WG756012
Chloromethane	mg/l	0.0192	0.0	.025		77.0	42.4-135	L734625-01	WG756012
cis-1,2-Dichloroethene	mg/l	0.0239	0.0	.025		96.0	59.2-129	L734625-01	WG756012
cis-1,3-Dichloropropene	mg/l	0.0251	0.0	.025		100.	66.4-125	L734625-01	WG756012
Dibromomethane	mg/l	0.0240	0.0	.025		96.0	68.2-124	L734625-01	WG756012

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Ethylbenzene	mg/l	0.0259	0.0	.025	100.	61.4-133	L734625-01	WG756012
Iodomethane	mg/l	0.118	0.0	.125	94.0	49.7-132	L734625-01	WG756012
Methylene Chloride	mg/l	0.0223	0.000314	.025	88.0	58.1-122	L734625-01	WG756012
Styrene	mg/l	0.0259	0.0	.025	100.	66.8-133	L734625-01	WG756012
Tetrachloroethene	mg/l	0.0267	0.0	.025	110.	53-139	L734625-01	WG756012
Toluene	mg/l	0.0244	0.0	.025	98.0	61.4-130	L734625-01	WG756012
trans-1,2-Dichloroethene	mg/l	0.0227	0.0	.025	91.0	56.5-129	L734625-01	WG756012
trans-1,3-Dichloropropene	mg/l	0.0254	0.0	.025	100.	64.1-128	L734625-01	WG756012
trans-1,4-Dichloro-2-butene	mg/l	0.0228	0.0	.025	91.0	57.1-130	L734625-01	WG756012
Trichloroethene	mg/l	0.0246	0.0	.025	98.0	44.1-149	L734625-01	WG756012
Trichlorofluoromethane	mg/l	0.0255	0.0	.025	100.	49.6-145	L734625-01	WG756012
Vinyl acetate	mg/l	0.137	0.0	.125	110.	56.1-149	L734625-01	WG756012
Vinyl chloride	mg/l	0.0209	0.0	.025	84.0	47.8-137	L734625-01	WG756012
Xylenes, Total	mg/l	0.0765	0.0	.075	100.	63.3-131	L734625-01	WG756012
4-Bromofluorobenzene					99.70	71-126		WG756012
Dibromofluoromethane					93.40	78.3-121		WG756012
Toluene-d8					99.60	88.5-111		WG756012
a,a,a-Trifluorotoluene					103.0	85-114		WG756012
Vinyl chloride	mg/l	0.0264	0.0	.025	110.	47.8-137	L734652-01	WG757019
4-Bromofluorobenzene					89.60	71-126		WG757019
Dibromofluoromethane					103.0	78.3-121		WG757019
Toluene-d8					106.0	88.5-111		WG757019
a,a,a-Trifluorotoluene					99.20	85-114		WG757019
Sulfate	mg/l	51.1	1.93	50	98.0	80-120	L734575-07	WG756798

Analyte	Units	MSD	Matrix Spike		%Rec	Limit	RPD	Limit	Ref Samp	Batch
			Ref	Duplicate						
Chloride	mg/l	66.5	66.8	96.6	80-120	0.0	20		L734644-01	WG755737
Nitrate	mg/l	8.44	8.45	96.8	80-120	0.0	20		L734644-01	WG755737
Mercury	mg/l	0.00480	0.00480	82.9	80-120	0.0	20		L734811-01	WG755785
Barium	mg/l	1.08	1.08	104.	75-125	0.0	20		L734593-01	WG755822
Chromium	mg/l	0.985	0.985	98.5	75-125	0.0	20		L734593-01	WG755822
Nickel	mg/l	1.05	1.05	105.	75-125	0.0	20		L734593-01	WG755822
Silver	mg/l	1.13	1.14	113.	75-125	0.0	20		L734593-01	WG755822
Antimony	mg/l	0.0552	0.0558	110.	75-125	1.00	20		L734625-01	WG756227
Beryllium	mg/l	0.0488	0.0500	97.5	75-125	2.00	20		L734625-01	WG756227
Cadmium	mg/l	0.0517	0.0522	103.	75-125	1.00	20		L734625-01	WG756227
Copper	mg/l	0.0529	0.0526	102.	75-125	0.0	20		L734625-01	WG756227
Lead	mg/l	0.0510	0.0497	101.	75-125	3.00	20		L734625-01	WG756227
Selenium	mg/l	0.0551	0.0540	109.	75-125	2.00	20		L734625-01	WG756227
Thallium	mg/l	0.0488	0.0474	97.7	75-125	3.00	20		L734625-01	WG756227
Zinc	mg/l	0.0506	0.0506	95.9	75-125	0.0	20		L734625-01	WG756227
Alkalinity	mg/l	240.	240.	70.0*	80-120	0.0	20		L734625-01	WG756323
TOC (Total Organic Carbon)	mg/l	49.0	49.7	93.4	80-120	1.34	20		L734625-01	WG756215

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Arsenic	mg/l	0.0504	0.0540	99.4	75-125	7.00	20	L734625-01	WG756227
1,1,1,2-Tetrachloroethane	mg/l	0.0258	0.0247	103.	64-128	4.14	20	L734625-01	WG756012
1,1,1-Trichloroethane	mg/l	0.0248	0.0243	99.2	58.7-134	2.21	20	L734625-01	WG756012
1,1,2,2-Tetrachloroethane	mg/l	0.0262	0.0262	105.	56-132	0.0300	22.2	L734625-01	WG756012
1,1,2-Trichloroethane	mg/l	0.0268	0.0265	107.	66.3-125	1.27	20	L734625-01	WG756012
1,1-Dichloroethane	mg/l	0.0235	0.0232	94.2	58.5-132	1.60	20	L734625-01	WG756012
1,1-Dichloroethene	mg/l	0.0223	0.0223	89.1	51.1-140	0.190	20.2	L734625-01	WG756012
1,2,3-Trichloropropane	mg/l	0.0242	0.0238	96.7	61.4-128	1.63	22.4	L734625-01	WG756012
1,2-Dichlorobenzene	mg/l	0.0256	0.0264	102.	68.2-123	3.09	20	L734625-01	WG756012
1,2-Dichloroethane	mg/l	0.0227	0.0227	90.6	60-126	0.360	20	L734625-01	WG756012
1,2-Dichloropropane	mg/l	0.0239	0.0238	95.5	64.2-123	0.530	20	L734625-01	WG756012
1,4-Dichlorobenzene	mg/l	0.0253	0.0259	101.	68.6-123	2.47	20	L734625-01	WG756012
2-Butanone (MEK)	mg/l	0.115	0.118	92.3	22.4-138	1.95	27	L734625-01	WG756012
2-Hexanone	mg/l	0.125	0.123	100.	43.3-137	1.26	25.5	L734625-01	WG756012
4-Methyl-2-pentanone (MIBK)	mg/l	0.117	0.119	93.4	60.8-140	1.96	25.1	L734625-01	WG756012
Acetone	mg/l	0.107	0.107	79.4	10-130	0.150	27.9	L734625-01	WG756012
Acrylonitrile	mg/l	0.117	0.120	93.7	49.4-133	2.21	25.3	L734625-01	WG756012
Benzene	mg/l	0.0228	0.0228	91.2	54.3-133	0.140	20	L734625-01	WG756012
Bromochloromethane	mg/l	0.0243	0.0243	97.2	66.5-122	0.180	20.8	L734625-01	WG756012
Bromodichloromethane	mg/l	0.0240	0.0244	96.0	63.9-121	1.58	20	L734625-01	WG756012
Bromoform	mg/l	0.0251	0.0246	100.	59.5-134	2.12	20.5	L734625-01	WG756012
Bromomethane	mg/l	0.0220	0.0216	88.0	41.7-155	1.65	21.9	L734625-01	WG756012
Carbon disulfide	mg/l	0.0198	0.0198	79.1	43.3-149	0.260	20.3	L734625-01	WG756012
Carbon tetrachloride	mg/l	0.0236	0.0233	94.5	55.7-134	1.51	20	L734625-01	WG756012
Chlorobenzene	mg/l	0.0260	0.0258	104.	67-125	0.590	20	L734625-01	WG756012
Chlorodibromomethane	mg/l	0.0264	0.0264	106.	64.3-125	0.0600	20.8	L734625-01	WG756012
Chloroethane	mg/l	0.0221	0.0213	88.2	51.5-136	3.27	40	L734625-01	WG756012
Chloroform	mg/l	0.0242	0.0237	96.6	63-129	1.95	20	L734625-01	WG756012
Chloromethane	mg/l	0.0186	0.0192	74.6	42.4-135	2.89	20	L734625-01	WG756012
cis-1,2-Dichloroethene	mg/l	0.0241	0.0239	96.4	59.2-129	0.890	20	L734625-01	WG756012
cis-1,3-Dichloropropene	mg/l	0.0242	0.0251	96.6	66.4-125	3.77	20	L734625-01	WG756012
Dibromomethane	mg/l	0.0233	0.0240	93.1	68.2-124	2.93	20	L734625-01	WG756012
Ethylbenzene	mg/l	0.0259	0.0259	104.	61.4-133	0.0	20	L734625-01	WG756012
Iodomethane	mg/l	0.122	0.118	97.6	49.7-132	3.67	20	L734625-01	WG756012
Methylene Chloride	mg/l	0.0219	0.0223	86.4	58.1-122	1.84	20	L734625-01	WG756012
Styrene	mg/l	0.0265	0.0259	106.	66.8-133	2.03	20	L734625-01	WG756012
Tetrachloroethene	mg/l	0.0264	0.0267	106.	53-139	1.01	20	L734625-01	WG756012
Toluene	mg/l	0.0245	0.0244	98.1	61.4-130	0.440	20	L734625-01	WG756012
trans-1,2-Dichloroethene	mg/l	0.0229	0.0227	91.6	56.5-129	0.770	20	L734625-01	WG756012
trans-1,3-Dichloropropene	mg/l	0.0244	0.0254	97.5	64.1-128	4.10	20	L734625-01	WG756012
trans-1,4-Dichloro-2-butene	mg/l	0.0241	0.0228	96.3	57.1-130	5.30	23.9	L734625-01	WG756012
Trichloroethene	mg/l	0.0243	0.0246	97.3	44.1-149	1.03	20	L734625-01	WG756012
Trichlorofluoromethane	mg/l	0.0261	0.0255	104.	49.6-145	2.46	21.2	L734625-01	WG756012
Vinyl acetate	mg/l	0.134	0.137	107.	56.1-149	2.14	22.7	L734625-01	WG756012
Vinyl chloride	mg/l	0.0207	0.0209	82.9	47.8-137	0.790	20	L734625-01	WG756012
Xylenes, Total	mg/l	0.0782	0.0765	104.	63.3-131	2.15	20	L734625-01	WG756012
4-Bromofluorobenzene				103.0	71-126				WG756012
Dibromofluoromethane				96.10	78.3-121				WG756012
Toluene-d8				99.50	88.5-111				WG756012
a,a,a-Trifluorotoluene				105.0	85-114				WG756012
Vinyl chloride	mg/l	0.0279	0.0264	111.	47.8-137	5.28	20	L734652-01	WG757019
4-Bromofluorobenzene				91.10	71-126				WG757019
Dibromofluoromethane				106.0	78.3-121				WG757019
Toluene-d8				106.0	88.5-111				WG757019
a,a,a-Trifluorotoluene				102.0	85-114				WG757019

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Sulfate	mg/l	51.6	51.1	99.3	80-120	1.00	20	L734575-07	WG756798

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG755737: R3005735: L734625-01 02 03
WG755789: R3005784: L734625-01 02 03
WG755785: R3005940: L734625-01 02 03
WG755822: R3006023: L734625-01 02 03
WG756086: R3006153: L734625-01 02 03
WG756227: R3006383 R3006626: L734625-01 02 03
WG756323: R3006426: L734625-01 02 03
WG756324: R3006547: L734625-01 02 03
WG756325: R3006548: L734625-01 02 03
WG756215: R3006556: L734625-01 02 03
WG756012: R3006775: L734625-01 02 03
WG757019: R3006956: L734625-02
WG756798: R3007039: L734625-01 02

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L734625

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 28, 2014

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Monday May 13, 2013

Report Number: L633267

Samples Received: 05/01/13

Client Project: 10-0133

Description: Broda AI Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/B10041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

ESC Sample # : L633267-01

Sample ID : MW-1

Site ID : BRODA AI

Collected By : Mark A. Molen
Collection Date : 04/30/13 10:15

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	2.0	mg/l	9056	05/01/13	2
Nitrate	4.1	0.10	mg/l	9056	05/01/13	1
Nitrite	BDL	0.10	mg/l	9056	05/01/13	1
Sulfate	180	10.	mg/l	9056	05/01/13	2
Alkalinity	180	20.	mg/l	2320 B-2011	05/02/13	1
Alkalinity,Bicarbonate	180	20.	mg/l	2320 B-2011	05/06/13	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/06/13	1
pH	7.3		su	9040C	05/02/13	1
Specific Conductance	1100		umhos/cm	9050A	05/02/13	1
TOC (Total Organic Carbon)	3.8	1.0	mg/l	9060A	05/02/13	1
Antimony	BDL	0.0010	mg/l	6020	05/12/13	1
Arsenic	0.0013	0.0010	mg/l	6020	05/10/13	1
Beryllium	BDL	0.0010	mg/l	6020	05/12/13	1
Cadmium	0.0016	0.00050	mg/l	6020	05/12/13	1
Copper	0.014	0.0020	mg/l	6020	05/10/13	1
Lead	0.0044	0.0010	mg/l	6020	05/10/13	1
Selenium	0.0033	0.0010	mg/l	6020	05/10/13	1
Thallium	BDL	0.0010	mg/l	6020	05/10/13	1
Zinc	0.026	0.010	mg/l	6020	05/10/13	1
Mercury	BDL	0.00020	mg/l	7470A	05/02/13	1
Barium	0.11	0.0050	mg/l	6010B	05/07/13	1
Calcium	74.	0.50	mg/l	6010B	05/07/13	1
Chromium	BDL	0.010	mg/l	6010B	05/07/13	1
Cobalt	BDL	0.010	mg/l	6010B	05/07/13	1
Magnesium	23.	0.10	mg/l	6010B	05/07/13	1
Nickel	BDL	0.020	mg/l	6010B	05/07/13	1
Potassium	7.9	0.50	mg/l	6010B	05/07/13	1
Silver	BDL	0.010	mg/l	6010B	05/07/13	1
Sodium	120	0.50	mg/l	6010B	05/07/13	1
Vanadium	BDL	0.010	mg/l	6010B	05/07/13	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/02/13	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/02/13	1
Benzene	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/02/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L633267-01 (PH) - 7.3@22.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

ESC Sample # : L633267-01

Sample ID : MW-1

Site ID : BRODA AI

Collected By : Mark A. Molen
Collection Date : 04/30/13 10:15

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/02/13	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/02/13	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/02/13	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/02/13	1
Chloroform	BDL	0.0050	mg/l	8260B	05/02/13	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/02/13	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/02/13	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/02/13	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/02/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/02/13	1
Iodomethane	BDL	0.010	mg/l	8260B	05/02/13	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/02/13	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/02/13	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/02/13	1
Styrene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
Toluene	BDL	0.0050	mg/l	8260B	05/02/13	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/02/13	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/02/13	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/02/13	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/02/13	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/02/13	1
Surrogate Recovery						
Toluene-d8	96.7		% Rec.	8260B	05/02/13	1
Dibromofluoromethane	97.4		% Rec.	8260B	05/02/13	1
a,a,a-Trifluorotoluene	99.5		% Rec.	8260B	05/02/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L633267-01 (PH) - 7.3@22.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

Sample ID : MW-1

Collected By : Mark A. Molen
Collection Date : 04/30/13 10:15

ESC Sample # : L633267-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	95.9		% Rec.	8260B	05/02/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/12/13 23:45 Revised: 05/13/13 09:56
L633267-01 (PH) - 7.3@22.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

ESC Sample # : L633267-02

Sample ID : MW-2

Site ID : BRODA AI

Collected By : Mark A. Molen
Collection Date : 04/30/13 10:55

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	190	5.0	mg/l	9056	05/01/13	5
Nitrate	BDL	0.10	mg/l	9056	05/01/13	1
Nitrite	BDL	0.10	mg/l	9056	05/01/13	1
Sulfate	250	25.	mg/l	9056	05/01/13	5
Alkalinity	170	20.	mg/l	2320 B-2011	05/02/13	1
Alkalinity,Bicarbonate	170	20.	mg/l	2320 B-2011	05/06/13	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/06/13	1
pH	7.6		su	9040C	05/02/13	1
Specific Conductance	1400		umhos/cm	9050A	05/02/13	1
TOC (Total Organic Carbon)	8.0	1.0	mg/l	9060A	05/02/13	1
Antimony	BDL	0.0010	mg/l	6020	05/12/13	1
Arsenic	0.010	0.0010	mg/l	6020	05/10/13	1
Beryllium	BDL	0.0010	mg/l	6020	05/12/13	1
Cadmium	0.0024	0.00050	mg/l	6020	05/12/13	1
Copper	0.021	0.0020	mg/l	6020	05/10/13	1
Lead	0.010	0.0010	mg/l	6020	05/10/13	1
Selenium	0.0031	0.0010	mg/l	6020	05/10/13	1
Thallium	BDL	0.0010	mg/l	6020	05/10/13	1
Zinc	0.046	0.010	mg/l	6020	05/10/13	1
Mercury	BDL	0.00020	mg/l	7470A	05/02/13	1
Barium	0.40	0.0050	mg/l	6010B	05/07/13	1
Calcium	79.	0.50	mg/l	6010B	05/07/13	1
Chromium	BDL	0.010	mg/l	6010B	05/07/13	1
Cobalt	BDL	0.010	mg/l	6010B	05/07/13	1
Magnesium	24.	0.10	mg/l	6010B	05/07/13	1
Nickel	BDL	0.020	mg/l	6010B	05/07/13	1
Potassium	13.	0.50	mg/l	6010B	05/07/13	1
Silver	BDL	0.010	mg/l	6010B	05/07/13	1
Sodium	190	0.50	mg/l	6010B	05/07/13	1
Vanadium	0.019	0.010	mg/l	6010B	05/07/13	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/02/13	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/02/13	1
Benzene	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/02/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L633267-02 (PH) - 7.6@21.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

ESC Sample # : L633267-02

Sample ID : MW-2

Site ID : BRODA AI

Collected By : Mark A. Molen
Collection Date : 04/30/13 10:55

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/02/13	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/02/13	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/02/13	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/02/13	1
Chloroform	BDL	0.0050	mg/l	8260B	05/02/13	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/02/13	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/02/13	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/02/13	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/02/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/02/13	1
Iodomethane	BDL	0.010	mg/l	8260B	05/02/13	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/02/13	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/02/13	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/02/13	1
Styrene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
Toluene	BDL	0.0050	mg/l	8260B	05/02/13	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/02/13	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/02/13	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/02/13	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/02/13	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/02/13	1
Surrogate Recovery						
Toluene-d8	96.8		% Rec.	8260B	05/02/13	1
Dibromofluoromethane	98.3		% Rec.	8260B	05/02/13	1
a,a,a-Trifluorotoluene	98.1		% Rec.	8260B	05/02/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L633267-02 (PH) - 7.6@21.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark A. Molen
Collection Date : 04/30/13 10:55

ESC Sample # : L633267-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	95.1		% Rec.	8260B	05/02/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/12/13 23:45 Revised: 05/13/13 09:56
L633267-02 (PH) - 7.6@21.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

ESC Sample # : L633267-03

Sample ID : MW-3

Site ID : BRODA AI

Collected By : Mark A. Molen
Collection Date : 04/30/13 11:30

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	130	2.0	mg/l	9056	05/01/13	2
Nitrate	15.	0.10	mg/l	9056	05/01/13	1
Nitrite	BDL	0.10	mg/l	9056	05/01/13	1
Sulfate	110	10.	mg/l	9056	05/01/13	2
Alkalinity	160	20.	mg/l	2320 B-2011	05/02/13	1
Alkalinity,Bicarbonate	160	20.	mg/l	2320 B-2011	05/06/13	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	05/06/13	1
pH	7.2		su	9040C	05/02/13	1
Specific Conductance	1100		umhos/cm	9050A	05/04/13	1
TOC (Total Organic Carbon)	2.6	1.0	mg/l	9060A	05/02/13	1
Antimony	BDL	0.0010	mg/l	6020	05/12/13	1
Arsenic	0.0015	0.0010	mg/l	6020	05/10/13	1
Beryllium	BDL	0.0010	mg/l	6020	05/12/13	1
Cadmium	0.0013	0.00050	mg/l	6020	05/12/13	1
Copper	0.0079	0.0020	mg/l	6020	05/10/13	1
Lead	0.0064	0.0010	mg/l	6020	05/10/13	1
Selenium	0.0042	0.0010	mg/l	6020	05/10/13	1
Thallium	BDL	0.0010	mg/l	6020	05/10/13	1
Zinc	0.020	0.010	mg/l	6020	05/10/13	1
Mercury	BDL	0.00020	mg/l	7470A	05/02/13	1
Barium	0.13	0.0050	mg/l	6010B	05/07/13	1
Calcium	84.	0.50	mg/l	6010B	05/07/13	1
Chromium	BDL	0.010	mg/l	6010B	05/07/13	1
Cobalt	BDL	0.010	mg/l	6010B	05/07/13	1
Magnesium	18.	0.10	mg/l	6010B	05/07/13	1
Nickel	BDL	0.020	mg/l	6010B	05/07/13	1
Potassium	12.	0.50	mg/l	6010B	05/07/13	1
Silver	BDL	0.010	mg/l	6010B	05/07/13	1
Sodium	100	0.50	mg/l	6010B	05/07/13	1
Vanadium	BDL	0.010	mg/l	6010B	05/07/13	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	05/02/13	1
Acrylonitrile	BDL	0.010	mg/l	8260B	05/02/13	1
Benzene	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	05/02/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L633267-03 (PH) - 7.2@21.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

ESC Sample # : L633267-03

Sample ID : MW-3

Site ID : BRODA AI

Collected By : Mark A. Molen
Collection Date : 04/30/13 11:30

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	05/02/13	1
Bromomethane	BDL	0.0050	mg/l	8260B	05/02/13	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	05/02/13	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	05/02/13	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Chloroethane	BDL	0.0050	mg/l	8260B	05/02/13	1
Chloroform	BDL	0.0050	mg/l	8260B	05/02/13	1
Chloromethane	BDL	0.0025	mg/l	8260B	05/02/13	1
Dibromomethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	05/02/13	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	05/02/13	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/02/13	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	05/02/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	05/02/13	1
2-Hexanone	BDL	0.010	mg/l	8260B	05/02/13	1
Iodomethane	BDL	0.010	mg/l	8260B	05/02/13	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	05/02/13	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	05/02/13	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	05/02/13	1
Styrene	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
Toluene	BDL	0.0050	mg/l	8260B	05/02/13	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	05/02/13	1
Trichloroethene	BDL	0.0010	mg/l	8260B	05/02/13	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	05/02/13	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	05/02/13	1
Vinyl acetate	BDL	0.010	mg/l	8260B	05/02/13	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	05/02/13	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	05/02/13	1
Surrogate Recovery						
Toluene-d8	96.4		% Rec.	8260B	05/02/13	1
Dibromofluoromethane	97.5		% Rec.	8260B	05/02/13	1
a,a,a-Trifluorotoluene	98.3		% Rec.	8260B	05/02/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L633267-03 (PH) - 7.2@21.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 13, 2013

Date Received : May 01, 2013
Description : Broda AI Inert Fill

Sample ID : MW-3

Collected By : Mark A. Molen
Collection Date : 04/30/13 11:30

ESC Sample # : L633267-03

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	90.7		% Rec.	8260B	05/02/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/12/13 23:45 Revised: 05/13/13 09:56
L633267-03 (PH) - 7.2@21.9c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L633267-01	WG659158	SAMP	pH	R2649864	T8
L633267-02	WG659158	SAMP	pH	R2649864	T8
L633267-03	WG659158	SAMP	pH	R2649864	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
05/13/13 at 09:56:53

TSR Signing Reports: 288
RX - Priority Rush

Do Not report Hg on East Regional Landfill-GW Monitoring ONLY report Hg on the ERLF-Leachate sample. Put all East Regional LF samples on same L#, MW-1 through MW-4 and CMW-1

Sample: L633267-01 Account: MOLENTCO Received: 05/01/13 09:00 Due Date: 05/13/13 00:00 RPT Date: 05/12/13 23:45

Sample: L633267-02 Account: MOLENTCO Received: 05/01/13 09:00 Due Date: 05/13/13 00:00 RPT Date: 05/12/13 23:45

Sample: L633267-03 Account: MOLENTCO Received: 05/01/13 09:00 Due Date: 05/13/13 00:00 RPT Date: 05/12/13 23:45



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG659150	05/01/13 10:00
Nitrate	< .1	mg/l			WG659150	05/01/13 10:00
Nitrite	< .1	mg/l			WG659150	05/01/13 10:00
Sulfate	< 5	mg/l			WG659150	05/01/13 10:00
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG659248	05/02/13 04:00
1,1,1-Trichloroethane	< .001	mg/l			WG659248	05/02/13 04:00
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG659248	05/02/13 04:00
1,1,2-Trichloroethane	< .001	mg/l			WG659248	05/02/13 04:00
1,1-Dichloroethane	< .001	mg/l			WG659248	05/02/13 04:00
1,1-Dichloroethene	< .001	mg/l			WG659248	05/02/13 04:00
1,2,3-Trichloropropane	< .001	mg/l			WG659248	05/02/13 04:00
1,2-Dichlorobenzene	< .001	mg/l			WG659248	05/02/13 04:00
1,2-Dichloroethane	< .001	mg/l			WG659248	05/02/13 04:00
1,2-Dichloropropane	< .001	mg/l			WG659248	05/02/13 04:00
1,4-Dichlorobenzene	< .001	mg/l			WG659248	05/02/13 04:00
2-Butanone (MEK)	< .01	mg/l			WG659248	05/02/13 04:00
2-Hexanone	< .01	mg/l			WG659248	05/02/13 04:00
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG659248	05/02/13 04:00
Acetone	< .05	mg/l			WG659248	05/02/13 04:00
Acrylonitrile	< .01	mg/l			WG659248	05/02/13 04:00
Benzene	< .001	mg/l			WG659248	05/02/13 04:00
Bromochloromethane	< .001	mg/l			WG659248	05/02/13 04:00
Bromodichloromethane	< .001	mg/l			WG659248	05/02/13 04:00
Bromoform	< .001	mg/l			WG659248	05/02/13 04:00
Bromomethane	< .005	mg/l			WG659248	05/02/13 04:00
Carbon disulfide	< .001	mg/l			WG659248	05/02/13 04:00
Carbon tetrachloride	< .001	mg/l			WG659248	05/02/13 04:00
Chlorobenzene	< .001	mg/l			WG659248	05/02/13 04:00
Chlorodibromomethane	< .001	mg/l			WG659248	05/02/13 04:00
Chloroethane	< .005	mg/l			WG659248	05/02/13 04:00
Chloroform	< .005	mg/l			WG659248	05/02/13 04:00
Chloromethane	< .0025	mg/l			WG659248	05/02/13 04:00
cis-1,2-Dichloroethene	< .001	mg/l			WG659248	05/02/13 04:00
cis-1,3-Dichloropropene	< .001	mg/l			WG659248	05/02/13 04:00
Dibromomethane	< .001	mg/l			WG659248	05/02/13 04:00
Ethylbenzene	< .001	mg/l			WG659248	05/02/13 04:00
Iodomethane	< .01	mg/l			WG659248	05/02/13 04:00
Methylene Chloride	< .005	mg/l			WG659248	05/02/13 04:00
Styrene	< .001	mg/l			WG659248	05/02/13 04:00
Tetrachloroethene	< .001	mg/l			WG659248	05/02/13 04:00
Toluene	< .005	mg/l			WG659248	05/02/13 04:00
trans-1,2-Dichloroethene	< .001	mg/l			WG659248	05/02/13 04:00
trans-1,3-Dichloropropene	< .001	mg/l			WG659248	05/02/13 04:00
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG659248	05/02/13 04:00
Trichloroethene	< .001	mg/l			WG659248	05/02/13 04:00
Trichlorofluoromethane	< .005	mg/l			WG659248	05/02/13 04:00
Vinyl acetate	< .01	mg/l			WG659248	05/02/13 04:00
Vinyl chloride	< .001	mg/l			WG659248	05/02/13 04:00
Xylenes, Total	< .003	mg/l			WG659248	05/02/13 04:00
4-Bromofluorobenzene		% Rec.	92.86	82-120	WG659248	05/02/13 04:00
Dibromofluoromethane		% Rec.	98.01	82-126	WG659248	05/02/13 04:00
Toluene-d8		% Rec.	96.30	92-112	WG659248	05/02/13 04:00
a,a,a-Trifluorotoluene		% Rec.	97.56	90-116	WG659248	05/02/13 04:00

Mercury < .0002 mg/l WG659263 05/02/13 10:30

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Specific Conductance	1.76	umhos/cm			WG659183	05/02/13 16:19
TOC (Total Organic Carbon)	< 1	mg/l			WG659200	05/02/13 12:53
Specific Conductance	2.95	umhos/cm			WG659591	05/04/13 15:23
Alkalinity	< 20	mg/l			WG659301	05/02/13 07:45
Barium	< .005	mg/l			WG659289	05/07/13 01:39
Calcium	< .5	mg/l			WG659289	05/07/13 01:39
Chromium	< .01	mg/l			WG659289	05/07/13 01:39
Cobalt	< .01	mg/l			WG659289	05/07/13 01:39
Magnesium	< .1	mg/l			WG659289	05/07/13 01:39
Nickel	< .02	mg/l			WG659289	05/07/13 01:39
Potassium	< .5	mg/l			WG659289	05/07/13 01:39
Silver	< .01	mg/l			WG659289	05/07/13 01:39
Sodium	< .5	mg/l			WG659289	05/07/13 01:39
Vanadium	< .01	mg/l			WG659289	05/07/13 01:39
Antimony	< .001	mg/l			WG659272	05/10/13 01:53
Arsenic	< .001	mg/l			WG659272	05/10/13 01:53
Cadmium	< .0005	mg/l			WG659272	05/10/13 01:53
Copper	< .002	mg/l			WG659272	05/10/13 01:53
Lead	< .001	mg/l			WG659272	05/10/13 01:53
Selenium	< .001	mg/l			WG659272	05/10/13 01:53
Thallium	< .001	mg/l			WG659272	05/10/13 01:53
Beryllium	< .001	mg/l			WG659272	05/12/13 15:50

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Result	Duplicate				
Nitrate	mg/l	4.50	4.40	2.25	20		L633261-01	WG659150
Nitrite	mg/l	0	0	0	20		L633261-01	WG659150
Nitrate	mg/l	0	0	0	20		L633267-02	WG659150
Nitrite	mg/l	0	0	0	20		L633267-02	WG659150
Chloride	mg/l	190.	200.	5.13	20		L633267-02	WG659150
Sulfate	mg/l	250.	250.	0	20		L633267-02	WG659150
pH	su	9.20	9.20	0.218	1		L632284-01	WG659158
pH	su	7.30	7.20	1.10*	1		L633267-03	WG659158
Mercury	mg/l	0	0.0000428	11.9	20		L633425-01	WG659263
Specific Conductance	umhos/cm	7700	7700	0.260	20		L632532-01	WG659183
Specific Conductance	umhos/cm	1400	1400	2.12	20		L633267-02	WG659183
TOC (Total Organic Carbon)	mg/l	2.50	2.60	3.92	20		L633172-02	WG659200
TOC (Total Organic Carbon)	mg/l	0	0	0	20		L633350-01	WG659200

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Units	Result	Duplicate Duplicate	RPD	Limit	Ref Samp	Batch
Specific Conductance	umhos/cm	1100	1100	3.57	20	L633267-03	WG659591
Specific Conductance	umhos/cm	2600	2600	0	20	L633826-01	WG659591
Alkalinity	mg/l	87.0	100.	14.1	20	L633378-01	WG659301
Barium	mg/l	3.10	3.10	0	20	L633285-01	WG659289
Calcium	mg/l	210.	210.	0	20	L633285-01	WG659289
Chromium	mg/l	0	0.000900	NA	20	L633285-01	WG659289
Cobalt	mg/l	0	0.00240	NA	20	L633285-01	WG659289
Magnesium	mg/l	160.	170.	6.06	20	L633285-01	WG659289
Nickel	mg/l	0.0250	0.0268	6.95	20	L633285-01	WG659289
Potassium	mg/l	12.0	12.0	0	20	L633285-01	WG659289
Silver	mg/l	0	0.00121	NA	20	L633285-01	WG659289
Sodium	mg/l	360.	370.	2.74	20	L633285-01	WG659289
Vanadium	mg/l	0	0.00160	NA	20	L633285-01	WG659289
Antimony	mg/l	0	0	0	20	L633155-01	WG659272
Arsenic	mg/l	0	0	0	20	L633155-01	WG659272
Cadmium	mg/l	0	0	0	20	L633155-01	WG659272
Copper	mg/l	0	0.000100	NA	20	L633155-01	WG659272
Lead	mg/l	0	0	0	20	L633155-01	WG659272
Selenium	mg/l	0	0	0	20	L633155-01	WG659272
Thallium	mg/l	0	0	0	20	L633155-01	WG659272
Zinc	mg/l	0	0.0000900	NA	20	L633155-01	WG659272
Beryllium	mg/l	0	0.000420	NA	20	L633155-01	WG659272

Analyte	Units	Laboratory Control Sample Known Val	Result	% Rec	Limit	Batch
Chloride	mg/l	40	39.8	99.5	90-110	WG659150
Nitrate	mg/l	8	8.11	101.	90-110	WG659150
Nitrite	mg/l	8	7.99	99.9	90-110	WG659150
Sulfate	mg/l	40	39.8	99.5	90-110	WG659150
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0241	96.4	77-128	WG659248
1,1,1-Trichloroethane	mg/l	.025	0.0235	94.0	71-126	WG659248
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0227	90.6	78-130	WG659248
1,1,2-Trichloroethane	mg/l	.025	0.0238	95.3	81-121	WG659248
1,1-Dichloroethane	mg/l	.025	0.0233	93.0	73-123	WG659248
1,1-Dichloroethene	mg/l	.025	0.0220	87.8	54-134	WG659248
1,2,3-Trichloropropane	mg/l	.025	0.0237	94.9	68-130	WG659248
1,2-Dichlorobenzene	mg/l	.025	0.0235	94.0	82-121	WG659248
1,2-Dichloroethane	mg/l	.025	0.0222	88.7	69-128	WG659248
1,2-Dichloropropane	mg/l	.025	0.0232	92.7	77-121	WG659248
1,4-Dichlorobenzene	mg/l	.025	0.0231	92.4	79-117	WG659248
2-Butanone (MEK)	mg/l	.125	0.130	104.	58-144	WG659248
2-Hexanone	mg/l	.125	0.137	109.	62-144	WG659248
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.123	98.1	58-147	WG659248
Acetone	mg/l	.125	0.118	94.2	49-153	WG659248
Acrylonitrile	mg/l	.125	0.106	85.0	53-153	WG659248
Benzene	mg/l	.025	0.0232	92.7	72-119	WG659248
Bromochloromethane	mg/l	.025	0.0236	94.4	79-124	WG659248
Bromodichloromethane	mg/l	.025	0.0229	91.5	75-127	WG659248
Bromoform	mg/l	.025	0.0260	104.	61-136	WG659248

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Bromomethane	mg/l	.025	0.0208	83.1	42-172	WG659248
Carbon disulfide	mg/l	.025	0.0239	95.8	19-150	WG659248
Carbon tetrachloride	mg/l	.025	0.0237	94.7	63-129	WG659248
Chlorobenzene	mg/l	.025	0.0242	96.9	78-123	WG659248
Chlorodibromomethane	mg/l	.025	0.0251	100.	73-128	WG659248
Chloroethane	mg/l	.025	0.0221	88.4	52-164	WG659248
Chloroform	mg/l	.025	0.0230	91.9	76-122	WG659248
Chloromethane	mg/l	.025	0.0230	91.8	50-141	WG659248
cis-1,2-Dichloroethene	mg/l	.025	0.0231	92.3	75-121	WG659248
cis-1,3-Dichloropropene	mg/l	.025	0.0241	96.4	74-124	WG659248
Dibromomethane	mg/l	.025	0.0239	95.6	77-124	WG659248
Ethylbenzene	mg/l	.025	0.0248	99.2	77-124	WG659248
Iodomethane	mg/l	.125	0.102	81.5	54-139	WG659248
Methylene Chloride	mg/l	.025	0.0226	90.4	67-122	WG659248
Styrene	mg/l	.025	0.0265	106.	69-145	WG659248
Tetrachloroethene	mg/l	.025	0.0237	94.9	69-131	WG659248
Toluene	mg/l	.025	0.0236	94.3	75-114	WG659248
trans-1,2-Dichloroethene	mg/l	.025	0.0217	86.8	63-127	WG659248
trans-1,3-Dichloropropene	mg/l	.025	0.0247	98.8	69-124	WG659248
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0239	95.4	58-137	WG659248
Trichloroethene	mg/l	.025	0.0233	93.3	69-131	WG659248
Trichlorofluoromethane	mg/l	.025	0.0223	89.2	53-161	WG659248
Vinyl acetate	mg/l	.125	0.123	98.5	47-161	WG659248
Vinyl chloride	mg/l	.025	0.0230	91.9	55-142	WG659248
Xylenes, Total	mg/l	.075	0.0736	98.1	77-123	WG659248
4-Bromofluorobenzene				98.32	82-120	WG659248
Dibromofluoromethane				94.47	82-126	WG659248
Toluene-d8				97.60	92-112	WG659248
a,a,a-Trifluorotoluene				98.69	90-116	WG659248
pH	su	5.79	5.87	101.	98.3-101.7	WG659158
Mercury	mg/l	.003	0.00262	87.5	85-115	WG659263
Specific Conductance	umhos/cm	878	891.	101.	85-115	WG659183
TOC (Total Organic Carbon)	mg/l	75	71.9	95.9	85-115	WG659200
Specific Conductance	umhos/cm	878	896.	102.	85-115	WG659591
Alkalinity	mg/l	100	102.	102.	85-115	WG659301
Barium	mg/l	1.11	1.18	106.	85-115	WG659289
Calcium	mg/l	11.1	11.7	105.	85-115	WG659289
Chromium	mg/l	1.11	1.24	112.	85-115	WG659289
Cobalt	mg/l	1.11	1.26	114.	85-115	WG659289
Magnesium	mg/l	11.1	11.8	106.	85-115	WG659289
Nickel	mg/l	1.11	0.986	88.8	85-115	WG659289
Potassium	mg/l	11.1	10.8	97.3	85-115	WG659289
Silver	mg/l	1.11	1.03	92.8	85-115	WG659289
Sodium	mg/l	11.1	11.1	100.	85-115	WG659289
Vanadium	mg/l	1.11	1.18	106.	85-115	WG659289

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Antimony	mg/l	.0556	0.0621	112.	85-115	WG659272
Arsenic	mg/l	.0556	0.0601	108.	85-115	WG659272
Cadmium	mg/l	.0556	0.0611	110.	85-115	WG659272
Copper	mg/l	.0556	0.0621	112.	85-115	WG659272
Lead	mg/l	.0556	0.0624	112.	85-115	WG659272
Selenium	mg/l	.0556	0.0600	108.	85-115	WG659272
Thallium	mg/l	.0556	0.0606	109.	85-115	WG659272
Zinc	mg/l	.0556	0.0637	115.	85-115	WG659272
Beryllium	mg/l	.0556	0.0549	98.7	85-115	WG659272

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	40.0	39.8	100.	90-110	0.501	20	WG659150
Nitrate	mg/l	8.14	8.11	102.	90-110	0.369	20	WG659150
Nitrite	mg/l	8.01	7.99	100.	90-110	0.250	20	WG659150
Sulfate	mg/l	40.0	39.8	100.	90-110	0.501	20	WG659150
1,1,1,2-Tetrachloroethane	mg/l	0.0243	0.0241	97.0	77-128	0.790	20	WG659248
1,1,1-Trichloroethane	mg/l	0.0244	0.0235	97.0	71-126	3.62	20	WG659248
1,1,2,2-Tetrachloroethane	mg/l	0.0227	0.0227	91.0	78-130	0.0900	20	WG659248
1,1,2-Trichloroethane	mg/l	0.0241	0.0238	96.0	81-121	1.30	20	WG659248
1,1-Dichloroethane	mg/l	0.0245	0.0233	98.0	73-123	5.04	20	WG659248
1,1-Dichloroethene	mg/l	0.0224	0.0220	90.0	54-134	2.02	20	WG659248
1,2,3-Trichloropropane	mg/l	0.0247	0.0237	99.0	68-130	4.18	20	WG659248
1,2-Dichlorobenzene	mg/l	0.0247	0.0235	99.0	82-121	5.21	20	WG659248
1,2-Dichloroethane	mg/l	0.0231	0.0222	92.0	69-128	4.02	20	WG659248
1,2-Dichloropropane	mg/l	0.0232	0.0232	93.0	77-121	0.0600	20	WG659248
1,4-Dichlorobenzene	mg/l	0.0240	0.0231	96.0	79-117	3.85	20	WG659248
2-Butanone (MEK)	mg/l	0.124	0.130	99.0	58-144	4.39	20	WG659248
2-Hexanone	mg/l	0.134	0.137	107.	62-144	2.23	20	WG659248
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.123	97.0	58-147	0.750	20	WG659248
Acetone	mg/l	0.118	0.118	95.0	49-153	0.680	21	WG659248
Acrylonitrile	mg/l	0.107	0.106	85.0	53-153	0.250	20	WG659248
Benzene	mg/l	0.0239	0.0232	95.0	72-119	2.90	20	WG659248
Bromochloromethane	mg/l	0.0240	0.0236	96.0	79-124	1.54	20	WG659248
Bromodichloromethane	mg/l	0.0233	0.0229	93.0	75-127	1.60	20	WG659248
Bromoform	mg/l	0.0256	0.0260	102.	61-136	1.24	20	WG659248
Bromomethane	mg/l	0.0210	0.0208	84.0	42-172	0.840	20	WG659248
Carbon disulfide	mg/l	0.0247	0.0239	99.0	19-150	2.95	20	WG659248
Carbon tetrachloride	mg/l	0.0245	0.0237	98.0	63-129	3.47	20	WG659248
Chlorobenzene	mg/l	0.0245	0.0242	98.0	78-123	1.38	20	WG659248
Chlorodibromomethane	mg/l	0.0251	0.0251	100.	73-128	0.200	20	WG659248
Chloroethane	mg/l	0.0223	0.0221	89.0	52-164	0.870	20	WG659248
Chloroform	mg/l	0.0245	0.0230	98.0	76-122	6.18	20	WG659248
Chloromethane	mg/l	0.0236	0.0230	94.0	50-141	2.85	20	WG659248
cis-1,2-Dichloroethene	mg/l	0.0240	0.0231	96.0	75-121	4.03	20	WG659248
cis-1,3-Dichloropropene	mg/l	0.0243	0.0241	97.0	74-124	0.950	20	WG659248
Dibromomethane	mg/l	0.0242	0.0239	97.0	77-124	1.12	20	WG659248
Ethylbenzene	mg/l	0.0253	0.0248	101.	77-124	2.08	20	WG659248
Iodomethane	mg/l	0.108	0.102	86.0	54-139	5.73	20	WG659248
Methylene Chloride	mg/l	0.0230	0.0226	92.0	67-122	1.95	20	WG659248
Styrene	mg/l	0.0265	0.0265	106.	69-145	0.240	20	WG659248
Tetrachloroethene	mg/l	0.0238	0.0237	95.0	69-131	0.520	20	WG659248
Toluene	mg/l	0.0240	0.0236	96.0	75-114	1.66	20	WG659248
trans-1,2-Dichloroethene	mg/l	0.0222	0.0217	89.0	63-127	2.41	20	WG659248
trans-1,3-Dichloropropene	mg/l	0.0243	0.0247	97.0	69-124	1.71	20	WG659248
trans-1,4-Dichloro-2-butene	mg/l	0.0233	0.0239	93.0	58-137	2.48	20	WG659248

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Quality Assurance Report
Level II

L633267

May 13, 2013

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Trichloroethene	mg/l	0.0232	0.0233	93.0	69-131	0.440	20	WG659248
Trichlorofluoromethane	mg/l	0.0230	0.0223	92.0	53-161	3.09	20	WG659248
Vinyl acetate	mg/l	0.126	0.123	101.	47-161	2.20	20	WG659248
Vinyl chloride	mg/l	0.0236	0.0230	94.0	55-142	2.60	20	WG659248
Xylenes, Total	mg/l	0.0743	0.0736	99.0	77-123	0.940	20	WG659248
4-Bromofluorobenzene				97.46	82-120			WG659248
Dibromofluoromethane				96.74	82-126			WG659248
Toluene-d8				96.66	92-112			WG659248
a,a,a-Trifluorotoluene				97.94	90-116			WG659248
pH	su	5.88	5.87	102*	98.3-101.7	0.170	20	WG659158
Specific Conductance	umhos/	890.	891.	101.	85-115	0.112	20	WG659183
TOC (Total Organic Carbon)	mg/l	69.8	71.9	93.0	85-115	2.96	20	WG659200
Specific Conductance	umhos/	897.	896.	102.	85-115	0.112	20	WG659591
Alkalinity	mg/l	99.4	102.	99.0	85-115	2.58	20	WG659301

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Nitrate	mg/l	5.33	0.410	5	98.4	80-120	L633245-01	WG659150
1,1,1,2-Tetrachloroethane	mg/l	0.0245	0	.025	97.8	71-130	L633267-01	WG659248
1,1,1-Trichloroethane	mg/l	0.0230	0	.025	91.8	58-137	L633267-01	WG659248
1,1,2,2-Tetrachloroethane	mg/l	0.0240	0	.025	96.0	64-149	L633267-01	WG659248
1,1,2-Trichloroethane	mg/l	0.0241	0	.025	96.5	73-128	L633267-01	WG659248
1,1-Dichloroethane	mg/l	0.0229	0	.025	91.7	58-133	L633267-01	WG659248
1,1-Dichloroethene	mg/l	0.0200	0	.025	79.8	32-152	L633267-01	WG659248
1,2,3-Trichloropropane	mg/l	0.0241	0	.025	96.3	74-137	L633267-01	WG659248
1,2-Dichlorobenzene	mg/l	0.0253	0	.025	101.	75-125	L633267-01	WG659248
1,2-Dichloroethane	mg/l	0.0226	0	.025	90.3	59-135	L633267-01	WG659248
1,2-Dichloropropane	mg/l	0.0228	0	.025	91.2	68-126	L633267-01	WG659248
1,4-Dichlorobenzene	mg/l	0.0243	0	.025	97.2	70-123	L633267-01	WG659248
2-Butanone (MEK)	mg/l	0.138	0	.125	111.	51-149	L633267-01	WG659248
2-Hexanone	mg/l	0.145	0	.125	116.	58-148	L633267-01	WG659248
4-Methyl-2-pentanone (MIBK)	mg/l	0.133	0	.125	107.	53-154	L633267-01	WG659248
Acetone	mg/l	0.126	0.00229	.125	99.3	34-146	L633267-01	WG659248
Acrylonitrile	mg/l	0.112	0	.125	89.6	49-162	L633267-01	WG659248
Benzene	mg/l	0.0223	0	.025	89.2	51-134	L633267-01	WG659248
Bromochloromethane	mg/l	0.0231	0	.025	92.4	67-131	L633267-01	WG659248
Bromodichloromethane	mg/l	0.0231	0	.025	92.2	67-132	L633267-01	WG659248
Bromoform	mg/l	0.0263	0	.025	105.	59-137	L633267-01	WG659248
Bromomethane	mg/l	0.0187	0	.025	74.6	23-177	L633267-01	WG659248
Carbon disulfide	mg/l	0.0176	0	.025	70.3	10-165	L633267-01	WG659248
Carbon tetrachloride	mg/l	0.0229	0	.025	91.6	49-140	L633267-01	WG659248
Chlorobenzene	mg/l	0.0240	0	.025	95.9	69-126	L633267-01	WG659248
Chlorodibromomethane	mg/l	0.0251	0	.025	100.	68-130	L633267-01	WG659248
Chloroethane	mg/l	0.0190	0	.025	76.0	32-177	L633267-01	WG659248
Chloroform	mg/l	0.0235	0	.025	94.1	64-130	L633267-01	WG659248
Chloromethane	mg/l	0.0197	0	.025	78.6	27-155	L633267-01	WG659248

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
cis-1,2-Dichloroethene	mg/l	0.0226	0	.025	90.3	54-137	L633267-01	WG659248
cis-1,3-Dichloropropene	mg/l	0.0244	0	.025	97.4	63-127	L633267-01	WG659248
Dibromomethane	mg/l	0.0234	0	.025	93.7	68-131	L633267-01	WG659248
Ethylbenzene	mg/l	0.0241	0	.025	96.5	64-135	L633267-01	WG659248
Iodomethane	mg/l	0.0943	0	.125	75.4	38-149	L633267-01	WG659248
Methylene Chloride	mg/l	0.0220	0.000495	.025	86.2	52-130	L633267-01	WG659248
Styrene	mg/l	0.0258	0	.025	103.	58-152	L633267-01	WG659248
Tetrachloroethene	mg/l	0.0226	0	.025	90.4	56-139	L633267-01	WG659248
Toluene	mg/l	0.0229	0	.025	91.6	61-126	L633267-01	WG659248
trans-1,2-Dichloroethene	mg/l	0.0202	0	.025	80.8	45-137	L633267-01	WG659248
trans-1,3-Dichloropropene	mg/l	0.0242	0	.025	97.0	59-130	L633267-01	WG659248
trans-1,4-Dichloro-2-butene	mg/l	0.0249	0	.025	99.4	51-145	L633267-01	WG659248
Trichloroethene	mg/l	0.0222	0	.025	89.0	40-155	L633267-01	WG659248
Trichlorofluoromethane	mg/l	0.0207	0	.025	82.9	35-177	L633267-01	WG659248
Vinyl acetate	mg/l	0.127	0	.125	102.	36-186	L633267-01	WG659248
Vinyl chloride	mg/l	0.0200	0	.025	80.2	32-159	L633267-01	WG659248
Xylenes, Total	mg/l	0.0725	0	.075	96.7	64-133	L633267-01	WG659248
4-Bromofluorobenzene					94.64	82-120		WG659248
Dibromofluoromethane					97.28	82-126		WG659248
Toluene-d8					96.38	92-112		WG659248
a,a,a-Trifluorotoluene					97.11	90-116		WG659248
Mercury	mg/l	0.00367	0.0000428	.003	121.*	80-120	L633425-01	WG659263
TOC (Total Organic Carbon)	mg/l	50.9	3.20	50	95.3	80-120	L633172-03	WG659200
Alkalinity	mg/l	213.	130.	100	83.0	80-120	L633378-02	WG659301
Barium	mg/l	4.20	3.10	1.11	99.1	75-125	L633285-01	WG659289
Calcium	mg/l	219.	210.	11.1	81.1	75-125	L633285-01	WG659289
Chromium	mg/l	1.24	0.000900	1.11	112.	75-125	L633285-01	WG659289
Cobalt	mg/l	1.25	0.00240	1.11	112.	75-125	L633285-01	WG659289
Magnesium	mg/l	178.	170.	11.1	72.1*	75-125	L633285-01	WG659289
Nickel	mg/l	1.12	0.0268	1.11	98.5	75-125	L633285-01	WG659289
Potassium	mg/l	24.4	12.0	11.1	112.	75-125	L633285-01	WG659289
Silver	mg/l	0.0560	0.00121	1.11	4.94*	75-125	L633285-01	WG659289
Sodium	mg/l	377.	370.	11.1	63.1*	75-125	L633285-01	WG659289
Vanadium	mg/l	1.19	0.00160	1.11	107.	75-125	L633285-01	WG659289
Antimony	mg/l	0.0633	0	.0556	114.	75-125	L633155-01	WG659272
Arsenic	mg/l	0.0598	0	.0556	108.	75-125	L633155-01	WG659272
Cadmium	mg/l	0.0597	0	.0556	107.	75-125	L633155-01	WG659272
Copper	mg/l	0.0613	0.000100	.0556	110.	75-125	L633155-01	WG659272
Lead	mg/l	0.0617	0	.0556	111.	75-125	L633155-01	WG659272
Selenium	mg/l	0.0590	0	.0556	106.	75-125	L633155-01	WG659272
Thallium	mg/l	0.0600	0	.0556	108.	75-125	L633155-01	WG659272
Zinc	mg/l	0.0651	0.0000900	.0556	117.	75-125	L633155-01	WG659272
Beryllium	mg/l	0.0544	0.000420	.0556	97.1	75-125	L633155-01	WG659272

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Nitrate	mg/l	5.21	5.33	96.0	80-120	2.28	20	L633245-01	WG659150
* Performance of this Analyte is outside of established criteria. For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'									



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Units	MSD	Matrix Spike	Duplicate	Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
1,1,1,2-Tetrachloroethane	mg/l	0.0244	0.0245	97.4	71-130	0.370	20	L633267-01	WG659248
1,1,1-Trichloroethane	mg/l	0.0233	0.0230	93.0	58-137	1.35	20	L633267-01	WG659248
1,1,2,2-Tetrachloroethane	mg/l	0.0243	0.0240	97.3	64-149	1.34	20	L633267-01	WG659248
1,1,2-Trichloroethane	mg/l	0.0245	0.0241	97.9	73-128	1.39	20	L633267-01	WG659248
1,1-Dichloroethane	mg/l	0.0230	0.0229	92.1	58-133	0.380	20	L633267-01	WG659248
1,1-Dichloroethene	mg/l	0.0203	0.0200	81.2	32-152	1.75	20	L633267-01	WG659248
1,2,3-Trichloropropane	mg/l	0.0258	0.0241	103.	74-137	7.00	20	L633267-01	WG659248
1,2-Dichlorobenzene	mg/l	0.0256	0.0253	102.	75-125	1.07	20	L633267-01	WG659248
1,2-Dichloroethane	mg/l	0.0231	0.0226	92.5	59-135	2.48	20	L633267-01	WG659248
1,2-Dichloropropane	mg/l	0.0234	0.0228	93.4	68-126	2.45	20	L633267-01	WG659248
1,4-Dichlorobenzene	mg/l	0.0248	0.0243	99.2	70-123	2.01	20	L633267-01	WG659248
2-Butanone (MEK)	mg/l	0.141	0.138	113.	51-149	1.77	22	L633267-01	WG659248
2-Hexanone	mg/l	0.149	0.145	119.	58-148	2.62	24	L633267-01	WG659248
4-Methyl-2-pentanone (MIBK)	mg/l	0.134	0.133	107.	53-154	0.440	21	L633267-01	WG659248
Acetone	mg/l	0.130	0.126	102.	34-146	2.89	22	L633267-01	WG659248
Acrylonitrile	mg/l	0.115	0.112	91.9	49-162	2.53	20	L633267-01	WG659248
Benzene	mg/l	0.0224	0.0223	89.6	51-134	0.490	20	L633267-01	WG659248
Bromochloromethane	mg/l	0.0238	0.0231	95.4	67-131	3.22	20	L633267-01	WG659248
Bromodichloromethane	mg/l	0.0235	0.0231	93.9	67-132	1.75	20	L633267-01	WG659248
Bromoform	mg/l	0.0264	0.0263	106.	59-137	0.510	20	L633267-01	WG659248
Bromomethane	mg/l	0.0189	0.0187	75.6	23-177	1.37	21	L633267-01	WG659248
Carbon disulfide	mg/l	0.0178	0.0176	71.1	10-165	1.12	22	L633267-01	WG659248
Carbon tetrachloride	mg/l	0.0233	0.0229	93.4	49-140	1.87	20	L633267-01	WG659248
Chlorobenzene	mg/l	0.0240	0.0240	96.2	69-126	0.260	20	L633267-01	WG659248
Chlorodibromomethane	mg/l	0.0255	0.0251	102.	68-130	1.44	20	L633267-01	WG659248
Chloroethane	mg/l	0.0201	0.0190	80.4	32-177	5.69	21	L633267-01	WG659248
Chloroform	mg/l	0.0237	0.0235	94.9	64-130	0.860	20	L633267-01	WG659248
Chloromethane	mg/l	0.0198	0.0197	79.4	27-155	0.920	20	L633267-01	WG659248
cis-1,2-Dichloroethene	mg/l	0.0228	0.0226	91.3	54-137	1.12	20	L633267-01	WG659248
cis-1,3-Dichloropropene	mg/l	0.0252	0.0244	101.	63-127	3.24	20	L633267-01	WG659248
Dibromomethane	mg/l	0.0245	0.0234	97.9	68-131	4.36	20	L633267-01	WG659248
Ethylbenzene	mg/l	0.0241	0.0241	96.5	64-135	0.0500	20	L633267-01	WG659248
Iodomethane	mg/l	0.0950	0.0943	76.0	38-149	0.750	20	L633267-01	WG659248
Methylene Chloride	mg/l	0.0222	0.0220	86.9	52-130	0.800	20	L633267-01	WG659248
Styrene	mg/l	0.0263	0.0258	105.	58-152	1.69	20	L633267-01	WG659248
Tetrachloroethene	mg/l	0.0226	0.0226	90.2	56-139	0.180	20	L633267-01	WG659248
Toluene	mg/l	0.0233	0.0229	93.2	61-126	1.76	20	L633267-01	WG659248
trans-1,2-Dichloroethene	mg/l	0.0199	0.0202	79.5	45-137	1.53	20	L633267-01	WG659248
trans-1,3-Dichloropropene	mg/l	0.0256	0.0242	102.	59-130	5.62	20	L633267-01	WG659248
trans-1,4-Dichloro-2-butene	mg/l	0.0251	0.0249	100.	51-145	0.840	24	L633267-01	WG659248
Trichloroethene	mg/l	0.0229	0.0222	91.4	40-155	2.74	20	L633267-01	WG659248
Trichlorofluoromethane	mg/l	0.0206	0.0207	82.6	35-177	0.460	23	L633267-01	WG659248
Vinyl acetate	mg/l	0.128	0.127	103.	36-186	0.820	20	L633267-01	WG659248
Vinyl chloride	mg/l	0.0206	0.0200	82.2	32-159	2.52	21	L633267-01	WG659248
Xylenes, Total	mg/l	0.0722	0.0725	96.3	64-133	0.400	20	L633267-01	WG659248
4-Bromofluorobenzene				93.25	82-120				WG659248
Dibromofluoromethane				96.41	82-126				WG659248
Toluene-d8				97.81	92-112				WG659248
a,a,a-Trifluorotoluene				98.97	90-116				WG659248
Mercury	mg/l	0.00352	0.00367	58.0*	80-120	4.23	20	L633425-01	WG659263
TOC (Total Organic Carbon)	mg/l	52.0	50.9	97.6	80-120	2.22	20	L633172-03	WG659200
Alkalinity	mg/l	214.	213.	84.0	80-120	0.468	20	L633378-02	WG659301

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Barium	mg/l	4.14	4.20	93.7	75-125	1.44	20	L633285-01	WG659289
Calcium	mg/l	214.	219.	36.0*	75-125	2.31	20	L633285-01	WG659289
Chromium	mg/l	1.25	1.24	112.	75-125	0.803	20	L633285-01	WG659289
Cobalt	mg/l	1.25	1.25	112.	75-125	0	20	L633285-01	WG659289
Magnesium	mg/l	174.	178.	36.0*	75-125	2.27	20	L633285-01	WG659289
Nickel	mg/l	1.12	1.12	98.5	75-125	0	20	L633285-01	WG659289
Potassium	mg/l	24.1	24.4	109.	75-125	1.24	20	L633285-01	WG659289
Silver	mg/l	0.0540	0.0560	4.76*	75-125	3.64	20	L633285-01	WG659289
Sodium	mg/l	367.	377.	0*	75-125	2.69	20	L633285-01	WG659289
Vanadium	mg/l	1.19	1.19	107.	75-125	0	20	L633285-01	WG659289
Antimony	mg/l	0.0623	0.0633	112.	75-125	1.59	20	L633155-01	WG659272
Arsenic	mg/l	0.0594	0.0598	107.	75-125	0.671	20	L633155-01	WG659272
Cadmium	mg/l	0.0605	0.0597	109.	75-125	1.33	20	L633155-01	WG659272
Copper	mg/l	0.0618	0.0613	111.	75-125	0.812	20	L633155-01	WG659272
Lead	mg/l	0.0607	0.0617	109.	75-125	1.63	20	L633155-01	WG659272
Selenium	mg/l	0.0582	0.0590	105.	75-125	1.37	20	L633155-01	WG659272
Thallium	mg/l	0.0591	0.0600	106.	75-125	1.51	20	L633155-01	WG659272
Zinc	mg/l	0.0667	0.0651	120.	75-125	2.43	20	L633155-01	WG659272
Beryllium	mg/l	0.0530	0.0544	94.6	75-125	2.61	20	L633155-01	WG659272

Serial Dilution

Batch number /Run number / Sample number cross reference

WG659150: R2649100: L633267-01 02 03
WG659248: R2649684: L633267-01 02 03
WG659158: R2649864: L633267-01 02 03
WG659263: R2650301: L633267-01 02 03
WG659183: R2650320: L633267-01 02 03
WG659200: R2650680: L633267-01 02 03
WG659591: R2653243: L633267-03
WG659301: R2653560: L633267-01 02 03
WG659302: R2653580: L633267-01 02 03
WG659304: R2653600: L633267-01 02 03
WG659289: R2657140: L633267-01 02 03
WG659272: R2664342: L633267-01 02 03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L633267

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 13, 2013

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address Molen & Associates, LLC 2090 East 104th Ave Suite 205 Thorton. CO 80223				Alternate Billing Report to: Mark Molen E-mail to: molenassociates@gmail.com				Analysis/Container/Preservative Mg, Na, K, Ca + AP1 Metals - 500ml HDPE w/HN03 ✓ CARB, BICARB: ALK - 1L HDPE No Pres Nitrate, Nitrite, Sulfate, Chloride - 500ml HDPE No Pres SPCON, pH - 250ml HDPE No Pres TOC - 250ml Amb w/HCl ✓ V8260AP1 - (3)40ml No Pres						Chain of Custody Page 1 of 1	
Project Description: Broda AI Inert Fill								Prepared by: ENVIRONMENTAL Science corp 12065 Lebanon Road Mt. Juliet TN 37122 Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859 CoCode (lab use only) MOLENTCO Template/Prelogin Shipped Via: Denver Service Center							
PHONE 303.450.1600		Client Project No. 10-0133		Lab Project #											
FAX 303.452.4515															
Collected by: MARK A MOLEN		Site/Facility ID# Broda AI		P O #											
Collected by (signature):		Rush? (Lab MUST be Notified) ☐ Same Day... 200% ☐ Next Day... 100% ☐ Two Day... 50%		Date Results Needed		No									
Packed on Ice ☒				Email? ☐ No ☐ Yes		FAX? ☐ No ☐ Yes									
Sample ID	Comp/Grab	Matrix	Depth	Date	Time	Cntrs						Remarks/contaminant	Sample # (lab only)		
MW-1	Grab	gw		4/30/13	1015	8	X	X	X	X	X	1633267	-01		
MW-2	Grab	gw		↓	1045	8	X	X	X	X	X		-02		
MW-3	Grab	gw		↓	1130	8	X	X	X	X	X		-03		

Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other _____

pH _____ Temp _____

Remarks:

Relinquisher by (Signature):		Date: 4/30/13		Time: 1600		Received by (Signature):		Samples returned via: FedEx ☒ UPS ☐ Other _____		Condition: JF (lab use only)	
Relinquisher by (Signature):		Date:		Time:		Received by (Signature):		Temp: 3.8		Bottles Received: 24	
Relinquisher by (Signature):		Date:		Time:		Received for lab by (Signature):		Date: 5-1-13		Time: 0900	
								pH Checked: ✓		NCF:	



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Report Summary

Tuesday December 10, 2013

Report Number: L670956

Samples Received: 11/27/13

Client Project: 10-0133

Description: Broda AI Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/B10041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

ESC Sample # : L670956-01

Sample ID : MW-1

Site ID : BRODA AI

Collected By : Mark A Molen
Collection Date : 11/26/13 12:25

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	2.0	mg/l	9056	11/27/13	2
Nitrate	3.3	0.10	mg/l	9056	11/27/13	1
Nitrite	BDL	0.10	mg/l	9056	11/27/13	1
Sulfate	160	10.	mg/l	9056	11/27/13	2
Alkalinity	170	20.	mg/l	2320 B-2011	12/02/13	1
Alkalinity,Bicarbonate	170	20.	mg/l	2320 B-2011	12/03/13	1
Alkalinity,Carbonate	BDL	20.	mg/l	2320 B-2011	12/03/13	1
pH	7.8		su	9040C	12/03/13	1
Specific Conductance	1000		umhos/cm	9050A	12/03/13	1
TOC (Total Organic Carbon)	2.6	1.0	mg/l	9060A	12/07/13	1
Antimony	BDL	0.0010	mg/l	6020	12/04/13	1
Arsenic	0.0012	0.0010	mg/l	6020	12/04/13	1
Beryllium	BDL	0.0010	mg/l	6020	12/04/13	1
Cadmium	0.00069	0.00050	mg/l	6020	12/04/13	1
Copper	0.0094	0.0020	mg/l	6020	12/04/13	1
Lead	0.0023	0.0010	mg/l	6020	12/04/13	1
Selenium	0.0033	0.0010	mg/l	6020	12/04/13	1
Thallium	BDL	0.0010	mg/l	6020	12/04/13	1
Zinc	0.011	0.010	mg/l	6020	12/04/13	1
Mercury	BDL	0.00020	mg/l	7470A	12/02/13	1
Barium	0.072	0.0050	mg/l	6010B	11/30/13	1
Calcium	60.	0.50	mg/l	6010B	11/30/13	1
Chromium	BDL	0.010	mg/l	6010B	11/30/13	1
Cobalt	BDL	0.010	mg/l	6010B	11/30/13	1
Magnesium	21.	0.10	mg/l	6010B	11/30/13	1
Nickel	BDL	0.020	mg/l	6010B	11/30/13	1
Potassium	8.6	0.50	mg/l	6010B	11/30/13	1
Silver	BDL	0.010	mg/l	6010B	11/30/13	1
Sodium	120	0.50	mg/l	6010B	11/30/13	1
Vanadium	BDL	0.010	mg/l	6010B	11/30/13	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	11/28/13	1
Acrylonitrile	BDL	0.010	mg/l	8260B	11/28/13	1
Benzene	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L670956-01 (PH) - 7.8@19.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

ESC Sample # : L670956-01

Sample ID : MW-1

Site ID : BRODA AI

Collected By : Mark A Molen
Collection Date : 11/26/13 12:25

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromomethane	BDL	0.0050	mg/l	8260B	11/28/13	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	11/28/13	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/28/13	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Chloroethane	BDL	0.0050	mg/l	8260B	11/28/13	1
Chloroform	BDL	0.0050	mg/l	8260B	11/28/13	1
Chloromethane	BDL	0.0025	mg/l	8260B	11/28/13	1
Dibromomethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	11/28/13	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/28/13	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/28/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
2-Hexanone	BDL	0.010	mg/l	8260B	11/28/13	1
Iodomethane	BDL	0.010	mg/l	8260B	11/28/13	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	11/28/13	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/28/13	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	11/28/13	1
Styrene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Tetrachloroethene	0.0056	0.0010	mg/l	8260B	11/28/13	1
Toluene	BDL	0.0050	mg/l	8260B	11/28/13	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	11/28/13	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	11/28/13	1
Vinyl acetate	BDL	0.010	mg/l	8260B	11/28/13	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	11/28/13	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	11/28/13	1
Surrogate Recovery						
Toluene-d8	99.7		% Rec.	8260B	11/28/13	1
Dibromofluoromethane	97.7		% Rec.	8260B	11/28/13	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L670956-01 (PH) - 7.8@19.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859
Tax I.D. 62-0814289
Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill
Sample ID : MW-1
Collected By : Mark A Molen
Collection Date : 11/26/13 12:25

ESC Sample # : L670956-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	97.1		% Rec.	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
Note:
The reported analytical results relate only to the sample submitted.
This report shall not be reproduced, except in full, without the written approval from ESC.
Reported: 12/10/13 14:52 Printed: 12/10/13 14:53
L670956-01 (PH) - 7.8@19.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark A Molen
Collection Date : 11/26/13 12:55

ESC Sample # : L670956-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	180	5.0	mg/l	9056	11/27/13	5
Nitrate	BDL	0.10	mg/l	9056	11/27/13	1
Nitrite	BDL	0.10	mg/l	9056	11/27/13	1
Sulfate	270	25.	mg/l	9056	11/27/13	5
Alkalinity	150	20.	mg/l	2320 B-2011	12/02/13	1
Alkalinity, Bicarbonate	150	20.	mg/l	2320 B-2011	12/03/13	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320 B-2011	12/03/13	1
pH	7.6		su	9040C	12/03/13	1
Specific Conductance	1500		umhos/cm	9050A	12/03/13	1
TOC (Total Organic Carbon)	5.6	1.0	mg/l	9060A	12/07/13	1
Antimony	BDL	0.0010	mg/l	6020	12/04/13	1
Arsenic	0.014	0.0010	mg/l	6020	12/04/13	1
Beryllium	BDL	0.0010	mg/l	6020	12/04/13	1
Cadmium	BDL	0.00050	mg/l	6020	12/04/13	1
Copper	0.0056	0.0020	mg/l	6020	12/04/13	1
Lead	0.0019	0.0010	mg/l	6020	12/04/13	1
Selenium	0.0036	0.0010	mg/l	6020	12/04/13	1
Thallium	BDL	0.0010	mg/l	6020	12/04/13	1
Zinc	BDL	0.010	mg/l	6020	12/04/13	1
Mercury	BDL	0.00020	mg/l	7470A	12/02/13	1
Barium	0.31	0.0050	mg/l	6010B	11/30/13	1
Calcium	71.	0.50	mg/l	6010B	11/30/13	1
Chromium	BDL	0.010	mg/l	6010B	11/30/13	1
Cobalt	BDL	0.010	mg/l	6010B	11/30/13	1
Magnesium	20.	0.10	mg/l	6010B	11/30/13	1
Nickel	BDL	0.020	mg/l	6010B	11/30/13	1
Potassium	10.	0.50	mg/l	6010B	11/30/13	1
Silver	BDL	0.010	mg/l	6010B	11/30/13	1
Sodium	200	0.50	mg/l	6010B	11/30/13	1
Vanadium	BDL	0.010	mg/l	6010B	11/30/13	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	11/28/13	1
Acrylonitrile	BDL	0.010	mg/l	8260B	11/28/13	1
Benzene	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L670956-02 (PH) - 7.6@19.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

ESC Sample # : L670956-02

Sample ID : MW-2

Site ID : BRODA AI

Collected By : Mark A Molen
Collection Date : 11/26/13 12:55

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromomethane	BDL	0.0050	mg/l	8260B	11/28/13	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	11/28/13	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/28/13	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Chloroethane	BDL	0.0050	mg/l	8260B	11/28/13	1
Chloroform	BDL	0.0050	mg/l	8260B	11/28/13	1
Chloromethane	BDL	0.0025	mg/l	8260B	11/28/13	1
Dibromomethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	11/28/13	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/28/13	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/28/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
2-Hexanone	BDL	0.010	mg/l	8260B	11/28/13	1
Iodomethane	BDL	0.010	mg/l	8260B	11/28/13	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	11/28/13	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/28/13	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	11/28/13	1
Styrene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	11/29/13	1
Toluene	BDL	0.0050	mg/l	8260B	11/28/13	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	11/29/13	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	11/28/13	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	11/28/13	1
Vinyl acetate	BDL	0.010	mg/l	8260B	11/28/13	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	11/28/13	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	11/28/13	1
Surrogate Recovery						
Toluene-d8	99.2		% Rec.	8260B	11/28/13	1
Dibromofluoromethane	96.1		% Rec.	8260B	11/28/13	1
a,a,a-Trifluorotoluene	105.		% Rec.	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L670956-02 (PH) - 7.6@19.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark A Molen
Collection Date : 11/26/13 12:55

ESC Sample # : L670956-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	98.3		% Rec.	8260B	11/28/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 12/10/13 14:52 Printed: 12/10/13 14:53
L670956-02 (PH) - 7.6@19.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

ESC Sample # : L670956-03

Sample ID : MW-3

Site ID : BRODA AI

Collected By : Mark A Molen
Collection Date : 11/26/13 13:30

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	2.0	mg/l	9056	11/27/13	2
Nitrate	17.	0.20	mg/l	9056	11/27/13	2
Nitrite	BDL	0.10	mg/l	9056	11/27/13	1
Sulfate	120	10.	mg/l	9056	11/27/13	2
Sulfate	BDL	5.0	mg/l	9056	11/27/13	2
Alkalinity	160	20.	mg/l	2320 B-2011	12/02/13	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320 B-2011	12/03/13	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320 B-2011	12/03/13	1
pH	7.3		su	9040C	12/03/13	1
Specific Conductance	1100		umhos/cm	9050A	12/03/13	1
TOC (Total Organic Carbon)	2.1	1.0	mg/l	9060A	12/07/13	1
Antimony	BDL	0.0010	mg/l	6020	12/04/13	1
Arsenic	0.0011	0.0010	mg/l	6020	12/04/13	1
Beryllium	BDL	0.0010	mg/l	6020	12/04/13	1
Cadmium	BDL	0.00050	mg/l	6020	12/04/13	1
Copper	0.0066	0.0020	mg/l	6020	12/04/13	1
Lead	0.0041	0.0010	mg/l	6020	12/04/13	1
Selenium	0.0041	0.0010	mg/l	6020	12/04/13	1
Thallium	BDL	0.0010	mg/l	6020	12/04/13	1
Zinc	0.013	0.010	mg/l	6020	12/04/13	1
Mercury	BDL	0.00020	mg/l	7470A	12/02/13	1
Barium	0.090	0.0050	mg/l	6010B	11/30/13	1
Calcium	77.	0.50	mg/l	6010B	11/30/13	1
Chromium	BDL	0.010	mg/l	6010B	11/30/13	1
Cobalt	BDL	0.010	mg/l	6010B	11/30/13	1
Magnesium	18.	0.10	mg/l	6010B	11/30/13	1
Nickel	BDL	0.020	mg/l	6010B	11/30/13	1
Potassium	12.	0.50	mg/l	6010B	11/30/13	1
Silver	BDL	0.010	mg/l	6010B	11/30/13	1
Sodium	100	0.50	mg/l	6010B	11/30/13	1
Vanadium	BDL	0.010	mg/l	6010B	11/30/13	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	11/28/13	1
Acrylonitrile	BDL	0.010	mg/l	8260B	11/28/13	1
Benzene	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L670956-03 (PH) - 7.3@18.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

ESC Sample # : L670956-03

Sample ID : MW-3

Site ID : BRODA AI

Collected By : Mark A Molen
Collection Date : 11/26/13 13:30

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromodichloromethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromoform	BDL	0.0010	mg/l	8260B	11/28/13	1
Bromomethane	BDL	0.0050	mg/l	8260B	11/28/13	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	11/28/13	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	11/28/13	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Chloroethane	BDL	0.0050	mg/l	8260B	11/28/13	1
Chloroform	BDL	0.0050	mg/l	8260B	11/28/13	1
Chloromethane	BDL	0.0025	mg/l	8260B	11/28/13	1
Dibromomethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	11/28/13	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	11/28/13	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/28/13	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	11/28/13	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	11/28/13	1
2-Hexanone	BDL	0.010	mg/l	8260B	11/28/13	1
Iodomethane	BDL	0.010	mg/l	8260B	11/28/13	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	11/28/13	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	11/28/13	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	11/28/13	1
Styrene	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	11/29/13	1
Toluene	BDL	0.0050	mg/l	8260B	11/28/13	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	11/28/13	1
Trichloroethene	BDL	0.0010	mg/l	8260B	11/28/13	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	11/28/13	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	11/28/13	1
Vinyl acetate	BDL	0.010	mg/l	8260B	11/28/13	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	11/28/13	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	11/28/13	1
Surrogate Recovery						
Toluene-d8	96.7		% Rec.	8260B	11/28/13	1
Dibromofluoromethane	93.7		% Rec.	8260B	11/28/13	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L670956-03 (PH) - 7.3@18.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80233

December 10, 2013

Date Received : November 27, 2013
Description : Broda AI Inert Fill

Sample ID : MW-3

Collected By : Mark A Molen
Collection Date : 11/26/13 13:30

ESC Sample # : L670956-03

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	11/28/13	1
4-Bromofluorobenzene	95.0		% Rec.	8260B	11/28/13	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 12/10/13 14:52 Printed: 12/10/13 14:53
L670956-03 (PH) - 7.3@18.9c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L670956-01	WG695178	SAMP	pH	R2862114	T8
	WG694744	SAMP	Acetone	R2860866	J5
	WG694744	SAMP	Tetrachloroethene	R2860866	J5J3
L670956-02	WG695178	SAMP	pH	R2862114	T8
L670956-03	WG695178	SAMP	pH	R2862114	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
12/10/13 at 14:53:10

TSR Signing Reports: 288
R5 - Desired TAT

Do Not report Hg on East Regional Landfill-GW Monitoring ONLY report Hg on the ERLF-Leachate sample. Put all East Regional LF samples on same L#, MW-1 through MW-4 and CMW-1

Sample: L670956-01 Account: MOLENTCO Received: 11/27/13 09:30 Due Date: 12/09/13 00:00 RPT Date: 12/10/13 14:52

Sample: L670956-02 Account: MOLENTCO Received: 11/27/13 09:30 Due Date: 12/09/13 00:00 RPT Date: 12/10/13 14:52

Sample: L670956-03 Account: MOLENTCO Received: 11/27/13 09:30 Due Date: 12/09/13 00:00 RPT Date: 12/10/13 14:52



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Chloride	< 1	mg/l			WG694641	11/27/13 07:24
Nitrate	< .1	mg/l			WG694641	11/27/13 07:24
Nitrite	< .1	mg/l			WG694641	11/27/13 07:24
Sulfate	< 5	mg/l			WG694641	11/27/13 07:24
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG694744	11/27/13 23:32
1,1,1-Trichloroethane	< .001	mg/l			WG694744	11/27/13 23:32
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG694744	11/27/13 23:32
1,1,2-Trichloroethane	< .001	mg/l			WG694744	11/27/13 23:32
1,1-Dichloroethane	< .001	mg/l			WG694744	11/27/13 23:32
1,1-Dichloroethene	< .001	mg/l			WG694744	11/27/13 23:32
1,2,3-Trichloropropane	< .001	mg/l			WG694744	11/27/13 23:32
1,2-Dichlorobenzene	< .001	mg/l			WG694744	11/27/13 23:32
1,2-Dichloroethane	< .001	mg/l			WG694744	11/27/13 23:32
1,2-Dichloropropane	< .001	mg/l			WG694744	11/27/13 23:32
1,4-Dichlorobenzene	< .001	mg/l			WG694744	11/27/13 23:32
2-Butanone (MEK)	< .01	mg/l			WG694744	11/27/13 23:32
2-Hexanone	< .01	mg/l			WG694744	11/27/13 23:32
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG694744	11/27/13 23:32
Acetone	< .05	mg/l			WG694744	11/27/13 23:32
Acrylonitrile	< .01	mg/l			WG694744	11/27/13 23:32
Benzene	< .001	mg/l			WG694744	11/27/13 23:32
Bromochloromethane	< .001	mg/l			WG694744	11/27/13 23:32
Bromodichloromethane	< .001	mg/l			WG694744	11/27/13 23:32
Bromoform	< .001	mg/l			WG694744	11/27/13 23:32
Bromomethane	< .005	mg/l			WG694744	11/27/13 23:32
Carbon disulfide	< .001	mg/l			WG694744	11/27/13 23:32
Carbon tetrachloride	< .001	mg/l			WG694744	11/27/13 23:32
Chlorobenzene	< .001	mg/l			WG694744	11/27/13 23:32
Chlorodibromomethane	< .001	mg/l			WG694744	11/27/13 23:32
Chloroethane	< .005	mg/l			WG694744	11/27/13 23:32
Chloroform	< .005	mg/l			WG694744	11/27/13 23:32
Chloromethane	< .0025	mg/l			WG694744	11/27/13 23:32
cis-1,2-Dichloroethene	< .001	mg/l			WG694744	11/27/13 23:32
cis-1,3-Dichloropropene	< .001	mg/l			WG694744	11/27/13 23:32
Dibromomethane	< .001	mg/l			WG694744	11/27/13 23:32
Ethylbenzene	< .001	mg/l			WG694744	11/27/13 23:32
Iodomethane	< .01	mg/l			WG694744	11/27/13 23:32
Methylene Chloride	< .005	mg/l			WG694744	11/27/13 23:32
Styrene	< .001	mg/l			WG694744	11/27/13 23:32
Tetrachloroethene	< .001	mg/l			WG694744	11/27/13 23:32
Toluene	< .005	mg/l			WG694744	11/27/13 23:32
trans-1,2-Dichloroethene	< .001	mg/l			WG694744	11/27/13 23:32
trans-1,3-Dichloropropene	< .001	mg/l			WG694744	11/27/13 23:32
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG694744	11/27/13 23:32
Trichloroethene	< .001	mg/l			WG694744	11/27/13 23:32
Trichlorofluoromethane	< .005	mg/l			WG694744	11/27/13 23:32
Vinyl acetate	< .01	mg/l			WG694744	11/27/13 23:32
Vinyl chloride	< .001	mg/l			WG694744	11/27/13 23:32
Xylenes, Total	< .003	mg/l			WG694744	11/27/13 23:32
4-Bromofluorobenzene		% Rec.	100.0	71-126	WG694744	11/27/13 23:32
Dibromofluoromethane		% Rec.	93.70	78.3-121	WG694744	11/27/13 23:32
Toluene-d8		% Rec.	102.0	88.5-111	WG694744	11/27/13 23:32
a,a,a-Trifluorotoluene		% Rec.	105.0	85-114	WG694744	11/27/13 23:32
1,1,1-Trichloroethane	< .001	mg/l			WG694874	11/29/13 11:34
Tetrachloroethene	< .001	mg/l			WG694874	11/29/13 11:34

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
4-Bromofluorobenzene		% Rec.	106.0	71-126		11/29/13 11:34
Dibromofluoromethane		% Rec.	97.30	78.3-121		11/29/13 11:34
Toluene-d8		% Rec.	104.0	88.5-111		11/29/13 11:34
a,a,a-Trifluorotoluene		% Rec.	102.0	85-114		11/29/13 11:34
Barium	< .005	mg/l			WG694739	11/30/13 15:53
Calcium	< .5	mg/l			WG694739	11/30/13 15:53
Chromium	< .01	mg/l			WG694739	11/30/13 15:53
Cobalt	< .01	mg/l			WG694739	11/30/13 15:53
Magnesium	< .1	mg/l			WG694739	11/30/13 15:53
Nickel	< .02	mg/l			WG694739	11/30/13 15:53
Potassium	< .5	mg/l			WG694739	11/30/13 15:53
Silver	< .01	mg/l			WG694739	11/30/13 15:53
Sodium	< .5	mg/l			WG694739	11/30/13 15:53
Vanadium	< .01	mg/l			WG694739	11/30/13 15:53
Mercury	< .0002	mg/l			WG694683	12/02/13 13:34
Alkalinity	< 20	mg/l			WG695042	12/02/13 16:27
Specific Conductance	0.900	umhos/cm			WG695206	12/03/13 17:40
Antimony	< .001	mg/l			WG694798	12/04/13 17:51
Arsenic	< .001	mg/l			WG694798	12/04/13 03:58
Beryllium	< .001	mg/l			WG694798	12/04/13 03:58
Cadmium	< .0005	mg/l			WG694798	12/04/13 03:58
Copper	< .002	mg/l			WG694798	12/04/13 03:58
Lead	< .001	mg/l			WG694798	12/04/13 03:58
Selenium	< .001	mg/l			WG694798	12/04/13 03:58
Thallium	< .001	mg/l			WG694798	12/04/13 03:58
Zinc	< .01	mg/l			WG694798	12/04/13 03:58
TOC (Total Organic Carbon)	< 1	mg/l			WG695604	12/07/13 15:20

Analyte	Units	Result	Duplicate		Limit	Ref Samp	Batch
			Duplicate	RPD			
Nitrate	mg/l	0.830	0.770	7.50	20	L670896-01	WG694641
Chloride	mg/l	4.20	4.10	2.41	20	L670950-05	WG694641
Barium	mg/l	0.0140	0.0136	5.00	20	L670937-01	WG694739
Calcium	mg/l	51.0	50.4	2.00	20	L670937-01	WG694739
Chromium	mg/l	0.0	0.0000725	395.*	20	L670937-01	WG694739
Cobalt	mg/l	0.0	0.00768	4.00	20	L670937-01	WG694739
Magnesium	mg/l	50.0	48.5	2.00	20	L670937-01	WG694739
Nickel	mg/l	0.0	0.00419	11.0	20	L670937-01	WG694739
Potassium	mg/l	1.60	1.65	0.0	20	L670937-01	WG694739
Silver	mg/l	0.0	-0.000413	343.*	20	L670937-01	WG694739
Sodium	mg/l	9.60	9.38	2.00	20	L670937-01	WG694739
Vanadium	mg/l	0.0	-0.000400	1820*	20	L670937-01	WG694739
Mercury	mg/l	0.0	0.0000126	16.0	20	L670629-07	WG694683

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Alkalinity	mg/l	0.0	0.0	0.0	20	L670499-02	WG695042
Alkalinity	mg/l	200.	190.	3.11	20	L670789-01	WG695042
pH	su	8.70	8.80	0.684	1	L670726-01	WG695178
pH	su	11.0	11.0	3.57*	1	L671199-01	WG695178
Specific Conductance	umhos/cm	2700	2700	1.49	20	L670900-01	WG695206
Antimony	mg/l	0.0	0.000210	NA	20	L670600-20	WG694798
Arsenic	mg/l	0.00170	0.00160	6.06	20	L670600-20	WG694798
Beryllium	mg/l	0.0	0.0	0.0	20	L670600-20	WG694798
Cadmium	mg/l	0.0	0.0	0.0	20	L670600-20	WG694798
Copper	mg/l	0.0	0.00103	NA	20	L670600-20	WG694798
Lead	mg/l	0.0	0.000100	NA	20	L670600-20	WG694798
Selenium	mg/l	0.0	0.0	0.0	20	L670600-20	WG694798
Thallium	mg/l	0.0	0.0	0.0	20	L670600-20	WG694798
Zinc	mg/l	0.0	0.00276	NA	20	L670600-20	WG694798
TOC (Total Organic Carbon)	mg/l	5.70	5.60	1.77	20	L670956-02	WG695604
TOC (Total Organic Carbon)	mg/l	3.81	3.60	5.67	20	L671222-01	WG695604

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloride	mg/l	40	40.1	100.	90-110	WG694641
Nitrate	mg/l	8	8.14	102.	90-110	WG694641
Nitrite	mg/l	8	7.93	99.1	90-110	WG694641
Sulfate	mg/l	40	39.8	99.5	90-110	WG694641
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0250	100.	74.2-124	WG694744
1,1,1-Trichloroethane	mg/l	.025	0.0237	94.8	73.2-123	WG694744
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0232	92.7	70.7-122	WG694744
1,1,2-Trichloroethane	mg/l	.025	0.0256	103.	77.7-118	WG694744
1,1-Dichloroethane	mg/l	.025	0.0240	96.1	70.7-126	WG694744
1,1-Dichloroethene	mg/l	.025	0.0236	94.5	67.8-129	WG694744
1,2,3-Trichloropropane	mg/l	.025	0.0244	97.6	71.8-121	WG694744
1,2-Dichlorobenzene	mg/l	.025	0.0240	96.0	78.4-117	WG694744
1,2-Dichloroethane	mg/l	.025	0.0237	94.7	68.8-124	WG694744
1,2-Dichloropropane	mg/l	.025	0.0240	96.0	76.5-119	WG694744
1,4-Dichlorobenzene	mg/l	.025	0.0244	97.6	78.8-115	WG694744
2-Butanone (MEK)	mg/l	.125	0.121	97.0	55-149	WG694744
2-Hexanone	mg/l	.125	0.128	102.	65.6-144	WG694744
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.129	103.	70.5-133	WG694744
Acetone	mg/l	.125	0.124	99.3	35.6-163	WG694744
Acrylonitrile	mg/l	.125	0.123	98.4	55.2-130	WG694744
Benzene	mg/l	.025	0.0240	96.0	74.8-121	WG694744
Bromochloromethane	mg/l	.025	0.0247	98.7	77.6-119	WG694744
Bromodichloromethane	mg/l	.025	0.0235	94.0	75.1-116	WG694744
Bromoform	mg/l	.025	0.0261	104.	67.5-130	WG694744
Bromomethane	mg/l	.025	0.0238	95.3	49.9-162	WG694744
Carbon disulfide	mg/l	.025	0.0240	96.1	64.6-140	WG694744
Carbon tetrachloride	mg/l	.025	0.0238	95.0	70.2-123	WG694744
Chlorobenzene	mg/l	.025	0.0252	101.	78.1-119	WG694744

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chlorodibromomethane	mg/l	.025	0.0249	99.7	74-121	WG694744
Chloroethane	mg/l	.025	0.0231	92.6	61.7-135	WG694744
Chloroform	mg/l	.025	0.0241	96.3	76-121	WG694744
Chloromethane	mg/l	.025	0.0223	89.3	61.5-129	WG694744
cis-1,2-Dichloroethene	mg/l	.025	0.0239	95.8	76-119	WG694744
cis-1,3-Dichloropropene	mg/l	.025	0.0258	103.	78.2-120	WG694744
Dibromomethane	mg/l	.025	0.0248	99.1	79.5-118	WG694744
Ethylbenzene	mg/l	.025	0.0244	97.6	78.8-122	WG694744
Iodomethane	mg/l	.125	0.120	96.3	61-130	WG694744
Methylene Chloride	mg/l	.025	0.0226	90.3	70.3-120	WG694744
Styrene	mg/l	.025	0.0267	107.	80.4-126	WG694744
Tetrachloroethene	mg/l	.025	0.0252	101.	72.6-126	WG694744
Toluene	mg/l	.025	0.0247	98.9	79.7-116	WG694744
trans-1,2-Dichloroethene	mg/l	.025	0.0243	97.2	72.6-121	WG694744
trans-1,3-Dichloropropene	mg/l	.025	0.0254	102.	74.3-123	WG694744
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0207	82.7	65.1-123	WG694744
Trichloroethene	mg/l	.025	0.0248	99.2	77.7-118	WG694744
Trichlorofluoromethane	mg/l	.025	0.0233	93.3	63.5-135	WG694744
Vinyl acetate	mg/l	.125	0.121	96.5	65-138	WG694744
Vinyl chloride	mg/l	.025	0.0226	90.5	65.9-128	WG694744
Xylenes, Total	mg/l	.075	0.0746	99.5	78.7-121	WG694744
4-Bromofluorobenzene				95.40	71-126	WG694744
Dibromofluoromethane				96.60	78.3-121	WG694744
Toluene-d8				101.0	88.5-111	WG694744
a,a,a-Trifluorotoluene				102.0	85-114	WG694744
1,1,1-Trichloroethane	mg/l	.025	0.0273	109.	73.2-123	WG694874
Tetrachloroethene	mg/l	.025	0.0271	109.	72.6-126	WG694874
4-Bromofluorobenzene				102.0	71-126	WG694874
Dibromofluoromethane				98.10	78.3-121	WG694874
Toluene-d8				101.0	88.5-111	WG694874
a,a,a-Trifluorotoluene				107.0	85-114	WG694874
Barium	mg/l	1	1.01	101.	85-115	WG694739
Calcium	mg/l	10	9.77	98.0	85-115	WG694739
Chromium	mg/l	1	1.02	102.	85-115	WG694739
Cobalt	mg/l	1	1.02	102.	85-115	WG694739
Magnesium	mg/l	10	10.6	106.	85-115	WG694739
Nickel	mg/l	1	0.962	96.0	85-115	WG694739
Potassium	mg/l	10	9.94	99.0	85-115	WG694739
Silver	mg/l	1	1.00	100.	85-115	WG694739
Sodium	mg/l	10	10.1	101.	85-115	WG694739
Vanadium	mg/l	1	1.05	105.	85-115	WG694739
Mercury	mg/l	.003	0.00296	99.0	85-115	WG694683
Alkalinity	mg/l	100	100.	100.	85-115	WG695042
pH	su	5.93	6.00	101.	98.3-101.7	WG695178
Specific Conductance	umhos/cm	510	510.	100.	85-115	WG695206

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Antimony	mg/l	.05	0.0500	100.	85-115	WG694798
Arsenic	mg/l	.05	0.0492	98.4	85-115	WG694798
Beryllium	mg/l	.05	0.0532	106.	85-115	WG694798
Cadmium	mg/l	.05	0.0503	101.	85-115	WG694798
Copper	mg/l	.05	0.0544	109.	85-115	WG694798
Lead	mg/l	.05	0.0555	111.	85-115	WG694798
Selenium	mg/l	.05	0.0525	105.	85-115	WG694798
Thallium	mg/l	.05	0.0558	112.	85-115	WG694798
Zinc	mg/l	.05	0.0538	108.	85-115	WG694798
TOC (Total Organic Carbon)	mg/l	75	75.2	100.	85-115	WG695604

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Chloride	mg/l	40.2	40.1	100.	90-110	0.249	20	WG694641
Nitrate	mg/l	8.16	8.14	102.	90-110	0.245	20	WG694641
Nitrite	mg/l	8.01	7.93	100.	90-110	1.00	20	WG694641
Sulfate	mg/l	39.8	39.8	100.	90-110	0.0	20	WG694641

1,1,1,2-Tetrachloroethane	mg/l	0.0248	0.0250	99.0	74.2-124	0.880	20	WG694744
1,1,1-Trichloroethane	mg/l	0.0225	0.0237	90.0	73.2-123	5.23	20	WG694744
1,1,2,2-Tetrachloroethane	mg/l	0.0226	0.0232	90.0	70.7-122	2.43	20	WG694744
1,1,2-Trichloroethane	mg/l	0.0252	0.0256	101.	77.7-118	1.83	20	WG694744
1,1-Dichloroethane	mg/l	0.0230	0.0240	92.0	70.7-126	4.50	20	WG694744
1,1-Dichloroethene	mg/l	0.0230	0.0236	92.0	67.8-129	2.74	20	WG694744
1,2,3-Trichloropropane	mg/l	0.0237	0.0244	95.0	71.8-121	2.72	20	WG694744
1,2-Dichlorobenzene	mg/l	0.0242	0.0240	97.0	78.4-117	0.810	20	WG694744
1,2-Dichloroethane	mg/l	0.0225	0.0237	90.0	68.8-124	4.98	20	WG694744
1,2-Dichloropropane	mg/l	0.0233	0.0240	93.0	76.5-119	2.80	20	WG694744
1,4-Dichlorobenzene	mg/l	0.0239	0.0244	96.0	78.8-115	2.11	20	WG694744
2-Butanone (MEK)	mg/l	0.113	0.121	91.0	55-149	6.83	20	WG694744
2-Hexanone	mg/l	0.124	0.128	99.0	65.6-144	2.79	20	WG694744
4-Methyl-2-pentanone (MIBK)	mg/l	0.119	0.129	95.0	70.5-133	7.94	20	WG694744
Acetone	mg/l	0.110	0.124	88.0	35.6-163	11.6	23.9	WG694744
Acrylonitrile	mg/l	0.112	0.123	89.0	55.2-130	9.81	20	WG694744
Benzene	mg/l	0.0229	0.0240	92.0	74.8-121	4.71	20	WG694744
Bromochloromethane	mg/l	0.0230	0.0247	92.0	77.6-119	6.98	20	WG694744
Bromodichloromethane	mg/l	0.0225	0.0235	90.0	75.1-116	4.40	20	WG694744
Bromoform	mg/l	0.0253	0.0261	101.	67.5-130	3.12	20	WG694744
Bromomethane	mg/l	0.0233	0.0238	93.0	49.9-162	2.04	20	WG694744
Carbon disulfide	mg/l	0.0229	0.0240	92.0	64.6-140	4.92	20	WG694744
Carbon tetrachloride	mg/l	0.0222	0.0238	89.0	70.2-123	6.83	20	WG694744
Chlorobenzene	mg/l	0.0253	0.0252	101.	78.1-119	0.580	20	WG694744
Chlorodibromomethane	mg/l	0.0248	0.0249	99.0	74-121	0.330	20	WG694744
Chloroethane	mg/l	0.0222	0.0231	89.0	61.7-135	3.98	20	WG694744
Chloroform	mg/l	0.0227	0.0241	91.0	76-121	5.74	20	WG694744
Chloromethane	mg/l	0.0213	0.0223	85.0	61.5-129	4.85	20	WG694744
cis-1,2-Dichloroethene	mg/l	0.0228	0.0239	91.0	76-119	4.67	20	WG694744
cis-1,3-Dichloropropene	mg/l	0.0250	0.0258	100.	78.2-120	3.01	20	WG694744
Dibromomethane	mg/l	0.0235	0.0248	94.0	79.5-118	5.21	20	WG694744
Ethylbenzene	mg/l	0.0250	0.0244	100.	78.8-122	2.37	20	WG694744
Iodomethane	mg/l	0.112	0.120	90.0	61-130	7.03	20	WG694744
Methylene Chloride	mg/l	0.0210	0.0226	84.0	70.3-120	6.98	20	WG694744
Styrene	mg/l	0.0265	0.0267	106.	80.4-126	0.750	20	WG694744
Tetrachloroethene	mg/l	0.0262	0.0252	105.	72.6-126	3.95	20	WG694744
Toluene	mg/l	0.0242	0.0247	97.0	79.7-116	1.96	20	WG694744

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
trans-1,2-Dichloroethene	mg/l	0.0231	0.0243	92.0	72.6-121	5.17	20	WG694744
trans-1,3-Dichloropropene	mg/l	0.0248	0.0254	99.0	74.3-123	2.50	20	WG694744
trans-1,4-Dichloro-2-butene	mg/l	0.0205	0.0207	82.0	65.1-123	0.720	20	WG694744
Trichloroethene	mg/l	0.0241	0.0248	96.0	77.7-118	3.06	20	WG694744
Trichlorofluoromethane	mg/l	0.0223	0.0233	89.0	63.5-135	4.41	20	WG694744
Vinyl acetate	mg/l	0.112	0.121	90.0	65-138	7.20	20	WG694744
Vinyl chloride	mg/l	0.0216	0.0226	86.0	65.9-128	4.55	20	WG694744
Xylenes, Total	mg/l	0.0749	0.0746	100.	78.7-121	0.390	20	WG694744
4-Bromofluorobenzene				94.90	71-126			WG694744
Dibromofluoromethane				93.20	78.3-121			WG694744
Toluene-d8				99.90	88.5-111			WG694744
a,a,a-Trifluorotoluene				101.0	85-114			WG694744
1,1,1-Trichloroethane	mg/l	0.0263	0.0273	105.	73.2-123	3.57	20	WG694874
Tetrachloroethene	mg/l	0.0261	0.0271	104.	72.6-126	4.03	20	WG694874
4-Bromofluorobenzene				99.10	71-126			WG694874
Dibromofluoromethane				100.0	78.3-121			WG694874
Toluene-d8				102.0	88.5-111			WG694874
a,a,a-Trifluorotoluene				110.0	85-114			WG694874
Alkalinity	mg/l	110.	100.	110.	85-115	9.52	20	WG695042
pH	su	5.90	6.00	99.0	98.3-101.7	1.68	20	WG695178
Specific Conductance	umhos/	510.	510.	100.	85-115	0.0	20	WG695206
TOC (Total Organic Carbon)	mg/l	75.8	75.2	101.	85-115	0.822	20	WG695604

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Nitrate	mg/l	4.81	0.0	5	96.0	80-120	L670956-02	WG694641
Nitrite	mg/l	5.02	0.0	5	100.	80-120	L670956-02	WG694641
Chloride	mg/l	352.	190.	50	65.0*	80-120	L670956-02	WG694641
Sulfate	mg/l	431.	270.	50	64.0*	80-120	L670956-02	WG694641
1,1,1,2-Tetrachloroethane	mg/l	0.0254	0.0	.025	100.	64-128	L670956-01	WG694744
1,1,1-Trichloroethane	mg/l	0.0232	0.000462	.025	91.0	58.7-134	L670956-01	WG694744
1,1,2,2-Tetrachloroethane	mg/l	0.0249	0.0	.025	99.0	56-132	L670956-01	WG694744
1,1,2-Trichloroethane	mg/l	0.0253	0.0	.025	100.	66.3-125	L670956-01	WG694744
1,1-Dichloroethane	mg/l	0.0228	0.0	.025	91.0	58.5-132	L670956-01	WG694744
1,1-Dichloroethene	mg/l	0.0226	0.0	.025	90.0	51.1-140	L670956-01	WG694744
1,2,3-Trichloropropane	mg/l	0.0263	0.0	.025	100.	61.4-128	L670956-01	WG694744
1,2-Dichlorobenzene	mg/l	0.0240	0.0	.025	96.0	68.2-123	L670956-01	WG694744
1,2-Dichloroethane	mg/l	0.0226	0.0	.025	90.0	60-126	L670956-01	WG694744
1,2-Dichloropropane	mg/l	0.0239	0.0	.025	96.0	64.2-123	L670956-01	WG694744
1,4-Dichlorobenzene	mg/l	0.0240	0.0	.025	96.0	68.6-123	L670956-01	WG694744
2-Butanone (MEK)	mg/l	0.157	0.0	.125	130.	22.4-138	L670956-01	WG694744
2-Hexanone	mg/l	0.163	0.0	.125	130.	43.3-137	L670956-01	WG694744
4-Methyl-2-pentanone (MIBK)	mg/l	0.131	0.0	.125	100.	60.8-140	L670956-01	WG694744
Acetone	mg/l	0.241	0.00417	.125	190.*	10-130	L670956-01	WG694744
Acrylonitrile	mg/l	0.120	0.0	.125	96.0	49.4-133	L670956-01	WG694744
Benzene	mg/l	0.0227	0.0	.025	91.0	54.3-133	L670956-01	WG694744

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Bromochloromethane	mg/l	0.0235	0.0	.025	94.0	66.5-122	L670956-01	WG694744
Bromodichloromethane	mg/l	0.0230	0.0	.025	92.0	63.9-121	L670956-01	WG694744
Bromoform	mg/l	0.0276	0.0	.025	110.	59.5-134	L670956-01	WG694744
Bromomethane	mg/l	0.0223	0.0	.025	89.0	41.7-155	L670956-01	WG694744
Carbon disulfide	mg/l	0.0191	0.0	.025	76.0	43.3-149	L670956-01	WG694744
Carbon tetrachloride	mg/l	0.0234	0.0	.025	94.0	55.7-134	L670956-01	WG694744
Chlorobenzene	mg/l	0.0256	0.0	.025	100.	67-125	L670956-01	WG694744
Chlorodibromomethane	mg/l	0.0253	0.0	.025	100.	64.3-125	L670956-01	WG694744
Chloroethane	mg/l	0.0220	0.0	.025	88.0	51.5-136	L670956-01	WG694744
Chloroform	mg/l	0.0233	0.0	.025	93.0	63-129	L670956-01	WG694744
Chloromethane	mg/l	0.0200	0.0	.025	80.0	42.4-135	L670956-01	WG694744
cis-1,2-Dichloroethene	mg/l	0.0231	0.0	.025	92.0	59.2-129	L670956-01	WG694744
cis-1,3-Dichloropropene	mg/l	0.0251	0.0	.025	100.	66.4-125	L670956-01	WG694744
Dibromomethane	mg/l	0.0246	0.0	.025	98.0	68.2-124	L670956-01	WG694744
Ethylbenzene	mg/l	0.0254	0.0	.025	100.	61.4-133	L670956-01	WG694744
Iodomethane	mg/l	0.111	0.0	.125	89.0	49.7-132	L670956-01	WG694744
Methylene Chloride	mg/l	0.0214	0.0	.025	86.0	58.1-122	L670956-01	WG694744
Styrene	mg/l	0.0278	0.0	.025	110.	66.8-133	L670956-01	WG694744
Tetrachloroethene	mg/l	0.0327	0.00557	.025	110.	53-139	L670956-01	WG694744
Toluene	mg/l	0.0241	0.0	.025	96.0	61.4-130	L670956-01	WG694744
trans-1,2-Dichloroethene	mg/l	0.0225	0.0	.025	90.0	56.5-129	L670956-01	WG694744
trans-1,3-Dichloropropene	mg/l	0.0252	0.0	.025	100.	64.1-128	L670956-01	WG694744
trans-1,4-Dichloro-2-butene	mg/l	0.0228	0.0	.025	91.0	57.1-130	L670956-01	WG694744
Trichloroethene	mg/l	0.0241	0.0	.025	96.0	44.1-149	L670956-01	WG694744
Trichlorofluoromethane	mg/l	0.0229	0.0	.025	91.0	49.6-145	L670956-01	WG694744
Vinyl acetate	mg/l	0.0988	0.0	.125	79.0	56.1-149	L670956-01	WG694744
Vinyl chloride	mg/l	0.0207	0.0	.025	83.0	47.8-137	L670956-01	WG694744
Xylenes, Total	mg/l	0.0774	0.0	.075	100.	63.3-131	L670956-01	WG694744
4-Bromofluorobenzene					99.90	71-126		WG694744
Dibromofluoromethane					94.50	78.3-121		WG694744
Toluene-d8					101.0	88.5-111		WG694744
a,a,a-Trifluorotoluene					101.0	85-114		WG694744
1,1,1-Trichloroethane	mg/l	0.0253	0.000830	.025	98.0	58.7-134	L670001-08	WG694874
Tetrachloroethene	mg/l	0.0249	0.0	.025	100.	53-139	L670001-08	WG694874
4-Bromofluorobenzene					97.30	71-126		WG694874
Dibromofluoromethane					98.40	78.3-121		WG694874
Toluene-d8					101.0	88.5-111		WG694874
a,a,a-Trifluorotoluene					103.0	85-114		WG694874
Barium	mg/l	1.03	0.0136	1	100.	75-125	L670937-01	WG694739
Calcium	mg/l	61.2	50.4	10	110.	75-125	L670937-01	WG694739
Chromium	mg/l	1.02	0.0000725	1	100.	75-125	L670937-01	WG694739
Cobalt	mg/l	1.03	0.00768	1	100.	75-125	L670937-01	WG694739
Magnesium	mg/l	62.4	48.5	10	140.*	75-125	L670937-01	WG694739
Nickel	mg/l	0.988	0.00419	1	98.0	75-125	L670937-01	WG694739
Potassium	mg/l	12.1	1.65	10	100.	75-125	L670937-01	WG694739
Silver	mg/l	0.0533	-0.000413	1	5.00*	75-125	L670937-01	WG694739
Sodium	mg/l	20.2	9.38	10	110.	75-125	L670937-01	WG694739
Vanadium	mg/l	1.06	-0.000400	1	110.	75-125	L670937-01	WG694739
Mercury	mg/l	0.00308	0.0000126	.003	100.	80-120	L670629-07	WG694683
Alkalinity	mg/l	100.	0.0	100	100.	80-120	L670499-03	WG695042

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Antimony	mg/l	0.0522	0.000210	.05	100.	75-125	L670600-20	WG694798
Arsenic	mg/l	0.0530	0.00160	.05	100.	75-125	L670600-20	WG694798
Beryllium	mg/l	0.0490	0.0	.05	98.0	75-125	L670600-20	WG694798
Cadmium	mg/l	0.0483	0.0	.05	97.0	75-125	L670600-20	WG694798
Copper	mg/l	0.0503	0.00103	.05	98.0	75-125	L670600-20	WG694798
Lead	mg/l	0.0501	0.000100	.05	100.	75-125	L670600-20	WG694798
Selenium	mg/l	0.0507	0.0	.05	100.	75-125	L670600-20	WG694798
Thallium	mg/l	0.0512	0.0	.05	100.	75-125	L670600-20	WG694798
Zinc	mg/l	0.0531	0.00276	.05	100.	75-125	L670600-20	WG694798
TOC (Total Organic Carbon)	mg/l	50.5	2.10	50	96.8	80-120	L670956-03	WG695604

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Nitrate	mg/l	4.85	4.81	97.0	80-120	0.828	20	L670956-02	WG694641
Nitrite	mg/l	5.05	5.02	101.	80-120	0.596	20	L670956-02	WG694641
Chloride	mg/l	348.	352.	63.2*	80-120	1.14	20	L670956-02	WG694641
Sulfate	mg/l	426.	431.	62.4*	80-120	1.17	20	L670956-02	WG694641

1,1,1,2-Tetrachloroethane	mg/l	0.0249	0.0254	99.6	64-128	2.03	20	L670956-01	WG694744
1,1,1-Trichloroethane	mg/l	0.0245	0.0232	96.2	58.7-134	5.46	20	L670956-01	WG694744
1,1,2,2-Tetrachloroethane	mg/l	0.0233	0.0249	93.1	56-132	6.55	22.2	L670956-01	WG694744
1,1,2-Trichloroethane	mg/l	0.0251	0.0253	100.	66.3-125	0.750	20	L670956-01	WG694744
1,1-Dichloroethane	mg/l	0.0229	0.0228	91.4	58.5-132	0.180	20	L670956-01	WG694744
1,1-Dichloroethene	mg/l	0.0222	0.0226	88.9	51.1-140	1.66	20.2	L670956-01	WG694744
1,2,3-Trichloropropane	mg/l	0.0254	0.0263	102.	61.4-128	3.61	22.4	L670956-01	WG694744
1,2-Dichlorobenzene	mg/l	0.0239	0.0240	95.7	68.2-123	0.310	20	L670956-01	WG694744
1,2-Dichloroethane	mg/l	0.0229	0.0226	91.4	60-126	1.27	20	L670956-01	WG694744
1,2-Dichloropropane	mg/l	0.0237	0.0239	94.8	64.2-123	0.670	20	L670956-01	WG694744
1,4-Dichlorobenzene	mg/l	0.0239	0.0240	95.6	68.6-123	0.450	20	L670956-01	WG694744
2-Butanone (MEK)	mg/l	0.163	0.157	130.	22.4-138	3.82	27	L670956-01	WG694744
2-Hexanone	mg/l	0.155	0.163	124.	43.3-137	4.77	25.5	L670956-01	WG694744
4-Methyl-2-pentanone (MIBK)	mg/l	0.133	0.131	106.	60.8-140	1.26	25.1	L670956-01	WG694744
Acetone	mg/l	0.241	0.241	189.*	10-130	0.0	27.9	L670956-01	WG694744
Acrylonitrile	mg/l	0.122	0.120	98.0	49.4-133	1.99	25.3	L670956-01	WG694744
Benzene	mg/l	0.0227	0.0227	91.0	54.3-133	0.240	20	L670956-01	WG694744
Bromochloromethane	mg/l	0.0244	0.0235	97.6	66.5-122	3.80	20.8	L670956-01	WG694744
Bromodichloromethane	mg/l	0.0234	0.0230	93.5	63.9-121	1.45	20	L670956-01	WG694744
Bromoform	mg/l	0.0264	0.0276	106.	59.5-134	4.38	20.5	L670956-01	WG694744
Bromomethane	mg/l	0.0215	0.0223	86.0	41.7-155	3.53	21.9	L670956-01	WG694744
Carbon disulfide	mg/l	0.0189	0.0191	75.6	43.3-149	0.740	20.3	L670956-01	WG694744
Carbon tetrachloride	mg/l	0.0234	0.0234	93.5	55.7-134	0.160	20	L670956-01	WG694744
Chlorobenzene	mg/l	0.0245	0.0256	97.9	67-125	4.46	20	L670956-01	WG694744
Chlorodibromomethane	mg/l	0.0244	0.0253	97.6	64.3-125	3.58	20.8	L670956-01	WG694744
Chloroethane	mg/l	0.0211	0.0220	84.3	51.5-136	4.11	40	L670956-01	WG694744
Chloroform	mg/l	0.0236	0.0233	94.4	63-129	1.17	20	L670956-01	WG694744
Chloromethane	mg/l	0.0190	0.0200	76.0	42.4-135	5.20	20	L670956-01	WG694744
cis-1,2-Dichloroethene	mg/l	0.0229	0.0231	91.8	59.2-129	0.630	20	L670956-01	WG694744
cis-1,3-Dichloropropene	mg/l	0.0251	0.0251	100.	66.4-125	0.100	20	L670956-01	WG694744
Dibromomethane	mg/l	0.0241	0.0246	96.4	68.2-124	2.12	20	L670956-01	WG694744
Ethylbenzene	mg/l	0.0234	0.0254	93.6	61.4-133	8.31	20	L670956-01	WG694744
Iodomethane	mg/l	0.111	0.111	88.9	49.7-132	0.390	20	L670956-01	WG694744
Methylene Chloride	mg/l	0.0216	0.0214	86.5	58.1-122	1.02	20	L670956-01	WG694744
Styrene	mg/l	0.0258	0.0278	103.	66.8-133	7.54	20	L670956-01	WG694744
Tetrachloroethene	mg/l	0.0434	0.0327	151.*	53-139	28.1*	20	L670956-01	WG694744

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Analyte	Units	MSD	Matrix Spike	Duplicate	Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
Toluene	mg/l	0.0239	0.0241	95.8	61.4-130	0.550	20	L670956-01		WG694744
trans-1,2-Dichloroethene	mg/l	0.0222	0.0225	89.0	56.5-129	1.33	20	L670956-01		WG694744
trans-1,3-Dichloropropene	mg/l	0.0254	0.0252	102.	64.1-128	1.04	20	L670956-01		WG694744
trans-1,4-Dichloro-2-butene	mg/l	0.0211	0.0228	84.6	57.1-130	7.73	23.9	L670956-01		WG694744
Trichloroethene	mg/l	0.0244	0.0241	97.5	44.1-149	1.28	20	L670956-01		WG694744
Trichlorofluoromethane	mg/l	0.0225	0.0229	90.0	49.6-145	1.57	21.2	L670956-01		WG694744
Vinyl acetate	mg/l	0.102	0.0988	81.7	56.1-149	3.31	22.7	L670956-01		WG694744
Vinyl chloride	mg/l	0.0202	0.0207	80.9	47.8-137	2.31	20	L670956-01		WG694744
Xylenes, Total	mg/l	0.0722	0.0774	96.3	63.3-131	6.88	20	L670956-01		WG694744
4-Bromofluorobenzene				95.00	71-126					WG694744
Dibromofluoromethane				95.40	78.3-121					WG694744
Toluene-d8				103.0	88.5-111					WG694744
a,a,a-Trifluorotoluene				105.0	85-114					WG694744
1,1,1-Trichloroethane	mg/l	0.0256	0.0253	99.0	58.7-134	1.20	20	L670001-08		WG694874
Tetrachloroethene	mg/l	0.0248	0.0249	99.1	53-139	0.400	20	L670001-08		WG694874
4-Bromofluorobenzene				97.30	71-126					WG694874
Dibromofluoromethane				101.0	78.3-121					WG694874
Toluene-d8				101.0	88.5-111					WG694874
a,a,a-Trifluorotoluene				106.0	85-114					WG694874
Barium	mg/l	1.03	1.03	101.	75-125	0.0	20	L670937-01		WG694739
Calcium	mg/l	61.7	61.2	112.	75-125	1.00	20	L670937-01		WG694739
Chromium	mg/l	1.03	1.02	103.	75-125	1.00	20	L670937-01		WG694739
Cobalt	mg/l	1.03	1.03	102.	75-125	0.0	20	L670937-01		WG694739
Magnesium	mg/l	62.8	62.4	143.*	75-125	1.00	20	L670937-01		WG694739
Nickel	mg/l	1.00	0.988	99.8	75-125	1.00	20	L670937-01		WG694739
Potassium	mg/l	12.1	12.1	104.	75-125	0.0	20	L670937-01		WG694739
Silver	mg/l	0.0538	0.0533	5.42*	75-125	1.00	20	L670937-01		WG694739
Sodium	mg/l	20.2	20.2	108.	75-125	0.0	20	L670937-01		WG694739
Vanadium	mg/l	1.07	1.06	107.	75-125	1.00	20	L670937-01		WG694739
Mercury	mg/l	0.00321	0.00308	107.	80-120	4.00	20	L670629-07		WG694683
Alkalinity	mg/l	100.	100.	100.	80-120	0.0	20	L670499-03		WG695042
Antimony	mg/l	0.0521	0.0522	104.	75-125	0.192	20	L670600-20		WG694798
Arsenic	mg/l	0.0529	0.0530	103.	75-125	0.189	20	L670600-20		WG694798
Beryllium	mg/l	0.0491	0.0490	98.2	75-125	0.204	20	L670600-20		WG694798
Cadmium	mg/l	0.0481	0.0483	96.2	75-125	0.415	20	L670600-20		WG694798
Copper	mg/l	0.0502	0.0503	98.3	75-125	0.199	20	L670600-20		WG694798
Lead	mg/l	0.0525	0.0501	105.	75-125	4.68	20	L670600-20		WG694798
Selenium	mg/l	0.0555	0.0507	111.	75-125	9.04	20	L670600-20		WG694798
Thallium	mg/l	0.0521	0.0512	104.	75-125	1.74	20	L670600-20		WG694798
Zinc	mg/l	0.0534	0.0531	101.	75-125	0.563	20	L670600-20		WG694798
TOC (Total Organic Carbon)	mg/l	51.1	50.5	97.9	80-120	1.04	20	L670956-03		WG695604

Post Spike

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80233

Quality Assurance Report
Level II
L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

Post Spike

Serial Dilution

Batch number /Run number / Sample number cross reference

WG694641: R2860663: L670956-01 02 03
WG694744: R2860866: L670956-01 02 03
WG694874: R2861032: L670956-02 03
WG694739: R2861640: L670956-01 02 03
WG694683: R2861722: L670956-01 02 03
WG695042: R2861909: L670956-01 02 03
WG695043: R2861924: L670956-01 02 03
WG695044: R2861926: L670956-01 02 03
WG695178: R2862114: L670956-01 02 03
WG695206: R2862439: L670956-01 02 03
WG694798: R2862822: L670956-01 02 03
WG695604: R2865747: L670956-01 02 03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80233

Quality Assurance Report
Level II

L670956

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

December 10, 2013

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

[illegible]



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Wednesday May 02, 2012

Report Number: L571648

Samples Received: 04/25/12

Client Project: 10-0133

Description: Broda Al Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 02, 2012

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Maek A Molen
Collection Date : 04/24/12 09:40

ESC Sample # : L571648-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	120	2.0	mg/l	9056	04/25/12	2
Nitrate	3.6	0.10	mg/l	9056	04/25/12	1
Nitrite	BDL	0.10	mg/l	9056	04/25/12	1
Sulfate	180	10.	mg/l	9056	04/25/12	2
Alkalinity	160	20.	mg/l	2320B	04/26/12	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320B	04/26/12	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	04/26/12	1
pH	7.3		su	9040C	04/28/12	1
Specific Conductance	1000		umhos/cm	9050A	04/28/12	1
TOC (Total Organic Carbon)	2.8	1.0	mg/l	9060A	04/26/12	1
Antimony	BDL	0.0010	mg/l	6020	04/30/12	1
Arsenic	0.0013	0.0010	mg/l	6020	04/30/12	1
Beryllium	BDL	0.0010	mg/l	6020	04/30/12	1
Cadmium	BDL	0.00050	mg/l	6020	04/30/12	1
Copper	BDL	0.0020	mg/l	6020	04/30/12	1
Lead	BDL	0.0010	mg/l	6020	04/30/12	1
Selenium	0.0022	0.0010	mg/l	6020	04/30/12	1
Thallium	BDL	0.0010	mg/l	6020	04/30/12	1
Zinc	BDL	0.010	mg/l	6020	04/30/12	1
Mercury	BDL	0.00020	mg/l	7470A	04/26/12	1
Barium	0.074	0.0050	mg/l	6010B	05/02/12	1
Calcium	63.	0.50	mg/l	6010B	05/02/12	1
Chromium	BDL	0.010	mg/l	6010B	05/02/12	1
Cobalt	BDL	0.010	mg/l	6010B	05/02/12	1
Magnesium	20.	0.10	mg/l	6010B	05/02/12	1
Nickel	BDL	0.020	mg/l	6010B	05/02/12	1
Potassium	7.3	0.50	mg/l	6010B	05/02/12	1
Silver	BDL	0.010	mg/l	6010B	05/02/12	1
Sodium	120	0.50	mg/l	6010B	05/02/12	1
Vanadium	BDL	0.010	mg/l	6010B	05/02/12	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	04/26/12	1
Acrylonitrile	BDL	0.010	mg/l	8260B	04/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	04/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L571648-01 (PH) - 7.3@16.2c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 02, 2012

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Maek A Molen
Collection Date : 04/24/12 09:40

ESC Sample # : L571648-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	04/26/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	04/26/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	04/26/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	04/26/12	1
Chloroform	BDL	0.0050	mg/l	8260B	04/26/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	04/26/12	1
Dibromomethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	04/26/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	04/26/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/26/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	04/26/12	1
Iodomethane	BDL	0.010	mg/l	8260B	04/26/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	04/26/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	04/26/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	04/26/12	1
Styrene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
Toluene	BDL	0.0050	mg/l	8260B	04/26/12	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	04/26/12	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	04/26/12	1
Vinyl acetate	BDL	0.010	mg/l	8260B	04/26/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	04/26/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	04/26/12	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	04/26/12	1
Dibromofluoromethane	97.9		% Rec.	8260B	04/26/12	1
a,a,a-Trifluorotoluene	97.7		% Rec.	8260B	04/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L571648-01 (PH) - 7.3@16.2c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 02, 2012

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Maek A Molen
Collection Date : 04/24/12 09:40

ESC Sample # : L571648-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	97.3		% Rec.	8260B	04/26/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/02/12 13:16 Printed: 05/02/12 15:02
L571648-01 (PH) - 7.3@16.2c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 02, 2012

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Maek A Molen
Collection Date : 04/24/12 10:25

ESC Sample # : L571648-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	180	5.0	mg/l	9056	04/25/12	5
Nitrate	0.12	0.10	mg/l	9056	04/25/12	1
Nitrite	BDL	0.10	mg/l	9056	04/25/12	1
Sulfate	230	25.	mg/l	9056	04/25/12	5
Alkalinity	160	20.	mg/l	2320B	04/27/12	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320B	04/27/12	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	04/27/12	1
pH	7.5		su	9040C	04/28/12	1
Specific Conductance	1200		umhos/cm	9050A	04/28/12	1
TOC (Total Organic Carbon)	7.4	1.0	mg/l	9060A	04/26/12	1
Antimony	BDL	0.0010	mg/l	6020	04/30/12	1
Arsenic	0.0032	0.0010	mg/l	6020	04/30/12	1
Beryllium	BDL	0.0010	mg/l	6020	04/30/12	1
Cadmium	BDL	0.00050	mg/l	6020	04/30/12	1
Copper	BDL	0.0020	mg/l	6020	04/30/12	1
Lead	BDL	0.0010	mg/l	6020	04/30/12	1
Selenium	0.0020	0.0010	mg/l	6020	04/30/12	1
Thallium	BDL	0.0010	mg/l	6020	04/30/12	1
Zinc	BDL	0.010	mg/l	6020	04/30/12	1
Mercury	BDL	0.00020	mg/l	7470A	04/26/12	1
Barium	0.13	0.0050	mg/l	6010B	05/02/12	1
Calcium	71.	0.50	mg/l	6010B	05/02/12	1
Chromium	BDL	0.010	mg/l	6010B	05/02/12	1
Cobalt	BDL	0.010	mg/l	6010B	05/02/12	1
Magnesium	21.	0.10	mg/l	6010B	05/02/12	1
Nickel	BDL	0.020	mg/l	6010B	05/02/12	1
Potassium	9.9	0.50	mg/l	6010B	05/02/12	1
Silver	BDL	0.010	mg/l	6010B	05/02/12	1
Sodium	180	0.50	mg/l	6010B	05/02/12	1
Vanadium	BDL	0.010	mg/l	6010B	05/02/12	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	04/26/12	1
Acrylonitrile	BDL	0.010	mg/l	8260B	04/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	04/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L571648-02 (PH) - 7.5@16.8c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 02, 2012

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Maek A Molen
Collection Date : 04/24/12 10:25

ESC Sample # : L571648-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	04/26/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	04/26/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	04/26/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	04/26/12	1
Chloroform	BDL	0.0050	mg/l	8260B	04/26/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	04/26/12	1
Dibromomethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	04/26/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	04/26/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/26/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	04/26/12	1
Iodomethane	BDL	0.010	mg/l	8260B	04/26/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	04/26/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	04/26/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	04/26/12	1
Styrene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
Toluene	BDL	0.0050	mg/l	8260B	04/26/12	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	04/26/12	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	04/26/12	1
Vinyl acetate	BDL	0.010	mg/l	8260B	04/26/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	04/26/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	04/26/12	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	04/26/12	1
Dibromofluoromethane	99.6		% Rec.	8260B	04/26/12	1
a,a,a-Trifluorotoluene	99.4		% Rec.	8260B	04/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L571648-02 (PH) - 7.5@16.8c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 02, 2012

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Maek A Molen
Collection Date : 04/24/12 10:25

ESC Sample # : L571648-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	93.9		% Rec.	8260B	04/26/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/02/12 13:16 Printed: 05/02/12 15:02
L571648-02 (PH) - 7.5@16.8c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 02, 2012

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Maek A Molen
Collection Date : 04/24/12 11:05

ESC Sample # : L571648-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	2.0	mg/l	9056	04/25/12	2
Nitrate	17.	0.10	mg/l	9056	04/25/12	1
Nitrite	BDL	0.10	mg/l	9056	04/25/12	1
Sulfate	140	10.	mg/l	9056	04/25/12	2
Alkalinity	160	20.	mg/l	2320B	04/27/12	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320B	04/27/12	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	04/27/12	1
pH	7.0		su	9040C	04/28/12	1
Specific Conductance	1000		umhos/cm	9050A	04/28/12	1
TOC (Total Organic Carbon)	3.4	1.0	mg/l	9060A	04/27/12	1
Antimony	BDL	0.0010	mg/l	6020	04/30/12	1
Arsenic	0.0023	0.0010	mg/l	6020	04/30/12	1
Beryllium	BDL	0.0010	mg/l	6020	04/30/12	1
Cadmium	BDL	0.00050	mg/l	6020	04/30/12	1
Copper	0.0064	0.0020	mg/l	6020	04/30/12	1
Lead	0.0060	0.0010	mg/l	6020	04/30/12	1
Selenium	0.0040	0.0010	mg/l	6020	04/30/12	1
Thallium	BDL	0.0010	mg/l	6020	04/30/12	1
Zinc	0.021	0.010	mg/l	6020	04/30/12	1
Mercury	BDL	0.00020	mg/l	7470A	04/26/12	1
Barium	0.14	0.0050	mg/l	6010B	05/02/12	1
Calcium	83.	0.50	mg/l	6010B	05/02/12	1
Chromium	BDL	0.010	mg/l	6010B	05/02/12	1
Cobalt	BDL	0.010	mg/l	6010B	05/02/12	1
Magnesium	19.	0.10	mg/l	6010B	05/02/12	1
Nickel	BDL	0.020	mg/l	6010B	05/02/12	1
Potassium	8.1	0.50	mg/l	6010B	05/02/12	1
Silver	BDL	0.010	mg/l	6010B	05/02/12	1
Sodium	110	0.50	mg/l	6010B	05/02/12	1
Vanadium	BDL	0.010	mg/l	6010B	05/02/12	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	04/26/12	1
Acrylonitrile	BDL	0.010	mg/l	8260B	04/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	04/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L571648-03 (PH) - 7.0@16.4c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

May 02, 2012

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Maek A Molen
Collection Date : 04/24/12 11:05

ESC Sample # : L571648-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	04/26/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	04/26/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	04/26/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	04/26/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	04/26/12	1
Chloroform	BDL	0.0050	mg/l	8260B	04/26/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	04/26/12	1
Dibromomethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	04/26/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	04/26/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/26/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/26/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	04/26/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	04/26/12	1
Iodomethane	BDL	0.010	mg/l	8260B	04/26/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	04/26/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	04/26/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	04/26/12	1
Styrene	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
Toluene	BDL	0.0050	mg/l	8260B	04/26/12	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	04/26/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	04/26/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	04/26/12	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	04/26/12	1
Vinyl acetate	BDL	0.010	mg/l	8260B	04/26/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	04/26/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	04/26/12	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	04/26/12	1
Dibromofluoromethane	95.6		% Rec.	8260B	04/26/12	1
a,a,a-Trifluorotoluene	98.1		% Rec.	8260B	04/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L571648-03 (PH) - 7.0@16.4c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

May 02, 2012

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : April 25, 2012
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Maek A Molen
Collection Date : 04/24/12 11:05

ESC Sample # : L571648-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	98.2		% Rec.	8260B	04/26/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 05/02/12 13:16 Printed: 05/02/12 15:02
L571648-03 (PH) - 7.0@16.4c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L571648-01	WG589790	SAMP	pH	R2148834	T8
L571648-02	WG589790	SAMP	pH	R2148834	T8
L571648-03	WG589790	SAMP	pH	R2148834	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,1,1-Trichloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,1,2-Trichloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,1-Dichloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,1-Dichloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,2,3-Trichloropropane	< .001	mg/l			WG589579	04/25/12 21:57
1,2-Dichlorobenzene	< .001	mg/l			WG589579	04/25/12 21:57
1,2-Dichloroethane	< .001	mg/l			WG589579	04/25/12 21:57
1,2-Dichloropropane	< .001	mg/l			WG589579	04/25/12 21:57
1,4-Dichlorobenzene	< .001	mg/l			WG589579	04/25/12 21:57
2-Butanone (MEK)	< .01	mg/l			WG589579	04/25/12 21:57
2-Hexanone	< .01	mg/l			WG589579	04/25/12 21:57
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG589579	04/25/12 21:57
Acetone	< .05	mg/l			WG589579	04/25/12 21:57
Acrylonitrile	< .01	mg/l			WG589579	04/25/12 21:57
Benzene	< .001	mg/l			WG589579	04/25/12 21:57
Bromochloromethane	< .001	mg/l			WG589579	04/25/12 21:57
Bromodichloromethane	< .001	mg/l			WG589579	04/25/12 21:57
Bromoform	< .001	mg/l			WG589579	04/25/12 21:57
Bromomethane	< .005	mg/l			WG589579	04/25/12 21:57
Carbon disulfide	< .001	mg/l			WG589579	04/25/12 21:57
Carbon tetrachloride	< .001	mg/l			WG589579	04/25/12 21:57
Chlorobenzene	< .001	mg/l			WG589579	04/25/12 21:57
Chlorodibromomethane	< .001	mg/l			WG589579	04/25/12 21:57
Chloroethane	< .005	mg/l			WG589579	04/25/12 21:57
Chloroform	< .005	mg/l			WG589579	04/25/12 21:57
Chloromethane	< .0025	mg/l			WG589579	04/25/12 21:57
cis-1,2-Dichloroethene	< .001	mg/l			WG589579	04/25/12 21:57
cis-1,3-Dichloropropene	< .001	mg/l			WG589579	04/25/12 21:57
Dibromomethane	< .001	mg/l			WG589579	04/25/12 21:57
Ethylbenzene	< .001	mg/l			WG589579	04/25/12 21:57
Iodomethane	< .01	mg/l			WG589579	04/25/12 21:57
Methylene Chloride	< .005	mg/l			WG589579	04/25/12 21:57
Styrene	< .001	mg/l			WG589579	04/25/12 21:57
Tetrachloroethene	< .001	mg/l			WG589579	04/25/12 21:57
Toluene	< .005	mg/l			WG589579	04/25/12 21:57
trans-1,2-Dichloroethene	< .001	mg/l			WG589579	04/25/12 21:57
trans-1,3-Dichloropropene	< .001	mg/l			WG589579	04/25/12 21:57
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG589579	04/25/12 21:57
Trichloroethene	< .001	mg/l			WG589579	04/25/12 21:57
Trichlorofluoromethane	< .005	mg/l			WG589579	04/25/12 21:57
Vinyl acetate	< .01	mg/l			WG589579	04/25/12 21:57
Vinyl chloride	< .001	mg/l			WG589579	04/25/12 21:57
Xylenes, Total	< .003	mg/l			WG589579	04/25/12 21:57
4-Bromofluorobenzene		% Rec.	94.48	82-120	WG589579	04/25/12 21:57
Dibromofluoromethane		% Rec.	93.56	82-126	WG589579	04/25/12 21:57
Toluene-d8		% Rec.	100.5	92-112	WG589579	04/25/12 21:57
a,a,a-Trifluorotoluene		% Rec.	98.88	90-116	WG589579	04/25/12 21:57
Chloride	< 1	mg/l			WG589475	04/25/12 08:32
Nitrate	< .1	mg/l			WG589475	04/25/12 08:32
Nitrite	< .1	mg/l			WG589475	04/25/12 08:32
Sulfate	< 5	mg/l			WG589475	04/25/12 08:32
Alkalinity	< 20	mg/l			WG589597	04/26/12 08:57

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TOC (Total Organic Carbon)	< 1	mg/l			WG589539	04/26/12 08:48
Mercury	< .0002	mg/l			WG589637	04/26/12 19:52
Alkalinity	< 20	mg/l			WG589687	04/27/12 08:19
TOC (Total Organic Carbon)	< 1	mg/l			WG589846	04/27/12 09:06
Specific Conductance	1.88	umhos/cm			WG589825	04/28/12 11:39
pH	4.56	su			WG589790	04/28/12 10:02
Antimony	< .001	mg/l			WG589816	04/30/12 08:40
Arsenic	< .001	mg/l			WG589816	04/30/12 08:40
Beryllium	< .001	mg/l			WG589816	04/30/12 08:40
Cadmium	< .0005	mg/l			WG589816	04/30/12 08:40
Copper	< .002	mg/l			WG589816	04/30/12 08:40
Lead	< .001	mg/l			WG589816	04/30/12 08:40
Selenium	< .001	mg/l			WG589816	04/30/12 08:40
Thallium	< .001	mg/l			WG589816	04/30/12 08:40
Zinc	< .01	mg/l			WG589816	04/30/12 08:40
Barium	< .005	mg/l			WG589680	05/02/12 11:31
Calcium	< .5	mg/l			WG589680	05/02/12 11:31
Chromium	< .01	mg/l			WG589680	05/02/12 11:31
Cobalt	< .01	mg/l			WG589680	05/02/12 11:31
Magnesium	< .1	mg/l			WG589680	05/02/12 11:31
Nickel	< .02	mg/l			WG589680	05/02/12 11:31
Potassium	< .5	mg/l			WG589680	05/02/12 11:31
Silver	< .01	mg/l			WG589680	05/02/12 11:31
Sodium	< .5	mg/l			WG589680	05/02/12 11:31
Vanadium	< .01	mg/l			WG589680	05/02/12 11:31

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Sulfate	mg/l	36.0	36.0		0.554	20	L571227-02	WG589475
Chloride	mg/l	60.0	54.0		10.5	20	L571615-01	WG589475
Chloride	mg/l	210.	210.		0.477	20	L571227-02	WG589475
Alkalinity	mg/l	180.	190.		7.08	20	L571637-01	WG589597
Alkalinity	mg/l	160.	160.		3.17	20	L571637-03	WG589597
TOC (Total Organic Carbon)	mg/l	2.10	2.20		2.76	20	L571426-01	WG589539
TOC (Total Organic Carbon)	mg/l	3.20	3.30		2.14	20	L571637-02	WG589539
Mercury	mg/l	0	0		0	20	L571637-01	WG589637

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Alkalinity	mg/l	0	0	0	20		L571671-01	WG589687
Alkalinity	mg/l	0	0	0	20		L571671-09	WG589687
TOC (Total Organic Carbon)	mg/l	3.40	3.40	1.48	20		L571648-03	WG589846
TOC (Total Organic Carbon)	mg/l	2.60	2.40	6.45	20		L571796-01	WG589846
Specific Conductance	umhos/cm	1300	1300	1.55	20		L571444-01	WG589825
Specific Conductance	umhos/cm	280000	280000	1.80	20		L571909-02	WG589825
pH	su	7.50	7.50	0.133	1		L571637-01	WG589790
pH	su	6.30	6.30	0.477	1		L571959-01	WG589790
Antimony	mg/l	0	0	0	20		L571872-06	WG589816
Arsenic	mg/l	0	0	0	20		L571872-06	WG589816
Beryllium	mg/l	0	0	0	20		L571872-06	WG589816
Cadmium	mg/l	0	0	0	20		L571872-06	WG589816
Copper	mg/l	0	0.000450	NA	20		L571872-06	WG589816
Lead	mg/l	0	0	0	20		L571872-06	WG589816
Selenium	mg/l	0	0.000460	NA	20		L571872-06	WG589816
Thallium	mg/l	0	0	0	20		L571872-06	WG589816
Zinc	mg/l	0	0.00330	NA	20		L571872-06	WG589816
Barium	mg/l	0.170	0.160	4.88	20		L571750-08	WG589680
Calcium	mg/l	200.	198.	1.50	20		L571750-08	WG589680
Chromium	mg/l	0	0	0	20		L571750-08	WG589680
Cobalt	mg/l	0	0	0	20		L571750-08	WG589680
Magnesium	mg/l	52.0	52.3	0.768	20		L571750-08	WG589680
Nickel	mg/l	0	0	0	20		L571750-08	WG589680
Potassium	mg/l	10.0	10.2	2.90	20		L571750-08	WG589680
Silver	mg/l	0	0	0	20		L571750-08	WG589680
Sodium	mg/l	17.0	16.9	0.590	20		L571750-08	WG589680
Vanadium	mg/l	0	0	0	20		L571750-08	WG589680

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0215	85.8	77-128	WG589579
1,1,1-Trichloroethane	mg/l	.025	0.0206	82.3	71-126	WG589579
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0195	78.1	78-130	WG589579
1,1,2-Trichloroethane	mg/l	.025	0.0215	85.9	81-121	WG589579
1,1-Dichloroethane	mg/l	.025	0.0213	85.2	73-123	WG589579
1,1-Dichloroethene	mg/l	.025	0.0211	84.3	54-134	WG589579
1,2,3-Trichloropropane	mg/l	.025	0.0214	85.6	68-130	WG589579
1,2-Dichlorobenzene	mg/l	.025	0.0210	84.1	82-121	WG589579
1,2-Dichloroethane	mg/l	.025	0.0208	83.1	69-128	WG589579
1,2-Dichloropropane	mg/l	.025	0.0213	85.3	77-121	WG589579
1,4-Dichlorobenzene	mg/l	.025	0.0209	83.4	79-117	WG589579
2-Butanone (MEK)	mg/l	.125	0.117	93.5	58-144	WG589579
2-Hexanone	mg/l	.125	0.110	88.3	62-144	WG589579
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.102	81.4	58-147	WG589579
Acetone	mg/l	.125	0.141	113.	49-153	WG589579
Acrylonitrile	mg/l	.125	0.102	81.9	53-153	WG589579
Benzene	mg/l	.025	0.0212	84.9	72-119	WG589579

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Bromochloromethane	mg/l	.025	0.0223	89.1	79-124	WG589579
Bromodichloromethane	mg/l	.025	0.0202	80.9	75-127	WG589579
Bromoform	mg/l	.025	0.0215	85.9	61-136	WG589579
Bromomethane	mg/l	.025	0.0229	91.6	42-172	WG589579
Carbon disulfide	mg/l	.025	0.0222	88.6	19-150	WG589579
Carbon tetrachloride	mg/l	.025	0.0202	80.9	63-129	WG589579
Chlorobenzene	mg/l	.025	0.0212	84.9	78-123	WG589579
Chlorodibromomethane	mg/l	.025	0.0206	82.4	73-128	WG589579
Chloroethane	mg/l	.025	0.0245	97.9	52-164	WG589579
Chloroform	mg/l	.025	0.0211	84.3	76-122	WG589579
Chloromethane	mg/l	.025	0.0211	84.3	50-141	WG589579
cis-1,2-Dichloroethene	mg/l	.025	0.0214	85.6	75-121	WG589579
cis-1,3-Dichloropropene	mg/l	.025	0.0208	83.3	74-124	WG589579
Dibromomethane	mg/l	.025	0.0211	84.3	77-124	WG589579
Ethylbenzene	mg/l	.025	0.0213	85.1	77-124	WG589579
Iodomethane	mg/l	.125	0.116	92.9	54-139	WG589579
Methylene Chloride	mg/l	.025	0.0192	76.7	67-122	WG589579
Styrene	mg/l	.025	0.0217	87.0	69-145	WG589579
Tetrachloroethene	mg/l	.025	0.0219	87.6	69-131	WG589579
Toluene	mg/l	.025	0.0208	83.3	75-114	WG589579
trans-1,2-Dichloroethene	mg/l	.025	0.0207	82.7	63-127	WG589579
trans-1,3-Dichloropropene	mg/l	.025	0.0205	81.9	69-124	WG589579
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0208	83.3	58-137	WG589579
Trichloroethene	mg/l	.025	0.0219	87.6	69-131	WG589579
Trichlorofluoromethane	mg/l	.025	0.0233	93.1	53-161	WG589579
Vinyl acetate	mg/l	.125	0.0984	78.7	47-161	WG589579
Vinyl chloride	mg/l	.025	0.0218	87.1	55-142	WG589579
Xylenes, Total	mg/l	.075	0.0654	87.3	77-123	WG589579
4-Bromofluorobenzene				97.72	82-120	WG589579
Dibromofluoromethane				98.59	82-126	WG589579
Toluene-d8				101.6	92-112	WG589579
a,a,a-Trifluorotoluene				102.3	90-116	WG589579
Chloride	mg/l	40	40.1	100.	90-110	WG589475
Nitrate	mg/l	8	8.63	108.	90-110	WG589475
Nitrite	mg/l	8	8.03	100.	90-110	WG589475
Sulfate	mg/l	40	40.0	100.	90-110	WG589475
Alkalinity	mg/l	100	98.0	98.0	85-115	WG589597
TOC (Total Organic Carbon)	mg/l	75	73.8	98.4	85-115	WG589539
Mercury	mg/l	.003	0.00256	85.3	85-115	WG589637
Alkalinity	mg/l	100	91.0	91.0	85-115	WG589687
TOC (Total Organic Carbon)	mg/l	75	73.6	98.1	85-115	WG589846
Specific Conductance	umhos/cm	459	441.	96.1	85-115	WG589825
pH	su	6.04	6.02	99.7	98-101	WG589790

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Antimony	mg/l	.0567	0.0579	102.	85-115	WG589816
Arsenic	mg/l	.0567	0.0564	99.5	85-115	WG589816
Beryllium	mg/l	.0567	0.0534	94.2	85-115	WG589816
Cadmium	mg/l	.0567	0.0567	100.	85-115	WG589816
Copper	mg/l	.0567	0.0578	102.	85-115	WG589816
Lead	mg/l	.0567	0.0562	99.1	85-115	WG589816
Selenium	mg/l	.0567	0.0544	95.9	85-115	WG589816
Thallium	mg/l	.0567	0.0555	97.9	85-115	WG589816
Zinc	mg/l	.0567	0.0602	106.	85-115	WG589816
Barium	mg/l	1.13	1.18	104.	85-115	WG589680
Calcium	mg/l	11.3	11.7	104.	85-115	WG589680
Chromium	mg/l	1.13	1.17	104.	85-115	WG589680
Cobalt	mg/l	1.13	1.16	103.	85-115	WG589680
Magnesium	mg/l	11.3	11.8	104.	85-115	WG589680
Nickel	mg/l	1.13	1.12	99.1	85-115	WG589680
Potassium	mg/l	11.3	12.0	106.	85-115	WG589680
Silver	mg/l	1.13	1.18	104.	85-115	WG589680
Sodium	mg/l	11.3	12.2	108.	85-115	WG589680
Vanadium	mg/l	1.13	1.16	103.	85-115	WG589680

Analyte	Units	Laboratory Control Result	Sample Ref	Duplicate %Rec	Limit	RPD	Limit	Batch
1,1,1,2-Tetrachloroethane	mg/l	0.0228	0.0215	91.0	77-128	6.22	20	WG589579
1,1,1-Trichloroethane	mg/l	0.0222	0.0206	89.0	71-126	7.74	20	WG589579
1,1,2,2-Tetrachloroethane	mg/l	0.0200	0.0195	80.0	78-130	2.60	20	WG589579
1,1,2-Trichloroethane	mg/l	0.0226	0.0215	90.0	81-121	5.16	20	WG589579
1,1-Dichloroethane	mg/l	0.0225	0.0213	90.0	73-123	5.63	20	WG589579
1,1-Dichloroethene	mg/l	0.0230	0.0211	92.0	54-134	8.57	20	WG589579
1,2,3-Trichloropropane	mg/l	0.0221	0.0214	88.0	68-130	3.11	20	WG589579
1,2-Dichlorobenzene	mg/l	0.0221	0.0210	88.0	82-121	4.99	20	WG589579
1,2-Dichloroethane	mg/l	0.0214	0.0208	86.0	69-128	3.21	20	WG589579
1,2-Dichloropropane	mg/l	0.0222	0.0213	89.0	77-121	4.03	20	WG589579
1,4-Dichlorobenzene	mg/l	0.0224	0.0209	90.0	79-117	7.19	20	WG589579
2-Butanone (MEK)	mg/l	0.123	0.117	98.0	58-144	4.86	20	WG589579
2-Hexanone	mg/l	0.119	0.110	95.0	62-144	7.77	20	WG589579
4-Methyl-2-pentanone (MIBK)	mg/l	0.102	0.102	82.0	58-147	0.380	20	WG589579
Acetone	mg/l	0.148	0.141	118.	49-153	4.90	21	WG589579
Acrylonitrile	mg/l	0.102	0.102	81.0	53-153	0.770	20	WG589579
Benzene	mg/l	0.0223	0.0212	89.0	72-119	5.12	20	WG589579
Bromochloromethane	mg/l	0.0226	0.0223	90.0	79-124	1.27	20	WG589579
Bromodichloromethane	mg/l	0.0215	0.0202	86.0	75-127	6.15	20	WG589579
Bromoform	mg/l	0.0214	0.0215	85.0	61-136	0.460	20	WG589579
Bromomethane	mg/l	0.0238	0.0229	95.0	42-172	3.89	20	WG589579
Carbon disulfide	mg/l	0.0233	0.0222	93.0	19-150	4.91	20	WG589579
Carbon tetrachloride	mg/l	0.0225	0.0202	90.0	63-129	10.7	20	WG589579
Chlorobenzene	mg/l	0.0230	0.0212	92.0	78-123	7.84	20	WG589579
Chlorodibromomethane	mg/l	0.0215	0.0206	86.0	73-128	4.32	20	WG589579
Chloroethane	mg/l	0.0261	0.0245	104.	52-164	6.51	20	WG589579
Chloroform	mg/l	0.0223	0.0211	89.0	76-122	5.66	20	WG589579
Chloromethane	mg/l	0.0226	0.0211	90.0	50-141	6.87	20	WG589579
cis-1,2-Dichloroethene	mg/l	0.0226	0.0214	90.0	75-121	5.23	20	WG589579
cis-1,3-Dichloropropene	mg/l	0.0219	0.0208	88.0	74-124	4.91	20	WG589579
Dibromomethane	mg/l	0.0216	0.0211	86.0	77-124	2.28	20	WG589579
Ethylbenzene	mg/l	0.0230	0.0213	92.0	77-124	7.85	20	WG589579
Iodomethane	mg/l	0.126	0.116	101.	54-139	8.44	20	WG589579
Methylene Chloride	mg/l	0.0204	0.0192	82.0	67-122	6.05	20	WG589579

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
Styrene	mg/l	0.0227	0.0217	91.0	69-145	4.51	20	WG589579
Tetrachloroethene	mg/l	0.0235	0.0219	94.0	69-131	7.26	20	WG589579
Toluene	mg/l	0.0224	0.0208	90.0	75-114	7.19	20	WG589579
trans-1,2-Dichloroethene	mg/l	0.0224	0.0207	90.0	63-127	8.07	20	WG589579
trans-1,3-Dichloropropene	mg/l	0.0213	0.0205	85.0	69-124	3.83	20	WG589579
trans-1,4-Dichloro-2-butene	mg/l	0.0220	0.0208	88.0	58-137	5.41	20	WG589579
Trichloroethene	mg/l	0.0228	0.0219	91.0	69-131	4.18	20	WG589579
Trichlorofluoromethane	mg/l	0.0246	0.0233	98.0	53-161	5.61	20	WG589579
Vinyl acetate	mg/l	0.110	0.0984	88.0	47-161	10.7	20	WG589579
Vinyl chloride	mg/l	0.0234	0.0218	94.0	55-142	7.28	20	WG589579
Xylenes, Total	mg/l	0.0694	0.0654	92.0	77-123	5.87	20	WG589579
4-Bromofluorobenzene				96.69	82-120			WG589579
Dibromofluoromethane				99.75	82-126			WG589579
Toluene-d8				101.4	92-112			WG589579
a,a,a-Trifluorotoluene				101.1	90-116			WG589579
Chloride	mg/l	40.1	40.1	100.	90-110	0	20	WG589475
Nitrate	mg/l	8.63	8.63	108.	90-110	0	20	WG589475
Nitrite	mg/l	8.03	8.03	100.	90-110	0	20	WG589475
Sulfate	mg/l	40.1	40.0	100.	90-110	0.250	20	WG589475
Alkalinity	mg/l	94.0	98.0	94.0	85-115	4.17	20	WG589597
TOC (Total Organic Carbon)	mg/l	74.2	73.8	99.0	85-115	0.500	20	WG589539
Alkalinity	mg/l	98.0	91.0	98.0	85-115	7.41	20	WG589687
TOC (Total Organic Carbon)	mg/l	73.5	73.6	98.0	85-115	0.0544	20	WG589846
Specific Conductance	umhos/	441.	441.	96.0	85-115	0	20	WG589825
pH	su	6.01	6.02	100.	98-101	0.166	20	WG589790

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
1,1,1,2-Tetrachloroethane	mg/l	0.0236	0	.025	94.3	71-130	L571637-01	WG589579
1,1,1-Trichloroethane	mg/l	0.0236	0	.025	94.2	58-137	L571637-01	WG589579
1,1,2,2-Tetrachloroethane	mg/l	0.0212	0	.025	84.8	64-149	L571637-01	WG589579
1,1,2-Trichloroethane	mg/l	0.0231	0	.025	92.3	73-128	L571637-01	WG589579
1,1-Dichloroethane	mg/l	0.0234	0	.025	93.6	58-133	L571637-01	WG589579
1,1-Dichloroethene	mg/l	0.0242	0	.025	97.0	32-152	L571637-01	WG589579
1,2,3-Trichloropropane	mg/l	0.0226	0	.025	90.2	74-137	L571637-01	WG589579
1,2-Dichlorobenzene	mg/l	0.0232	0	.025	92.7	75-125	L571637-01	WG589579
1,2-Dichloroethane	mg/l	0.0227	0	.025	90.8	59-135	L571637-01	WG589579
1,2-Dichloropropane	mg/l	0.0232	0	.025	92.8	68-126	L571637-01	WG589579
1,4-Dichlorobenzene	mg/l	0.0232	0	.025	102.7	70-123	L571637-01	WG589579
2-Butanone (MEK)	mg/l	0.131	0	.125	95.5	51-149	L571637-01	WG589579
2-Hexanone	mg/l	0.124	0	.125	99.5	58-148	L571637-01	WG589579
4-Methyl-2-pentanone (MIBK)	mg/l	0.108	0	.125	86.5	53-154	L571637-01	WG589579
Acetone	mg/l	0.161	0	.125	129.	34-146	L571637-01	WG589579
Acrylonitrile	mg/l	0.112	0	.125	89.4	49-162	L571637-01	WG589579

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Benzene	mg/l	0.0235	0	.025	93.8	51-134	L571637-01	WG589579
Bromochloromethane	mg/l	0.0232	0	.025	92.7	67-131	L571637-01	WG589579
Bromodichloromethane	mg/l	0.0225	0	.025	90.1	67-132	L571637-01	WG589579
Bromoform	mg/l	0.0215	0	.025	85.9	59-137	L571637-01	WG589579
Bromomethane	mg/l	0.0252	0	.025	101.	23-177	L571637-01	WG589579
Carbon disulfide	mg/l	0.0252	0	.025	101.	10-165	L571637-01	WG589579
Carbon tetrachloride	mg/l	0.0237	0	.025	94.8	49-140	L571637-01	WG589579
Chlorobenzene	mg/l	0.0237	0	.025	94.6	69-126	L571637-01	WG589579
Chlorodibromomethane	mg/l	0.0224	0	.025	89.5	68-130	L571637-01	WG589579
Chloroethane	mg/l	0.0267	0	.025	107.	32-177	L571637-01	WG589579
Chloroform	mg/l	0.0236	0	.025	94.3	64-130	L571637-01	WG589579
Chloromethane	mg/l	0.0238	0	.025	95.0	27-155	L571637-01	WG589579
cis-1,2-Dichloroethene	mg/l	0.0234	0	.025	93.6	54-137	L571637-01	WG589579
cis-1,3-Dichloropropene	mg/l	0.0229	0	.025	91.4	63-127	L571637-01	WG589579
Dibromomethane	mg/l	0.0230	0	.025	91.8	68-131	L571637-01	WG589579
Ethylbenzene	mg/l	0.0236	0	.025	94.5	64-135	L571637-01	WG589579
Iodomethane	mg/l	0.132	0	.125	106.	38-149	L571637-01	WG589579
Methylene Chloride	mg/l	0.0216	0	.025	86.3	52-130	L571637-01	WG589579
Styrene	mg/l	0.0237	0	.025	94.8	58-152	L571637-01	WG589579
Tetrachloroethene	mg/l	0.0241	0	.025	96.5	56-139	L571637-01	WG589579
Toluene	mg/l	0.0232	0	.025	92.9	61-126	L571637-01	WG589579
trans-1,2-Dichloroethene	mg/l	0.0237	0	.025	94.7	45-137	L571637-01	WG589579
trans-1,3-Dichloropropene	mg/l	0.0228	0	.025	91.3	59-130	L571637-01	WG589579
trans-1,4-Dichloro-2-butene	mg/l	0.0237	0	.025	94.8	51-145	L571637-01	WG589579
Trichloroethene	mg/l	0.0242	0	.025	96.7	40-155	L571637-01	WG589579
Trichlorofluoromethane	mg/l	0.0259	0	.025	103.	35-177	L571637-01	WG589579
Vinyl acetate	mg/l	0.117	0	.125	93.8	36-186	L571637-01	WG589579
Vinyl chloride	mg/l	0.0252	0	.025	101.	32-159	L571637-01	WG589579
Xylenes, Total	mg/l	0.0712	0	.075	94.9	64-133	L571637-01	WG589579
4-Bromofluorobenzene					95.97	82-120		WG589579
Dibromofluoromethane					100.0	82-126		WG589579
Toluene-d8					101.5	92-112		WG589579
a,a,a-Trifluorotoluene					98.36	90-116		WG589579
Nitrate	mg/l	6.87	1.60	5	105.	80-120	L571644-04	WG589475
Alkalinity	mg/l	280.	210.	100	70.0*	80-120	L571637-02	WG589597
TOC (Total Organic Carbon)	mg/l	51.4	0	50	103.	80-120	L571426-02	WG589539
Mercury	mg/l	0.00262	0	.003	87.3	70-130	L571637-01	WG589637
Alkalinity	mg/l	92.0	0	100	92.0	80-120	L571671-02	WG589687
TOC (Total Organic Carbon)	mg/l	55.9	3.80	50	104.	80-120	L571671-01	WG589846
Antimony	mg/l	0.0581	0	.0567	102.	75-125	L571872-06	WG589816
Arsenic	mg/l	0.0570	0	.0567	100.	75-125	L571872-06	WG589816
Beryllium	mg/l	0.0540	0	.0567	95.2	75-125	L571872-06	WG589816
Cadmium	mg/l	0.0568	0	.0567	100.	75-125	L571872-06	WG589816
Copper	mg/l	0.0572	0.000450	.0567	100.	75-125	L571872-06	WG589816
Lead	mg/l	0.0575	0	.0567	101.	75-125	L571872-06	WG589816

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Selenium	mg/l	0.0562	0.000460	.0567	98.3	75-125	L571872-06	WG589816
Thallium	mg/l	0.0556	0	.0567	98.1	75-125	L571872-06	WG589816
Zinc	mg/l	0.0632	0.00330	.0567	106.	75-125	L571872-06	WG589816
Barium	mg/l	1.31	0.160	1.13	102.	75-125	L571750-08	WG589680
Calcium	mg/l	210.	198.	11.3	106.	75-125	L571750-08	WG589680
Chromium	mg/l	1.14	0	1.13	101.	75-125	L571750-08	WG589680
Cobalt	mg/l	1.20	0	1.13	106.	75-125	L571750-08	WG589680
Magnesium	mg/l	63.2	52.3	11.3	96.5	75-125	L571750-08	WG589680
Nickel	mg/l	1.11	0	1.13	98.2	75-125	L571750-08	WG589680
Potassium	mg/l	21.4	10.2	11.3	99.1	75-125	L571750-08	WG589680
Silver	mg/l	0.0899	0	1.13	7.96*	75-125	L571750-08	WG589680
Sodium	mg/l	28.4	16.9	11.3	102.	75-125	L571750-08	WG589680
Vanadium	mg/l	1.15	0	1.13	102.	75-125	L571750-08	WG589680

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
1,1,1,2-Tetrachloroethane	mg/l	0.0241	0.0236	96.3	71-130	2.10	20	L571637-01	WG589579
1,1,1-Trichloroethane	mg/l	0.0242	0.0236	96.8	58-137	2.72	20	L571637-01	WG589579
1,1,2,2-Tetrachloroethane	mg/l	0.0219	0.0212	87.6	64-149	3.27	20	L571637-01	WG589579
1,1,2-Trichloroethane	mg/l	0.0234	0.0231	93.7	73-128	1.47	20	L571637-01	WG589579
1,1-Dichloroethane	mg/l	0.0244	0.0234	97.6	58-133	4.10	20	L571637-01	WG589579
1,1-Dichloroethene	mg/l	0.0246	0.0242	98.4	32-152	1.53	20	L571637-01	WG589579
1,2,3-Trichloropropane	mg/l	0.0242	0.0226	96.7	74-137	6.88	20	L571637-01	WG589579
1,2-Dichlorobenzene	mg/l	0.0239	0.0232	95.4	75-125	2.89	20	L571637-01	WG589579
1,2-Dichloroethane	mg/l	0.0229	0.0227	91.5	59-135	0.840	20	L571637-01	WG589579
1,2-Dichloropropane	mg/l	0.0238	0.0232	95.2	68-126	2.54	20	L571637-01	WG589579
1,4-Dichlorobenzene	mg/l	0.0238	0.0232	95.0	70-123	2.43	20	L571637-01	WG589579
2-Butanone (MEK)	mg/l	0.134	0.131	107.	51-149	2.04	22	L571637-01	WG589579
2-Hexanone	mg/l	0.128	0.124	102.	58-148	2.74	24	L571637-01	WG589579
4-Methyl-2-pentanone (MIBK)	mg/l	0.114	0.108	90.9	53-154	4.93	21	L571637-01	WG589579
Acetone	mg/l	0.164	0.161	131.	34-146	1.95	22	L571637-01	WG589579
Acrylonitrile	mg/l	0.117	0.112	93.8	49-162	4.84	20	L571637-01	WG589579
Benzene	mg/l	0.0242	0.0235	96.9	51-134	3.23	20	L571637-01	WG589579
Bromochloromethane	mg/l	0.0240	0.0232	95.9	67-131	3.36	20	L571637-01	WG589579
Bromodichloromethane	mg/l	0.0230	0.0225	92.0	67-132	2.05	20	L571637-01	WG589579
Bromoform	mg/l	0.0228	0.0215	91.1	59-137	5.94	20	L571637-01	WG589579
Bromomethane	mg/l	0.0260	0.0252	104.	23-177	3.09	21	L571637-01	WG589579
Carbon disulfide	mg/l	0.0252	0.0252	101.	10-165	0	22	L571637-01	WG589579
Carbon tetrachloride	mg/l	0.0249	0.0237	99.7	49-140	5.02	20	L571637-01	WG589579
Chlorobenzene	mg/l	0.0239	0.0237	95.4	69-126	0.890	20	L571637-01	WG589579
Chlorodibromomethane	mg/l	0.0232	0.0224	92.6	68-130	3.40	20	L571637-01	WG589579
Chloroethane	mg/l	0.0279	0.0267	112.	32-177	4.60	21	L571637-01	WG589579
Chloroform	mg/l	0.0246	0.0236	98.5	64-130	4.39	20	L571637-01	WG589579
Chloromethane	mg/l	0.0242	0.0238	96.8	27-155	1.83	20	L571637-01	WG589579
cis-1,2-Dichloroethene	mg/l	0.0242	0.0234	96.8	54-137	3.45	20	L571637-01	WG589579
cis-1,3-Dichloropropene	mg/l	0.0233	0.0229	93.4	63-127	2.07	20	L571637-01	WG589579
Dibromomethane	mg/l	0.0238	0.0230	95.0	68-131	3.42	20	L571637-01	WG589579
Ethylbenzene	mg/l	0.0238	0.0236	95.4	64-135	0.930	20	L571637-01	WG589579
Iodomethane	mg/l	0.133	0.132	106.	38-149	0.450	20	L571637-01	WG589579
Methylene Chloride	mg/l	0.0221	0.0216	88.4	52-130	2.39	20	L571637-01	WG589579
Styrene	mg/l	0.0238	0.0237	95.3	58-152	0.500	20	L571637-01	WG589579
Tetrachloroethene	mg/l	0.0248	0.0241	99.2	56-139	2.76	20	L571637-01	WG589579
Toluene	mg/l	0.0239	0.0232	95.6	61-126	2.91	20	L571637-01	WG589579
trans-1,2-Dichloroethene	mg/l	0.0237	0.0237	94.9	45-137	0.130	20	L571637-01	WG589579
trans-1,3-Dichloropropene	mg/l	0.0234	0.0228	93.7	59-130	2.51	20	L571637-01	WG589579
trans-1,4-Dichloro-2-butene	mg/l	0.0243	0.0237	97.3	51-145	2.61	24	L571637-01	WG589579

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Trichloroethene	mg/l	0.0248	0.0242	99.4	40-155	2.73	20	L571637-01	WG589579
Trichlorofluoromethane	mg/l	0.0262	0.0259	105.	35-177	1.17	23	L571637-01	WG589579
Vinyl acetate	mg/l	0.121	0.117	96.7	36-186	3.06	20	L571637-01	WG589579
Vinyl chloride	mg/l	0.0253	0.0252	101.	32-159	0.490	21	L571637-01	WG589579
Xylenes, Total	mg/l	0.0720	0.0712	96.0	64-133	1.21	20	L571637-01	WG589579
4-Bromofluorobenzene				95.08	82-120				WG589579
Dibromofluoromethane				100.9	82-126				WG589579
Toluene-d8				103.3	92-112				WG589579
a,a,a-Trifluorotoluene				98.83	90-116				WG589579
Nitrate	mg/l	6.87	6.87	105.	80-120	0	20	L571644-04	WG589475
Alkalinity	mg/l	280.	280.	70.0*	80-120	0	20	L571637-02	WG589597
TOC (Total Organic Carbon)	mg/l	52.5	51.4	105.	80-120	2.27	20	L571426-02	WG589539
Mercury	mg/l	0.00270	0.00262	90.0	70-130	3.01	20	L571637-01	WG589637
Alkalinity	mg/l	93.0	92.0	93.0	80-120	1.08	20	L571671-02	WG589687
TOC (Total Organic Carbon)	mg/l	56.6	55.9	106.	80-120	1.25	20	L571671-01	WG589846
Antimony	mg/l	0.0598	0.0581	105.	75-125	2.88	20	L571872-06	WG589816
Arsenic	mg/l	0.0572	0.0570	101.	75-125	0.350	20	L571872-06	WG589816
Beryllium	mg/l	0.0538	0.0540	94.9	75-125	0.371	20	L571872-06	WG589816
Cadmium	mg/l	0.0580	0.0568	102.	75-125	2.09	20	L571872-06	WG589816
Copper	mg/l	0.0573	0.0572	100.	75-125	0.175	20	L571872-06	WG589816
Lead	mg/l	0.0574	0.0575	101.	75-125	0.174	20	L571872-06	WG589816
Selenium	mg/l	0.0573	0.0562	100.	75-125	1.94	20	L571872-06	WG589816
Thallium	mg/l	0.0560	0.0556	98.8	75-125	0.717	20	L571872-06	WG589816
Zinc	mg/l	0.0632	0.0632	106.	75-125	0	20	L571872-06	WG589816
Barium	mg/l	1.35	1.31	105.	75-125	3.01	20	L571750-08	WG589680
Calcium	mg/l	218.	210.	177.*	75-125	3.74	20	L571750-08	WG589680
Chromium	mg/l	1.19	1.14	105.	75-125	4.29	20	L571750-08	WG589680
Cobalt	mg/l	1.16	1.20	103.	75-125	3.39	20	L571750-08	WG589680
Magnesium	mg/l	65.4	63.2	116.	75-125	3.42	20	L571750-08	WG589680
Nickel	mg/l	1.14	1.11	101.	75-125	2.67	20	L571750-08	WG589680
Potassium	mg/l	22.2	21.4	106.	75-125	3.67	20	L571750-08	WG589680
Silver	mg/l	0.0894	0.0899	7.91*	75-125	0.558	20	L571750-08	WG589680
Sodium	mg/l	29.8	28.4	114.	75-125	4.81	20	L571750-08	WG589680
Vanadium	mg/l	1.19	1.15	105.	75-125	3.42	20	L571750-08	WG589680

Batch number /Run number / Sample number cross reference

WG589579: R2142613: L571648-01 02 03
WG589475: R2143253: L571648-01 02 03
WG589597: R2144413: L571648-01
WG589595: R2144453: L571648-01
WG589599: R2144473: L571648-01

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

WG589539: R2145173: L571648-01 02
WG589637: R2145215: L571648-01 02 03
WG589687: R2146513: L571648-02 03
WG589929: R2146533: L571648-02 03
WG589930: R2146553: L571648-02 03
WG589846: R2148253: L571648-03
WG589825: R2148713: L571648-01 02 03
WG589790: R2148834: L571648-01 02 03
WG589816: R2149934: L571648-01 02 03
WG589680: R2153373: L571648-01 02 03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L571648

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

May 02, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Monday November 05, 2012

Report Number: L602849

Samples Received: 10/26/12

Client Project: 10-0133

Description: Broda AI Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/B10041, ND - R-140, NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 10/24/12 10:50

ESC Sample # : L602849-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	2.0	mg/l	9056	10/26/12	2
Nitrate	3.9	0.10	mg/l	9056	10/26/12	1
Nitrite	BDL	0.10	mg/l	9056	10/26/12	1
Sulfate	170	10.	mg/l	9056	10/26/12	2
Alkalinity	220	100	mg/l	2320B	10/31/12	5
Alkalinity,Bicarbonate	220	100	mg/l	2320B	10/31/12	5
Alkalinity,Carbonate	BDL	100	mg/l	2320B	10/31/12	5
pH	7.6		su	9040C	10/30/12	1
Specific Conductance	1000		umhos/cm	9050A	10/31/12	1
TOC (Total Organic Carbon)	2.8	1.0	mg/l	9060A	11/02/12	1
Antimony	BDL	0.0010	mg/l	6020	11/01/12	1
Arsenic	0.0023	0.0010	mg/l	6020	11/01/12	1
Beryllium	BDL	0.0010	mg/l	6020	11/02/12	1
Cadmium	BDL	0.00050	mg/l	6020	11/01/12	1
Copper	0.0034	0.0020	mg/l	6020	11/01/12	1
Lead	0.0012	0.0010	mg/l	6020	11/01/12	1
Selenium	0.0036	0.0010	mg/l	6020	11/01/12	1
Thallium	BDL	0.0010	mg/l	6020	11/01/12	1
Zinc	BDL	0.010	mg/l	6020	11/01/12	1
Mercury	BDL	0.00020	mg/l	7470A	10/27/12	1
Barium	0.076	0.0050	mg/l	6010B	10/29/12	1
Calcium	62.	0.50	mg/l	6010B	10/29/12	1
Chromium	BDL	0.010	mg/l	6010B	10/29/12	1
Cobalt	BDL	0.010	mg/l	6010B	10/29/12	1
Magnesium	21.	0.10	mg/l	6010B	10/29/12	1
Nickel	BDL	0.020	mg/l	6010B	10/29/12	1
Potassium	8.0	0.50	mg/l	6010B	10/29/12	1
Silver	BDL	0.010	mg/l	6010B	10/29/12	1
Sodium	120	0.50	mg/l	6010B	10/29/12	1
Vanadium	BDL	0.010	mg/l	6010B	10/29/12	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/26/12	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L602849-01 (PH) - 7.6@17.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

ESC Sample # : L602849-01

Sample ID : MW-1

Site ID : BRODA AI

Collected By : Mark Molen
Collection Date : 10/24/12 10:50

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	10/26/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/26/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/26/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/26/12	1
Chloroform	BDL	0.0050	mg/l	8260B	10/26/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/26/12	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/26/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/26/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/26/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/26/12	1
Iodomethane	BDL	0.010	mg/l	8260B	10/26/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/26/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/26/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/26/12	1
Styrene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
Toluene	BDL	0.0050	mg/l	8260B	10/26/12	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/26/12	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	10/26/12	1
Vinyl acetate	BDL	0.010	mg/l	8260B	10/26/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/26/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/26/12	1
Surrogate Recovery						
Toluene-d8	82.7		% Rec.	8260B	10/26/12	1
Dibromofluoromethane	96.7		% Rec.	8260B	10/26/12	1
a,a,a-Trifluorotoluene	109.		% Rec.	8260B	10/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L602849-01 (PH) - 7.6@17.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 10/24/12 10:50

ESC Sample # : L602849-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	108.		% Rec.	8260B	10/26/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/05/12 13:13 Printed: 11/05/12 13:20
L602849-01 (PH) - 7.6@17.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 10/24/12 11:30

ESC Sample # : L602849-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	180	5.0	mg/l	9056	10/26/12	5
Nitrate	BDL	0.10	mg/l	9056	10/26/12	1
Nitrite	BDL	0.10	mg/l	9056	10/26/12	1
Sulfate	200	25.	mg/l	9056	10/26/12	5
Alkalinity	210	100	mg/l	2320B	10/31/12	5
Alkalinity, Bicarbonate	210	100	mg/l	2320B	10/31/12	5
Alkalinity, Carbonate	BDL	100	mg/l	2320B	10/31/12	5
pH	7.5		su	9040C	10/30/12	1
Specific Conductance	1300		umhos/cm	9050A	10/31/12	1
TOC (Total Organic Carbon)	5.5	1.0	mg/l	9060A	11/02/12	1
Antimony	BDL	0.0010	mg/l	6020	11/01/12	1
Arsenic	0.0064	0.0010	mg/l	6020	11/01/12	1
Beryllium	BDL	0.0010	mg/l	6020	11/02/12	1
Cadmium	0.0014	0.00050	mg/l	6020	11/01/12	1
Copper	0.0070	0.0020	mg/l	6020	11/01/12	1
Lead	0.0031	0.0010	mg/l	6020	11/01/12	1
Selenium	0.0036	0.0010	mg/l	6020	11/01/12	1
Thallium	BDL	0.0010	mg/l	6020	11/01/12	1
Zinc	0.018	0.010	mg/l	6020	11/01/12	1
Mercury	BDL	0.00020	mg/l	7470A	10/27/12	1
Barium	0.18	0.0050	mg/l	6010B	10/29/12	1
Calcium	70.	0.50	mg/l	6010B	10/29/12	1
Chromium	BDL	0.010	mg/l	6010B	10/29/12	1
Cobalt	BDL	0.010	mg/l	6010B	10/29/12	1
Magnesium	21.	0.10	mg/l	6010B	10/29/12	1
Nickel	BDL	0.020	mg/l	6010B	10/29/12	1
Potassium	11.	0.50	mg/l	6010B	10/29/12	1
Silver	BDL	0.010	mg/l	6010B	10/29/12	1
Sodium	170	0.50	mg/l	6010B	10/29/12	1
Vanadium	BDL	0.010	mg/l	6010B	10/29/12	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/26/12	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L602849-02 (PH) - 7.5@15.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

ESC Sample # : L602849-02

Sample ID : MW-2

Site ID : BRODA AI

Collected By : Mark Molen
Collection Date : 10/24/12 11:30

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	10/26/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/26/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/26/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/26/12	1
Chloroform	BDL	0.0050	mg/l	8260B	10/26/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/26/12	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/26/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/26/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/26/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/26/12	1
Iodomethane	BDL	0.010	mg/l	8260B	10/26/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/26/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/26/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/26/12	1
Styrene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
Toluene	BDL	0.0050	mg/l	8260B	10/26/12	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/26/12	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	10/26/12	1
Vinyl acetate	BDL	0.010	mg/l	8260B	10/26/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/26/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/26/12	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	10/26/12	1
Dibromofluoromethane	102.		% Rec.	8260B	10/26/12	1
a,a,a-Trifluorotoluene	114.		% Rec.	8260B	10/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L602849-02 (PH) - 7.5@15.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

November 05, 2012

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

ESC Sample # : L602849-02

Date Received : October 26, 2012
Description : Broda AI Inert Fill

Site ID : BRODA AI

Sample ID : MW-2

Project # : 10-0133

Collected By : Mark Molen
Collection Date : 10/24/12 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	109.		% Rec.	8260B	10/26/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/05/12 13:13 Printed: 11/05/12 13:20
L602849-02 (PH) - 7.5@15.9c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

ESC Sample # : L602849-03

Sample ID : MW-3

Site ID : BRODA AI

Collected By : Mark Molen
Collection Date : 10/24/12 12:15

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	140	5.0	mg/l	9056	10/26/12	5
Nitrate	15.	0.10	mg/l	9056	10/26/12	1
Nitrite	BDL	0.10	mg/l	9056	10/26/12	1
Sulfate	140	25.	mg/l	9056	10/26/12	5
Alkalinity	180	100	mg/l	2320B	10/31/12	5
Alkalinity, Bicarbonate	180	100	mg/l	2320B	10/31/12	5
Alkalinity, Carbonate	BDL	100	mg/l	2320B	10/31/12	5
pH	7.3		su	9040C	10/30/12	1
Specific Conductance	1000		umhos/cm	9050A	10/31/12	1
TOC (Total Organic Carbon)	2.8	1.0	mg/l	9060A	11/02/12	1
Antimony	BDL	0.0010	mg/l	6020	11/01/12	1
Arsenic	0.0023	0.0010	mg/l	6020	11/01/12	1
Beryllium	BDL	0.0010	mg/l	6020	11/02/12	1
Cadmium	BDL	0.00050	mg/l	6020	11/01/12	1
Copper	0.0052	0.0020	mg/l	6020	11/01/12	1
Lead	0.0033	0.0010	mg/l	6020	11/01/12	1
Selenium	0.0052	0.0010	mg/l	6020	11/01/12	1
Thallium	BDL	0.0010	mg/l	6020	11/01/12	1
Zinc	0.013	0.010	mg/l	6020	11/01/12	1
Mercury	BDL	0.00020	mg/l	7470A	10/27/12	1
Barium	0.095	0.0050	mg/l	6010B	10/29/12	1
Calcium	75.	0.50	mg/l	6010B	10/29/12	1
Chromium	BDL	0.010	mg/l	6010B	10/29/12	1
Cobalt	BDL	0.010	mg/l	6010B	10/29/12	1
Magnesium	17.	0.10	mg/l	6010B	10/29/12	1
Nickel	BDL	0.020	mg/l	6010B	10/29/12	1
Potassium	10.	0.50	mg/l	6010B	10/29/12	1
Silver	BDL	0.010	mg/l	6010B	10/29/12	1
Sodium	100	0.50	mg/l	6010B	10/29/12	1
Vanadium	BDL	0.010	mg/l	6010B	10/29/12	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/26/12	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/26/12	1
Benzene	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L602849-03 (PH) - 7.3@16.4c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

ESC Sample # : L602849-03

Sample ID : MW-3

Site ID : BRODA AI

Collected By : Mark Molen
Collection Date : 10/24/12 12:15

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	10/26/12	1
Bromomethane	BDL	0.0050	mg/l	8260B	10/26/12	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/26/12	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/26/12	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/26/12	1
Chloroform	BDL	0.0050	mg/l	8260B	10/26/12	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/26/12	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/26/12	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/26/12	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/26/12	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/26/12	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/26/12	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/26/12	1
Iodomethane	BDL	0.010	mg/l	8260B	10/26/12	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/26/12	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/26/12	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/26/12	1
Styrene	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
Toluene	BDL	0.0050	mg/l	8260B	10/26/12	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/26/12	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/26/12	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/26/12	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	10/26/12	1
Vinyl acetate	BDL	0.010	mg/l	8260B	10/26/12	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/26/12	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/26/12	1
Surrogate Recovery						
Toluene-d8	104.		% Rec.	8260B	10/26/12	1
Dibromofluoromethane	127.		% Rec.	8260B	10/26/12	1
a,a,a-Trifluorotoluene	116.		% Rec.	8260B	10/26/12	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L602849-03 (PH) - 7.3@16.4c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

November 05, 2012

Date Received : October 26, 2012
Description : Broda AI Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 10/24/12 12:15

ESC Sample # : L602849-03

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	111.		% Rec.	8260B	10/26/12	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 11/05/12 13:13 Printed: 11/05/12 13:20
L602849-03 (PH) - 7.3@16.4c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L602849-01	WG620365	SAMP	pH	R2414237	T8
	WG619926	SAMP	Toluene-d8	R2413021	J2
L602849-02	WG620365	SAMP	pH	R2414237	T8
L602849-03	WG620365	SAMP	pH	R2414237	T8
	WG619926	SAMP	Dibromofluoromethane	R2413021	J1

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Mercury	< .0002	mg/l			WG619943	10/27/12 13:18
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG619926	10/26/12 14:15
1,1,1-Trichloroethane	< .001	mg/l			WG619926	10/26/12 14:15
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG619926	10/26/12 14:15
1,1,2-Trichloroethane	< .001	mg/l			WG619926	10/26/12 14:15
1,1-Dichloroethane	< .001	mg/l			WG619926	10/26/12 14:15
1,1-Dichloroethene	< .001	mg/l			WG619926	10/26/12 14:15
1,2,3-Trichloropropane	< .001	mg/l			WG619926	10/26/12 14:15
1,2-Dichlorobenzene	< .001	mg/l			WG619926	10/26/12 14:15
1,2-Dichloroethane	< .001	mg/l			WG619926	10/26/12 14:15
1,2-Dichloropropane	< .001	mg/l			WG619926	10/26/12 14:15
1,4-Dichlorobenzene	< .001	mg/l			WG619926	10/26/12 14:15
2-Butanone (MEK)	< .01	mg/l			WG619926	10/26/12 14:15
2-Hexanone	< .01	mg/l			WG619926	10/26/12 14:15
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG619926	10/26/12 14:15
Acetone	< .05	mg/l			WG619926	10/26/12 14:15
Acrylonitrile	< .01	mg/l			WG619926	10/26/12 14:15
Benzene	< .001	mg/l			WG619926	10/26/12 14:15
Bromochloromethane	< .001	mg/l			WG619926	10/26/12 14:15
Bromodichloromethane	< .001	mg/l			WG619926	10/26/12 14:15
Bromoform	< .001	mg/l			WG619926	10/26/12 14:15
Bromomethane	< .005	mg/l			WG619926	10/26/12 14:15
Carbon disulfide	< .001	mg/l			WG619926	10/26/12 14:15
Carbon tetrachloride	< .001	mg/l			WG619926	10/26/12 14:15
Chlorobenzene	< .001	mg/l			WG619926	10/26/12 14:15
Chlorodibromomethane	< .001	mg/l			WG619926	10/26/12 14:15
Chloroethane	< .005	mg/l			WG619926	10/26/12 14:15
Chloroform	< .005	mg/l			WG619926	10/26/12 14:15
Chloromethane	< .0025	mg/l			WG619926	10/26/12 14:15
cis-1,2-Dichloroethene	< .001	mg/l			WG619926	10/26/12 14:15
cis-1,3-Dichloropropene	< .001	mg/l			WG619926	10/26/12 14:15
Dibromomethane	< .001	mg/l			WG619926	10/26/12 14:15
Ethylbenzene	< .001	mg/l			WG619926	10/26/12 14:15
Iodomethane	< .01	mg/l			WG619926	10/26/12 14:15
Methylene Chloride	< .005	mg/l			WG619926	10/26/12 14:15
Styrene	< .001	mg/l			WG619926	10/26/12 14:15
Tetrachloroethene	< .001	mg/l			WG619926	10/26/12 14:15
Toluene	< .005	mg/l			WG619926	10/26/12 14:15
trans-1,2-Dichloroethene	< .001	mg/l			WG619926	10/26/12 14:15
trans-1,3-Dichloropropene	< .001	mg/l			WG619926	10/26/12 14:15
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG619926	10/26/12 14:15
Trichloroethene	< .001	mg/l			WG619926	10/26/12 14:15
Trichlorofluoromethane	< .005	mg/l			WG619926	10/26/12 14:15
Vinyl acetate	< .01	mg/l			WG619926	10/26/12 14:15
Vinyl chloride	< .001	mg/l			WG619926	10/26/12 14:15
Xylenes, Total	< .003	mg/l			WG619926	10/26/12 14:15
4-Bromofluorobenzene		% Rec.	96.85	82-120	WG619926	10/26/12 14:15
Dibromofluoromethane		% Rec.	107.8	82-126	WG619926	10/26/12 14:15
Toluene-d8		% Rec.	109.9	92-112	WG619926	10/26/12 14:15
a,a,a-Trifluorotoluene		% Rec.	104.6	90-116	WG619926	10/26/12 14:15
Barium	< .005	mg/l			WG620193	10/29/12 17:45
Calcium	< .5	mg/l			WG620193	10/29/12 17:45
Chromium	< .01	mg/l			WG620193	10/29/12 17:45
Cobalt	< .01	mg/l			WG620193	10/29/12 17:45
Magnesium	< .1	mg/l			WG620193	10/29/12 17:45

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Nickel	< .02	mg/l			WG620193	10/29/12 17:45
Potassium	< .5	mg/l			WG620193	10/29/12 17:45
Silver	< .01	mg/l			WG620193	10/29/12 17:45
Sodium	< .5	mg/l			WG620193	10/29/12 17:45
Vanadium	< .01	mg/l			WG620193	10/29/12 17:45
Chloride	< 1	mg/l			WG619913	10/26/12 03:05
Nitrate	< .1	mg/l			WG619913	10/26/12 03:05
Nitrite	< .1	mg/l			WG619913	10/26/12 03:05
Sulfate	< 5	mg/l			WG619913	10/26/12 03:05
Arsenic	< .001	mg/l			WG620586	10/31/12 14:08
Alkalinity	< 20	mg/l			WG620565	10/31/12 14:55
Specific Conductance	1.56	umhos/cm			WG620573	10/31/12 17:55
Antimony	< .001	mg/l			WG620586	11/01/12 17:28
Cadmium	< .0005	mg/l			WG620586	11/01/12 17:28
Copper	< .002	mg/l			WG620586	11/01/12 17:28
Lead	< .001	mg/l			WG620586	11/01/12 17:28
Selenium	< .001	mg/l			WG620586	11/01/12 17:28
Thallium	< .001	mg/l			WG620586	11/01/12 17:28
Zinc	< .01	mg/l			WG620586	11/01/12 17:28
Beryllium	< .001	mg/l			WG620586	11/02/12 17:49
TOC (Total Organic Carbon)	< 1	mg/l			WG621023	11/02/12 14:19

Analyte	Units	Duplicate		RPD	Limit	Ref Samp	Batch
		Result	Duplicate				
Mercury	mg/l	0	0	0	20	L602849-01	WG619943
Barium	mg/l	0.100	0.101	0.995	20	L602716-01	WG620193
Calcium	mg/l	18.0	17.5	2.82	20	L602716-01	WG620193
Chromium	mg/l	0	0	0	20	L602716-01	WG620193
Cobalt	mg/l	0	0.00360	NA	20	L602716-01	WG620193
Magnesium	mg/l	5.70	0	NA	20	L602716-01	WG620193
Nickel	mg/l	0	0	0	20	L602716-01	WG620193
Potassium	mg/l	1.70	1.63	4.20	20	L602716-01	WG620193
Silver	mg/l	0	0.108	NA	20	L602716-01	WG620193
Sodium	mg/l	32.0	31.7	0.942	20	L602716-01	WG620193
Vanadium	mg/l	0	0.00130	NA	20	L602716-01	WG620193
Chloride	mg/l	9.60	9.60	0	20	L602857-03	WG619913
Nitrate	mg/l	0.130	0.120	8.00	20	L602857-03	WG619913
Nitrite	mg/l	0	0	0	20	L602857-03	WG619913
Sulfate	mg/l	76.0	76.0	0	20	L602857-03	WG619913
Nitrate	mg/l	3.40	3.30	2.99	20	L602866-01	WG619913
Nitrite	mg/l	0	0	0	20	L602866-01	WG619913
Sulfate	mg/l	120.	120.	0	20	L602866-01	WG619913

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II
L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate	Duplicate				
pH	su	8.00	8.00	8.00	0.376	1	L602698-01	WG620365
pH	su	7.60	7.60	7.60	0.263	1	L603174-02	WG620365
Arsenic	mg/l	0	0	0	0	20	L602795-01	WG620586
Alkalinity	mg/l	310.	300.	300.	1.98	20	L602663-01	WG620565
Alkalinity	mg/l	180.	180.	180.	1.65	20	L602849-03	WG620565
Specific Conductance	umhos/cm	170.	170.	170.	0	20	L602842-01	WG620573
Specific Conductance	umhos/cm	170.	170.	170.	1.17	20	L603118-01	WG620573
Antimony	mg/l	0	0	0	0	20	L602795-01	WG620586
Cadmium	mg/l	0	0	0	0	20	L602795-01	WG620586
Copper	mg/l	0.170	0.169	0.169	0.590	20	L602795-01	WG620586
Lead	mg/l	0	0	0	0	20	L602795-01	WG620586
Selenium	mg/l	0	0.000420	0.000420	NA	20	L602795-01	WG620586
Thallium	mg/l	0	0	0	0	20	L602795-01	WG620586
Zinc	mg/l	0	0.00854	0.00854	NA	20	L602795-01	WG620586
Beryllium	mg/l	0	0	0	0	20	L602795-01	WG620586
TOC (Total Organic Carbon)	mg/l	130.	130.	130.	2.33	20	L602670-01	WG621023
TOC (Total Organic Carbon)	mg/l	2.90	2.80	2.80	3.16	20	L602852-01	WG621023

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Mercury	mg/l	.003	0.00279	93.0	85-115	WG619943
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0238	95.2	77-128	WG619926
1,1,1-Trichloroethane	mg/l	.025	0.0235	94.0	71-126	WG619926
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0216	86.6	78-130	WG619926
1,1,2-Trichloroethane	mg/l	.025	0.0216	86.5	81-121	WG619926
1,1-Dichloroethane	mg/l	.025	0.0228	91.3	73-123	WG619926
1,1-Dichloroethene	mg/l	.025	0.0245	97.9	54-134	WG619926
1,2,3-Trichloropropane	mg/l	.025	0.0231	92.3	68-130	WG619926
1,2-Dichlorobenzene	mg/l	.025	0.0231	92.4	82-121	WG619926
1,2-Dichloroethane	mg/l	.025	0.0218	87.0	69-128	WG619926
1,2-Dichloropropane	mg/l	.025	0.0210	83.9	77-121	WG619926
1,4-Dichlorobenzene	mg/l	.025	0.0233	93.1	79-117	WG619926
2-Butanone (MEK)	mg/l	.125	0.105	83.8	58-144	WG619926
2-Hexanone	mg/l	.125	0.122	97.6	62-144	WG619926
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.120	95.8	58-147	WG619926
Acetone	mg/l	.125	0.0772	61.7	49-153	WG619926
Acrylonitrile	mg/l	.125	0.106	84.6	53-153	WG619926
Benzene	mg/l	.025	0.0219	87.4	72-119	WG619926
Bromochloromethane	mg/l	.025	0.0223	89.3	79-124	WG619926
Bromodichloromethane	mg/l	.025	0.0203	81.3	75-127	WG619926
Bromoform	mg/l	.025	0.0232	92.6	61-136	WG619926
Bromomethane	mg/l	.025	0.0219	87.8	42-172	WG619926
Carbon disulfide	mg/l	.025	0.0306	122.	19-150	WG619926
Carbon tetrachloride	mg/l	.025	0.0217	86.9	63-129	WG619926
Chlorobenzene	mg/l	.025	0.0218	87.0	78-123	WG619926
Chlorodibromomethane	mg/l	.025	0.0218	87.3	73-128	WG619926

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Chloroethane	mg/l	.025	0.0221	88.5	52-164	WG619926
Chloroform	mg/l	.025	0.0225	90.0	76-122	WG619926
Chloromethane	mg/l	.025	0.0223	89.3	50-141	WG619926
cis-1,2-Dichloroethene	mg/l	.025	0.0221	88.5	75-121	WG619926
cis-1,3-Dichloropropene	mg/l	.025	0.0214	85.6	74-124	WG619926
Dibromomethane	mg/l	.025	0.0224	89.7	77-124	WG619926
Ethylbenzene	mg/l	.025	0.0221	88.3	77-124	WG619926
Iodomethane	mg/l	.125	0.117	93.2	54-139	WG619926
Methylene Chloride	mg/l	.025	0.0209	83.6	67-122	WG619926
Styrene	mg/l	.025	0.0221	88.6	69-145	WG619926
Tetrachloroethene	mg/l	.025	0.0233	93.0	69-131	WG619926
Toluene	mg/l	.025	0.0218	87.3	75-114	WG619926
trans-1,2-Dichloroethene	mg/l	.025	0.0237	94.7	63-127	WG619926
trans-1,3-Dichloropropene	mg/l	.025	0.0217	86.6	69-124	WG619926
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0224	89.5	58-137	WG619926
Trichloroethene	mg/l	.025	0.0210	83.9	69-131	WG619926
Trichlorofluoromethane	mg/l	.025	0.0234	93.5	53-161	WG619926
Vinyl acetate	mg/l	.125	0.117	93.4	47-161	WG619926
Vinyl chloride	mg/l	.025	0.0229	91.6	55-142	WG619926
Xylenes, Total	mg/l	.075	0.0681	90.8	77-123	WG619926
4-Bromofluorobenzene				95.70	82-120	WG619926
Dibromofluoromethane				101.4	82-126	WG619926
Toluene-d8				111.2	92-112	WG619926
a,a,a-Trifluorotoluene				104.2	90-116	WG619926
Barium	mg/l	1.13	1.12	99.1	85-115	WG620193
Calcium	mg/l	11.3	10.9	96.5	85-115	WG620193
Chromium	mg/l	1.13	1.19	105.	85-115	WG620193
Cobalt	mg/l	1.13	1.24	110.	85-115	WG620193
Magnesium	mg/l	11.3	11.0	97.3	85-115	WG620193
Nickel	mg/l	1.13	1.12	99.1	85-115	WG620193
Potassium	mg/l	11.3	11.2	99.1	85-115	WG620193
Silver	mg/l	1.13	1.12	99.1	85-115	WG620193
Sodium	mg/l	11.3	11.4	101.	85-115	WG620193
Vanadium	mg/l	1.13	1.14	101.	85-115	WG620193
Chloride	mg/l	40	40.3	101.	90-110	WG619913
Nitrate	mg/l	8	8.32	104.	90-110	WG619913
Nitrite	mg/l	8	8.01	100.	90-110	WG619913
Sulfate	mg/l	40	39.5	98.8	90-110	WG619913
pH	su	6.03	6.01	99.7	98-101	WG620365
Arsenic	mg/l	.0567	0.0561	98.9	85-115	WG620586
Alkalinity	mg/l	100	97.0	97.0	85-115	WG620565
Specific Conductance	umhos/cm	1050	1060	101.	85-115	WG620573
Antimony	mg/l	.0567	0.0539	95.1	85-115	WG620586
Cadmium	mg/l	.0567	0.0528	93.1	85-115	WG620586
Copper	mg/l	.0567	0.0546	96.3	85-115	WG620586

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Lead	mg/l	.0567	0.0521	91.9	85-115	WG620586
Selenium	mg/l	.0567	0.0490	86.4	85-115	WG620586
Thallium	mg/l	.0567	0.0520	91.7	85-115	WG620586
Zinc	mg/l	.0567	0.0547	96.5	85-115	WG620586
Beryllium	mg/l	.0567	0.0509	89.8	85-115	WG620586
TOC (Total Organic Carbon)	mg/l	75	74.0	98.7	85-115	WG621023

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
1,1,1,2-Tetrachloroethane	mg/l	0.0241	0.0238	96.0	77-128	1.09	20	WG619926
1,1,1-Trichloroethane	mg/l	0.0243	0.0235	97.0	71-126	3.33	20	WG619926
1,1,2,2-Tetrachloroethane	mg/l	0.0211	0.0216	84.0	78-130	2.40	20	WG619926
1,1,2-Trichloroethane	mg/l	0.0214	0.0216	86.0	81-121	0.830	20	WG619926
1,1-Dichloroethane	mg/l	0.0238	0.0228	95.0	73-123	4.13	20	WG619926
1,1-Dichloroethene	mg/l	0.0258	0.0245	103.	54-134	5.22	20	WG619926
1,2,3-Trichloropropane	mg/l	0.0220	0.0231	88.0	68-130	4.83	20	WG619926
1,2-Dichlorobenzene	mg/l	0.0245	0.0231	98.0	82-121	5.80	20	WG619926
1,2-Dichloroethane	mg/l	0.0222	0.0218	89.0	69-128	2.10	20	WG619926
1,2-Dichloropropane	mg/l	0.0213	0.0210	85.0	77-121	1.76	20	WG619926
1,4-Dichlorobenzene	mg/l	0.0245	0.0233	98.0	79-117	5.03	20	WG619926
2-Butanone (MEK)	mg/l	0.0914	0.105	73.0	58-144	13.5	20	WG619926
2-Hexanone	mg/l	0.103	0.122	82.0	62-144	17.3	20	WG619926
4-Methyl-2-pentanone (MIBK)	mg/l	0.113	0.120	91.0	58-147	5.57	20	WG619926
Acetone	mg/l	0.0916	0.0772	73.0	49-153	17.1	21	WG619926
Acrylonitrile	mg/l	0.110	0.106	88.0	53-153	4.10	20	WG619926
Benzene	mg/l	0.0231	0.0219	92.0	72-119	5.51	20	WG619926
Bromochloromethane	mg/l	0.0233	0.0223	93.0	79-124	4.25	20	WG619926
Bromodichloromethane	mg/l	0.0211	0.0203	84.0	75-127	3.65	20	WG619926
Bromoform	mg/l	0.0223	0.0232	89.0	61-136	3.89	20	WG619926
Bromomethane	mg/l	0.0231	0.0219	92.0	42-172	5.28	20	WG619926
Carbon disulfide	mg/l	0.0321	0.0306	128.	19-150	4.95	20	WG619926
Carbon tetrachloride	mg/l	0.0233	0.0217	93.0	63-129	6.95	20	WG619926
Chlorobenzene	mg/l	0.0221	0.0218	88.0	78-123	1.44	20	WG619926
Chlorodibromomethane	mg/l	0.0215	0.0218	86.0	73-128	1.50	20	WG619926
Chloroethane	mg/l	0.0236	0.0221	94.0	52-164	6.26	20	WG619926
Chloroform	mg/l	0.0230	0.0225	92.0	76-122	2.18	20	WG619926
Chloromethane	mg/l	0.0235	0.0223	94.0	50-141	5.36	20	WG619926
cis-1,2-Dichloroethene	mg/l	0.0231	0.0221	92.0	75-121	4.17	20	WG619926
cis-1,3-Dichloropropene	mg/l	0.0216	0.0214	86.0	74-124	0.700	20	WG619926
Dibromomethane	mg/l	0.0225	0.0224	90.0	77-124	0.200	20	WG619926
Ethylbenzene	mg/l	0.0226	0.0221	90.0	77-124	2.15	20	WG619926
Iodomethane	mg/l	0.121	0.117	97.0	54-139	4.11	20	WG619926
Methylene Chloride	mg/l	0.0215	0.0209	86.0	67-122	2.88	20	WG619926
Styrene	mg/l	0.0228	0.0221	91.0	69-145	2.79	20	WG619926
Tetrachloroethene	mg/l	0.0237	0.0233	95.0	69-131	1.73	20	WG619926
Toluene	mg/l	0.0219	0.0218	88.0	75-114	0.460	20	WG619926
trans-1,2-Dichloroethene	mg/l	0.0245	0.0237	98.0	63-127	3.25	20	WG619926
trans-1,3-Dichloropropene	mg/l	0.0214	0.0217	85.0	69-124	1.32	20	WG619926
trans-1,4-Dichloro-2-butene	mg/l	0.0212	0.0224	85.0	58-137	5.20	20	WG619926
Trichloroethene	mg/l	0.0223	0.0210	89.0	69-131	6.19	20	WG619926
Trichlorofluoromethane	mg/l	0.0244	0.0234	98.0	53-161	4.29	20	WG619926
Vinyl acetate	mg/l	0.116	0.117	92.0	47-161	0.980	20	WG619926
Vinyl chloride	mg/l	0.0246	0.0229	98.0	55-142	7.24	20	WG619926
Xylenes, Total	mg/l	0.0699	0.0681	93.0	77-123	2.62	20	WG619926
4-Bromofluorobenzene				92.54	82-120			WG619926
Dibromofluoromethane				100.8	82-126			WG619926

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Laboratory Control Sample Duplicate				Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
Toluene-d8				110.5	92-112			
a,a,a-Trifluorotoluene				103.8	90-116			
Chloride	mg/l	40.4	40.3	101.	90-110	0.248	20	WG619913
Nitrate	mg/l	8.36	8.32	104.	90-110	0.480	20	WG619913
Nitrite	mg/l	8.05	8.01	101.	90-110	0.498	20	WG619913
Sulfate	mg/l	39.6	39.5	99.0	90-110	0.253	20	WG619913
pH	su	6.01	6.01	100.	98-101	0	20	WG620365
Alkalinity	mg/l	99.4	97.0	99.0	85-115	2.44	20	WG620565
Specific Conductance	umhos/	1060	1060	101.	85-115	0	20	WG620573
TOC (Total Organic Carbon)	mg/l	74.2	74.0	99.0	85-115	0.270	20	WG621023

Analyte	Units	Matrix Spike				Limit	Ref Samp	Batch
		MS Res	Ref Res	TV	% Rec			
Mercury	mg/l	0.00279	0	.003	93.0	80-120	L602849-01	WG619943
1,1,1,2-Tetrachloroethane	mg/l	0.0232	0	.025	92.8	71-130	L602663-01	WG619926
1,1,1-Trichloroethane	mg/l	0.0221	0	.025	88.3	58-137	L602663-01	WG619926
1,1,2,2-Tetrachloroethane	mg/l	0.0221	0	.025	88.2	64-149	L602663-01	WG619926
1,1,2-Trichloroethane	mg/l	0.0210	0	.025	84.0	73-128	L602663-01	WG619926
1,1-Dichloroethane	mg/l	0.0220	0	.025	88.2	58-133	L602663-01	WG619926
1,1-Dichloroethene	mg/l	0.0231	0	.025	92.5	32-152	L602663-01	WG619926
1,2,3-Trichloropropane	mg/l	0.0235	0	.025	94.2	74-137	L602663-01	WG619926
1,2-Dichlorobenzene	mg/l	0.0233	0	.025	93.1	75-125	L602663-01	WG619926
1,2-Dichloroethane	mg/l	0.0220	0	.025	87.8	59-135	L602663-01	WG619926
1,2-Dichloropropane	mg/l	0.0203	0	.025	81.1	68-126	L602663-01	WG619926
1,4-Dichlorobenzene	mg/l	0.0230	0	.025	92.0	70-123	L602663-01	WG619926
2-Butanone (MEK)	mg/l	0.216	0.00799	.125	167.*	51-149	L602663-01	WG619926
2-Hexanone	mg/l	0.139	0.000558	.125	110.	58-148	L602663-01	WG619926
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0	.125	97.3	53-154	L602663-01	WG619926
Acetone	mg/l	0.136	0.00677	.125	103.	34-146	L602663-01	WG619926
Acrylonitrile	mg/l	0.120	0.000983	.125	95.5	49-162	L602663-01	WG619926
Benzene	mg/l	0.0562	0.0430	.025	52.9	51-134	L602663-01	WG619926
Bromochloromethane	mg/l	0.0220	0	.025	88.2	67-131	L602663-01	WG619926
Bromodichloromethane	mg/l	0.0199	0	.025	79.6	67-132	L602663-01	WG619926
Bromoform	mg/l	0.0232	0	.025	92.8	59-137	L602663-01	WG619926
Bromomethane	mg/l	0.0196	0	.025	78.4	23-177	L602663-01	WG619926
Carbon disulfide	mg/l	0.0297	0.00161	.025	112.	10-165	L602663-01	WG619926
Carbon tetrachloride	mg/l	0.0210	0	.025	83.8	49-140	L602663-01	WG619926
Chlorobenzene	mg/l	0.0209	0	.025	83.4	69-126	L602663-01	WG619926
Chlorodibromomethane	mg/l	0.0209	0	.025	83.6	68-130	L602663-01	WG619926
Chloroethane	mg/l	0.0215	0	.025	85.9	32-177	L602663-01	WG619926
Chloroform	mg/l	0.0217	0	.025	87.0	64-130	L602663-01	WG619926
Chloromethane	mg/l	0.0205	0.000524	.025	80.1	27-155	L602663-01	WG619926
cis-1,2-Dichloroethene	mg/l	0.0217	0	.025	86.9	54-137	L602663-01	WG619926
cis-1,3-Dichloropropene	mg/l	0.0207	0	.025	82.9	63-127	L602663-01	WG619926
Dibromomethane	mg/l	0.0221	0	.025	88.2	68-131	L602663-01	WG619926
Ethylbenzene	mg/l	0.0217	0	.025	86.8	64-135	L602663-01	WG619926
Iodomethane	mg/l	0.110	0	.125	88.2	38-149	L602663-01	WG619926
Methylene Chloride	mg/l	0.0200	0	.025	80.2	52-130	L602663-01	WG619926

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II
L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Styrene	mg/l	0.0222	0	.025	88.7	58-152	L602663-01	WG619926
Tetrachloroethene	mg/l	0.0216	0	.025	86.2	56-139	L602663-01	WG619926
Toluene	mg/l	0.0212	0	.025	84.9	61-126	L602663-01	WG619926
trans-1,2-Dichloroethene	mg/l	0.0227	0	.025	90.8	45-137	L602663-01	WG619926
trans-1,3-Dichloropropene	mg/l	0.0217	0	.025	86.7	59-130	L602663-01	WG619926
trans-1,4-Dichloro-2-butene	mg/l	0.0229	0.00156	.025	85.4	51-145	L602663-01	WG619926
Trichloroethene	mg/l	0.0201	0	.025	80.5	40-155	L602663-01	WG619926
Trichlorofluoromethane	mg/l	0.0213	0	.025	85.1	35-177	L602663-01	WG619926
Vinyl acetate	mg/l	0.119	0	.125	95.0	36-186	L602663-01	WG619926
Vinyl chloride	mg/l	0.0216	0	.025	86.4	32-159	L602663-01	WG619926
Xylenes, Total	mg/l	0.0672	0	.075	89.6	64-133	L602663-01	WG619926
4-Bromofluorobenzene					98.41	82-120		WG619926
Dibromofluoromethane					102.8	82-126		WG619926
Toluene-d8					113.1*	92-112		WG619926
a,a,a-Trifluorotoluene					102.1	90-116		WG619926
Barium	mg/l	1.29	0.101	1.13	105.	75-125	L602716-01	WG620193
Calcium	mg/l	29.0	17.5	11.3	102.	75-125	L602716-01	WG620193
Chromium	mg/l	1.25	0	1.13	111.	75-125	L602716-01	WG620193
Cobalt	mg/l	1.31	0.00360	1.13	116.	75-125	L602716-01	WG620193
Magnesium	mg/l	17.6	0	11.3	156.*	75-125	L602716-01	WG620193
Nickel	mg/l	1.18	0	1.13	104.	75-125	L602716-01	WG620193
Potassium	mg/l	12.6	1.63	11.3	97.1	75-125	L602716-01	WG620193
Silver	mg/l	0.162	0.108	1.13	4.78*	75-125	L602716-01	WG620193
Sodium	mg/l	43.3	31.7	11.3	103.	75-125	L602716-01	WG620193
Vanadium	mg/l	1.20	0.00130	1.13	106.	75-125	L602716-01	WG620193
Nitrate	mg/l	4.35	0.210	5	82.8	80-120	L603045-03	WG619913
Arsenic	mg/l	0.0583	0	.0567	103.	75-125	L602795-01	WG620586
Alkalinity	mg/l	388.	310.	100	78.0*	80-120	L602663-02	WG620565
Arsenic	mg/l	0.0729	0.0260	.0567	16.5*	75-125	L602038-01	WG620586
Antimony	mg/l	0.0514	0	.0567	90.6	75-125	L602795-01	WG620586
Cadmium	mg/l	0.0507	0	.0567	89.4	75-125	L602795-01	WG620586
Copper	mg/l	0.219	0.169	.0567	88.2	75-125	L602795-01	WG620586
Lead	mg/l	0.0473	0	.0567	83.4	75-125	L602795-01	WG620586
Selenium	mg/l	0.0464	0.000420	.0567	81.1	75-125	L602795-01	WG620586
Thallium	mg/l	0.0467	0	.0567	82.4	75-125	L602795-01	WG620586
Zinc	mg/l	0.0610	0.00854	.0567	92.5	75-125	L602795-01	WG620586
Beryllium	mg/l	0.0491	0	.0567	86.6	75-125	L602795-01	WG620586
TOC (Total Organic Carbon)	mg/l	54.7	6.10	50	97.2	80-120	L602672-74	WG621023

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Mercury	mg/l	0.00282	0.00279	94.0	80-120	1.07	20	L602849-01	WG619943
1,1,1,2-Tetrachloroethane	mg/l	0.0216	0.0232	86.3	71-130	7.25	20	L602663-01	WG619926
1,1,1-Trichloroethane	mg/l	0.0226	0.0221	90.4	58-137	2.34	20	L602663-01	WG619926

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
1,1,2,2-Tetrachloroethane	mg/l	0.0216	0.0221	86.3	64-149	2.23	20	L602663-01	WG619926
1,1,2-Trichloroethane	mg/l	0.0211	0.0210	84.2	73-128	0.200	20	L602663-01	WG619926
1,1-Dichloroethane	mg/l	0.0229	0.0220	91.6	58-133	3.87	20	L602663-01	WG619926
1,1-Dichloroethene	mg/l	0.0259	0.0231	103.	32-152	11.1	20	L602663-01	WG619926
1,2,3-Trichloropropane	mg/l	0.0216	0.0235	86.5	74-137	8.50	20	L602663-01	WG619926
1,2-Dichlorobenzene	mg/l	0.0236	0.0233	94.5	75-125	1.48	20	L602663-01	WG619926
1,2-Dichloroethane	mg/l	0.0220	0.0220	88.0	59-135	0.220	20	L602663-01	WG619926
1,2-Dichloropropane	mg/l	0.0214	0.0203	85.5	68-126	5.30	20	L602663-01	WG619926
1,4-Dichlorobenzene	mg/l	0.0233	0.0230	93.0	70-123	1.08	20	L602663-01	WG619926
2-Butanone (MEK)	mg/l	0.220	0.216	169.*	51-149	1.43	22	L602663-01	WG619926
2-Hexanone	mg/l	0.131	0.139	105.	58-148	5.39	24	L602663-01	WG619926
4-Methyl-2-pentanone (MIBK)	mg/l	0.122	0.122	97.9	53-154	0.570	21	L602663-01	WG619926
Acetone	mg/l	0.151	0.136	115.	34-146	10.5	22	L602663-01	WG619926
Acrylonitrile	mg/l	0.122	0.120	96.6	49-162	1.19	20	L602663-01	WG619926
Benzene	mg/l	0.0568	0.0562	55.2	51-134	1.01	20	L602663-01	WG619926
Bromochloromethane	mg/l	0.0223	0.0220	89.4	67-131	1.36	20	L602663-01	WG619926
Bromodichloromethane	mg/l	0.0201	0.0199	80.5	67-132	1.23	20	L602663-01	WG619926
Bromoform	mg/l	0.0215	0.0232	86.1	59-137	7.46	20	L602663-01	WG619926
Bromomethane	mg/l	0.0201	0.0196	80.5	23-177	2.73	21	L602663-01	WG619926
Carbon disulfide	mg/l	0.0304	0.0297	115.	10-165	2.09	22	L602663-01	WG619926
Carbon tetrachloride	mg/l	0.0205	0.0210	82.0	49-140	2.26	20	L602663-01	WG619926
Chlorobenzene	mg/l	0.0209	0.0209	83.7	69-126	0.280	20	L602663-01	WG619926
Chlorodibromomethane	mg/l	0.0211	0.0209	84.4	68-130	1.02	20	L602663-01	WG619926
Chloroethane	mg/l	0.0220	0.0215	88.1	32-177	2.53	21	L602663-01	WG619926
Chloroform	mg/l	0.0224	0.0217	89.6	64-130	2.90	20	L602663-01	WG619926
Chloromethane	mg/l	0.0215	0.0205	84.0	27-155	4.68	20	L602663-01	WG619926
cis-1,2-Dichloroethene	mg/l	0.0222	0.0217	88.8	54-137	2.23	20	L602663-01	WG619926
cis-1,3-Dichloropropene	mg/l	0.0211	0.0207	84.5	63-127	1.90	20	L602663-01	WG619926
Dibromomethane	mg/l	0.0224	0.0221	89.5	68-131	1.44	20	L602663-01	WG619926
Ethylbenzene	mg/l	0.0216	0.0217	86.4	64-135	0.490	20	L602663-01	WG619926
Iodomethane	mg/l	0.110	0.110	88.0	38-149	0.270	20	L602663-01	WG619926
Methylene Chloride	mg/l	0.0204	0.0200	81.8	52-130	2.00	20	L602663-01	WG619926
Styrene	mg/l	0.0216	0.0222	86.2	58-152	2.83	20	L602663-01	WG619926
Tetrachloroethene	mg/l	0.0214	0.0216	85.5	56-139	0.800	20	L602663-01	WG619926
Toluene	mg/l	0.0214	0.0212	85.4	61-126	0.630	20	L602663-01	WG619926
trans-1,2-Dichloroethene	mg/l	0.0235	0.0227	93.9	45-137	3.32	20	L602663-01	WG619926
trans-1,3-Dichloropropene	mg/l	0.0216	0.0217	86.3	59-130	0.510	20	L602663-01	WG619926
trans-1,4-Dichloro-2-butene	mg/l	0.0225	0.0229	83.7	51-145	1.82	24	L602663-01	WG619926
Trichloroethene	mg/l	0.0203	0.0201	81.1	40-155	0.810	20	L602663-01	WG619926
Trichlorofluoromethane	mg/l	0.0218	0.0213	87.1	35-177	2.28	23	L602663-01	WG619926
Vinyl acetate	mg/l	0.130	0.119	104.	36-186	8.76	20	L602663-01	WG619926
Vinyl chloride	mg/l	0.0224	0.0216	89.7	32-159	3.78	21	L602663-01	WG619926
Xylenes, Total	mg/l	0.0663	0.0672	88.4	64-133	1.28	20	L602663-01	WG619926
4-Bromofluorobenzene				93.88	82-120				WG619926
Dibromofluoromethane				104.2	82-126				WG619926
Toluene-d8				113.0*	92-112				WG619926
a,a,a-Trifluorotoluene				99.66	90-116				WG619926
Barium	mg/l	1.22	1.29	99.0	75-125	5.58	20	L602716-01	WG620193
Calcium	mg/l	28.7	29.0	99.1	75-125	1.04	20	L602716-01	WG620193
Chromium	mg/l	1.12	1.25	99.1	75-125	11.0	20	L602716-01	WG620193
Cobalt	mg/l	1.17	1.31	103.	75-125	11.3	20	L602716-01	WG620193
Magnesium	mg/l	16.9	17.6	150.*	75-125	4.06	20	L602716-01	WG620193
Nickel	mg/l	1.06	1.18	93.8	75-125	10.7	20	L602716-01	WG620193
Potassium	mg/l	12.4	12.6	95.3	75-125	1.60	20	L602716-01	WG620193
Silver	mg/l	0.194	0.162	7.61*	75-125	18.0	20	L602716-01	WG620193
Sodium	mg/l	42.7	43.3	97.3	75-125	1.40	20	L602716-01	WG620193
Vanadium	mg/l	1.14	1.20	101.	75-125	5.13	20	L602716-01	WG620193

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Nitrate	mg/l	4.47	4.35	85.2	80-120	2.72	20	L603045-03	WG619913
Arsenic	mg/l	0.0580	0.0583	102.	75-125	0.516	20	L602795-01	WG620586
Alkalinity	mg/l	389.	388.	79.0*	80-120	0.257	20	L602663-02	WG620565
Arsenic	mg/l	0.0431	0.0729	6.03*	75-125	51.4*	20	L602038-01	WG620586
Antimony	mg/l	0.0519	0.0514	91.5	75-125	0.968	20	L602795-01	WG620586
Cadmium	mg/l	0.0510	0.0507	89.9	75-125	0.590	20	L602795-01	WG620586
Copper	mg/l	0.222	0.219	93.5	75-125	1.36	20	L602795-01	WG620586
Lead	mg/l	0.0479	0.0473	84.5	75-125	1.26	20	L602795-01	WG620586
Selenium	mg/l	0.0476	0.0464	83.2	75-125	2.55	20	L602795-01	WG620586
Thallium	mg/l	0.0474	0.0467	83.6	75-125	1.49	20	L602795-01	WG620586
Zinc	mg/l	0.0618	0.0610	93.9	75-125	1.30	20	L602795-01	WG620586
Beryllium	mg/l	0.0499	0.0491	88.0	75-125	1.62	20	L602795-01	WG620586
TOC (Total Organic Carbon)	mg/l	54.9	54.7	97.6	80-120	0.365	20	L602672-74	WG621023

Batch number /Run number / Sample number cross reference

WG619943: R2411177: L602849-01 02 03
WG619926: R2413021: L602849-01 02 03
WG620193: R2413718: L602849-01 02 03
WG619913: R2413919: L602849-01 02 03
WG620365: R2414237: L602849-01 02 03
WG620586: R2417938: L602849-01 02 03
WG620565: R2418017: L602849-01 02 03
WG620564: R2418057: L602849-01 02 03
WG620562: R2418097: L602849-01 02 03
WG620573: R2418877: L602849-01 02 03
WG621023: R2424837: L602849-01 02 03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Thornton, CO 80223

Quality Assurance Report
Level II

L602849

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

November 05, 2012

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.

Company Name/Address MOLEN & ASSOCIATES, LLC 2090 EAST 104TH AVE SUITE 205 THORTON, CO 80223				Alternate Billing Report to: Mark Molen E-mail to: molenassociates@gmail.com				Analysis/Container/Preservative Mg, Na, K, Ca + AP1 Metals - 500ml HDPE w/HN03 ✓2 CARB, BICARB: ALK - 1L HDPE No Pres Nitrate, Nitrite, Sulfate, Chloride - 500ml HDPE No Pres SPCON, pH - 250ml HDPE No Pres TOC - 250ml Amb w/HCl ✓2 V8260AP1 - (3)40ml No Pres						Chain of Custody Page ___ of ___ E137 Prepared by: ENVIRONMENTAL SCIENCE CORP 12065 Lebanon Road Mt. Juliet TN 37122 Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859	
Project Description: BRODA AI INERT FILL															
PHONE: 303.450.1600		Client Project No. 10-0133		Lab Project #											
FAX: 303.452.4515															
Collected by: <i>Mark A Molen</i>		Site/Facility ID# BRODA AI		P.O.#											
Collected by (signature): <i>Mark A Molen</i> Packed on Ice N ☒ Y ☐		☒ Rush? (Lab MUST be Notified) Same Day.....200% Next Day.....100% Two Day.....50%		Date Results Needed		No									
				Email? ___ No ___ Yes		of									
				FAX? ___ No ___ Yes											
Sample ID		Comp/Grab	Matrix	Depth	Date	Time	Cntrs	Mg, Na, K, Ca + AP1 Metals - 500ml HDPE w/HN03 ✓2	CARB, BICARB: ALK - 1L HDPE No Pres	Nitrate, Nitrite, Sulfate, Chloride - 500ml HDPE No Pres	SPCON, pH - 250ml HDPE No Pres	TOC - 250ml Amb w/HCl ✓2	V8260AP1 - (3)40ml No Pres	Remarks/contaminant	Sample # (lab only)
MW-1		GRAB	GW		10/24/12	950	8	X	X	X	X	X	X		L602849.01
MW-2		GRAB	GW		10/24/12	1030	8	X	X	X	X	X	X		-02
MW-3		GRAB	GW		10/24/12	1115	8	X	X	X	X	X	X		-03

Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other _____ pH _____ Temp _____

Remarks: *5274 8798 3000* Flow _____ Other _____

Relinquisher by (Signature): <i>Mark A Molen</i>		Date: 10/24/12		Time: 1450		Received by (Signature): <i>Jennifer Barton</i>		Samples returned via: FedEx ___ UPS ___ Other ___		Condition: <i>JP</i> (lab use only)	
Relinquisher by (Signature):		Date:		Time:		Received by (Signature):		Temp: <i>4.3</i>		Bottles Received: <i>24</i>	
Relinquisher by (Signature):		Date:		Time:		Received for lab by (Signature): <i>APD</i>		Date: 10/24/12		Time: 0900	
								pH Checked: <i>52</i>		NCF: ☒	

Daphne Richards



NON-CONFORMANCE FORM

Login No.: 6602849
Date: 10/26/12
Evaluated by: David May
Client: MOLENTIC

Non-Conformance (check applicable items)

- ☐ Parameter(s) past holding time ☐ Login Clarification Needed
☐ Improper temperature ☐ Chain of custody is incomplete
☐ Improper container type ☐ Chain of Custody is missing (see below)
☐ Improper preservation ☐ Broken container(s) (See below)
☐ Container lid not intact ☐ Broken container: sufficient sample volume remains for analysis requested (See below)

If no COC: Received by _____ Date: _____ Time: _____
Temp: _____ Cont. Rec. _____ pH: _____
☐ FedEx ☐ UPS ☐ SWA ☐ Other _____
Tracking # _____
☐ Insufficient packing material around container
☐ Insufficient packing material inside cooler
☐ Improper handling by carrier (FedEx / UPS / Courier)
☐ Sample was frozen

Comments: NW-2 and NW-2 Nitrates received out of hold

Login Instructions:

TSR Initials: DR

Client informed by call / email / fax / voice mail date: 10/26 time: 10:25

Client contact:

MW-1 Aves 00H@ 10:50 CST

MW2 " " @ 11:30 CST

MW3 " " @ 12:15 CST

Run asap



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Tuesday October 25, 2011

Report Number: L541999

Samples Received: 10/18/11

Client Project: 10-0133

Description: Broda AL Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915, PA - 68-02979

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 25, 2011

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-1

Collected By : Mark A Molen
Collection Date : 10/17/11 13:08

ESC Sample # : L541999-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	2.0	mg/l	9056	10/21/11	2
Nitrate	4.5	0.10	mg/l	9056	10/18/11	1
Nitrite	BDL	0.10	mg/l	9056	10/18/11	1
Sulfate	180	10.	mg/l	9056	10/21/11	2
Alkalinity	160	20.	mg/l	2320B	10/18/11	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320B	10/18/11	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	10/18/11	1
pH	7.5		su	9040C	10/19/11	1
Specific Conductance	1100	1.8	umhos/cm	9050A	10/21/11	1
TOC (Total Organic Carbon)	3.0	1.0	mg/l	9060A	10/24/11	1
Antimony	BDL	0.0010	mg/l	6020	10/19/11	1
Arsenic	0.0019	0.0010	mg/l	6020	10/19/11	1
Beryllium	BDL	0.0010	mg/l	6020	10/19/11	1
Cadmium	0.00085	0.00050	mg/l	6020	10/19/11	1
Copper	0.0044	0.0020	mg/l	6020	10/19/11	1
Lead	0.0028	0.0010	mg/l	6020	10/19/11	1
Selenium	0.0034	0.0010	mg/l	6020	10/19/11	1
Thallium	BDL	0.0010	mg/l	6020	10/19/11	1
Zinc	0.010	0.010	mg/l	6020	10/19/11	1
Mercury	BDL	0.00020	mg/l	7470A	10/20/11	1
Barium	0.35	0.0050	mg/l	6010B	10/21/11	1
Calcium	68.	0.50	mg/l	6010B	10/21/11	1
Chromium	0.025	0.010	mg/l	6010B	10/21/11	1
Cobalt	0.010	0.010	mg/l	6010B	10/21/11	1
Magnesium	25.	0.10	mg/l	6010B	10/21/11	1
Nickel	0.022	0.020	mg/l	6010B	10/21/11	1
Potassium	17.	0.50	mg/l	6010B	10/21/11	1
Silver	BDL	0.010	mg/l	6010B	10/21/11	1
Sodium	160	0.50	mg/l	6010B	10/21/11	1
Vanadium	0.047	0.010	mg/l	6010B	10/21/11	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/18/11	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/18/11	1
Benzene	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/18/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L541999-01 (PH) - 7.47@18.2c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 25, 2011

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-1

Collected By : Mark A Molen
Collection Date : 10/17/11 13:08

ESC Sample # : L541999-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromomethane	BDL	0.0050	mg/l	8260B	10/18/11	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/18/11	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/18/11	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/18/11	1
Chloroform	BDL	0.0050	mg/l	8260B	10/18/11	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/18/11	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/18/11	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/18/11	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/18/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/18/11	1
Iodomethane	BDL	0.010	mg/l	8260B	10/18/11	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/18/11	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/18/11	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/18/11	1
Styrene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
Toluene	BDL	0.0050	mg/l	8260B	10/18/11	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/18/11	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	10/18/11	1
Vinyl acetate	BDL	0.010	mg/l	8260B	10/18/11	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/18/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/18/11	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	10/18/11	1
Dibromofluoromethane	95.0		% Rec.	8260B	10/18/11	1
a,a,a-Trifluorotoluene	99.4		% Rec.	8260B	10/18/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L541999-01 (PH) - 7.47@18.2c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 25, 2011

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-1

Collected By : Mark A Molen
Collection Date : 10/17/11 13:08

ESC Sample # : L541999-01

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	100.		% Rec.	8260B	10/18/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/25/11 12:57 Printed: 10/25/11 12:59
L541999-01 (PH) - 7.47@18.2c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 25, 2011

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-2

Collected By : Mark A Molen
Collection Date : 10/17/11 12:01

ESC Sample # : L541999-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	160	5.0	mg/l	9056	10/21/11	5
Nitrate	BDL	0.10	mg/l	9056	10/18/11	1
Nitrite	BDL	0.10	mg/l	9056	10/18/11	1
Sulfate	210	25.	mg/l	9056	10/21/11	5
Alkalinity	160	20.	mg/l	2320B	10/18/11	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320B	10/18/11	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	10/18/11	1
pH	7.7		su	9040C	10/19/11	1
Specific Conductance	1200	1.8	umhos/cm	9050A	10/21/11	1
TOC (Total Organic Carbon)	6.1	1.0	mg/l	9060A	10/24/11	1
Antimony	BDL	0.0010	mg/l	6020	10/21/11	1
Arsenic	0.0064	0.0010	mg/l	6020	10/21/11	1
Beryllium	BDL	0.0010	mg/l	6020	10/21/11	1
Cadmium	0.0050	0.00050	mg/l	6020	10/21/11	1
Copper	0.028	0.0020	mg/l	6020	10/21/11	1
Lead	0.017	0.0010	mg/l	6020	10/21/11	1
Selenium	0.0036	0.0010	mg/l	6020	10/21/11	1
Thallium	BDL	0.0010	mg/l	6020	10/21/11	1
Zinc	0.054	0.010	mg/l	6020	10/21/11	1
Mercury	BDL	0.00020	mg/l	7470A	10/20/11	1
Barium	0.25	0.0050	mg/l	6010B	10/21/11	1
Calcium	87.	0.50	mg/l	6010B	10/21/11	1
Chromium	0.014	0.010	mg/l	6010B	10/21/11	1
Cobalt	BDL	0.010	mg/l	6010B	10/21/11	1
Magnesium	21.	0.10	mg/l	6010B	10/21/11	1
Nickel	BDL	0.020	mg/l	6010B	10/21/11	1
Potassium	13.	0.50	mg/l	6010B	10/21/11	1
Silver	BDL	0.010	mg/l	6010B	10/21/11	1
Sodium	110	0.50	mg/l	6010B	10/21/11	1
Vanadium	0.025	0.010	mg/l	6010B	10/21/11	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/18/11	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/18/11	1
Benzene	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/18/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L541999-02 (PH) - 7.66@18.6c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 25, 2011

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-2

Collected By : Mark A Molen
Collection Date : 10/17/11 12:01

ESC Sample # : L541999-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromomethane	BDL	0.0050	mg/l	8260B	10/18/11	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/18/11	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/18/11	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/18/11	1
Chloroform	BDL	0.0050	mg/l	8260B	10/18/11	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/18/11	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/18/11	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/18/11	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/18/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/18/11	1
Iodomethane	BDL	0.010	mg/l	8260B	10/18/11	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/18/11	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/18/11	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/18/11	1
Styrene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
Toluene	BDL	0.0050	mg/l	8260B	10/18/11	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/18/11	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	10/18/11	1
Vinyl acetate	BDL	0.010	mg/l	8260B	10/18/11	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/18/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/18/11	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	10/18/11	1
Dibromofluoromethane	94.2		% Rec.	8260B	10/18/11	1
a,a,a-Trifluorotoluene	99.6		% Rec.	8260B	10/18/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L541999-02 (PH) - 7.66@18.6c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 25, 2011

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-2

Collected By : Mark A Molen
Collection Date : 10/17/11 12:01

ESC Sample # : L541999-02

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	102.		% Rec.	8260B	10/18/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/25/11 12:57 Printed: 10/25/11 12:59
L541999-02 (PH) - 7.66@18.6c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 25, 2011

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-3

Collected By : Mark A Molen
Collection Date : 10/17/11 12:40

ESC Sample # : L541999-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	120	5.0	mg/l	9056	10/18/11	5
Nitrate	15.	0.50	mg/l	9056	10/18/11	5
Nitrite	BDL	0.10	mg/l	9056	10/18/11	1
Sulfate	130	25.	mg/l	9056	10/18/11	5
Alkalinity	170	20.	mg/l	2320B	10/18/11	1
Alkalinity, Bicarbonate	170	20.	mg/l	2320B	10/18/11	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	10/18/11	1
pH	7.8		su	9040C	10/19/11	1
Specific Conductance	1100	1.8	umhos/cm	9050A	10/21/11	1
TOC (Total Organic Carbon)	2.4	1.0	mg/l	9060A	10/24/11	1
Antimony	BDL	0.0010	mg/l	6020	10/21/11	1
Arsenic	0.0033	0.0010	mg/l	6020	10/21/11	1
Beryllium	BDL	0.0010	mg/l	6020	10/21/11	1
Cadmium	0.0023	0.00050	mg/l	6020	10/21/11	1
Copper	0.012	0.0020	mg/l	6020	10/21/11	1
Lead	0.012	0.0010	mg/l	6020	10/21/11	1
Selenium	0.0044	0.0010	mg/l	6020	10/21/11	1
Thallium	BDL	0.0010	mg/l	6020	10/21/11	1
Zinc	0.028	0.010	mg/l	6020	10/21/11	1
Mercury	BDL	0.00020	mg/l	7470A	10/20/11	1
Barium	0.092	0.0050	mg/l	6010B	10/21/11	1
Calcium	68.	0.50	mg/l	6010B	10/21/11	1
Chromium	BDL	0.010	mg/l	6010B	10/21/11	1
Cobalt	BDL	0.010	mg/l	6010B	10/21/11	1
Magnesium	22.	0.10	mg/l	6010B	10/21/11	1
Nickel	BDL	0.020	mg/l	6010B	10/21/11	1
Potassium	8.4	0.50	mg/l	6010B	10/21/11	1
Silver	BDL	0.010	mg/l	6010B	10/21/11	1
Sodium	120	0.50	mg/l	6010B	10/21/11	1
Vanadium	BDL	0.010	mg/l	6010B	10/21/11	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/18/11	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/18/11	1
Benzene	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/18/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L541999-03 (PH) - 7.80@19.4c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 25, 2011

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-3

Collected By : Mark A Molen
Collection Date : 10/17/11 12:40

ESC Sample # : L541999-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	10/18/11	1
Bromomethane	BDL	0.0050	mg/l	8260B	10/18/11	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/18/11	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/18/11	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/18/11	1
Chloroform	BDL	0.0050	mg/l	8260B	10/18/11	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/18/11	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/18/11	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/18/11	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/18/11	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/18/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/18/11	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/18/11	1
Iodomethane	BDL	0.010	mg/l	8260B	10/18/11	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/18/11	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/18/11	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/18/11	1
Styrene	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
Toluene	BDL	0.0050	mg/l	8260B	10/18/11	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/18/11	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/18/11	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/18/11	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	10/18/11	1
Vinyl acetate	BDL	0.010	mg/l	8260B	10/18/11	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/18/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/18/11	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	10/18/11	1
Dibromofluoromethane	94.6		% Rec.	8260B	10/18/11	1
a,a,a-Trifluorotoluene	99.8		% Rec.	8260B	10/18/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L541999-03 (PH) - 7.80@19.4c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

October 25, 2011

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : October 18, 2011
Description : Broda AL Inert Fill

Sample ID : MW-3

Collected By : Mark A Molen
Collection Date : 10/17/11 12:40

ESC Sample # : L541999-03

Site ID : BRODA AL

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	102.		% Rec.	8260B	10/18/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/25/11 12:57 Printed: 10/25/11 12:59
L541999-03 (PH) - 7.80@19.4c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L541999-01	WG561202	SAMP	pH	R1901473	T8
L541999-02	WG561202	SAMP	pH	R1901473	T8
L541999-03	WG561202	SAMP	pH	R1901473	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/25/11 at 12:59:11

TSR Signing Reports: 288
R5 - Desired TAT

Do Not report Hg on East Regional Landfill-GW Monitoring ONLY report Hg on the ERLF-Leachate sample

Sample: L541999-01 Account: MOLENTCO Received: 10/18/11 09:00 Due Date: 10/25/11 00:00 RPT Date: 10/25/11 12:57

Sample: L541999-02 Account: MOLENTCO Received: 10/18/11 09:00 Due Date: 10/25/11 00:00 RPT Date: 10/25/11 12:57

Sample: L541999-03 Account: MOLENTCO Received: 10/18/11 09:00 Due Date: 10/25/11 00:00 RPT Date: 10/25/11 12:57



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Alkalinity	< 20	mg/l			WG561162	10/18/11 16:24
Chloride	< 1	mg/l			WG561082	10/18/11 09:07
Nitrate	< .1	mg/l			WG561082	10/18/11 09:07
Nitrite	< .1	mg/l			WG561082	10/18/11 09:07
Sulfate	< 5	mg/l			WG561082	10/18/11 09:07
1,1,1,2-Tetrachloroethane	< .001	mg/l			WG561137	10/18/11 14:44
1,1,1-Trichloroethane	< .001	mg/l			WG561137	10/18/11 14:44
1,1,2,2-Tetrachloroethane	< .001	mg/l			WG561137	10/18/11 14:44
1,1,2-Trichloroethane	< .001	mg/l			WG561137	10/18/11 14:44
1,1-Dichloroethane	< .001	mg/l			WG561137	10/18/11 14:44
1,1-Dichloroethene	< .001	mg/l			WG561137	10/18/11 14:44
1,2,3-Trichloropropane	< .001	mg/l			WG561137	10/18/11 14:44
1,2-Dichlorobenzene	< .001	mg/l			WG561137	10/18/11 14:44
1,2-Dichloroethane	< .001	mg/l			WG561137	10/18/11 14:44
1,2-Dichloropropane	< .001	mg/l			WG561137	10/18/11 14:44
1,4-Dichlorobenzene	< .001	mg/l			WG561137	10/18/11 14:44
2-Butanone (MEK)	< .01	mg/l			WG561137	10/18/11 14:44
2-Hexanone	< .01	mg/l			WG561137	10/18/11 14:44
4-Methyl-2-pentanone (MIBK)	< .01	mg/l			WG561137	10/18/11 14:44
Acetone	< .05	mg/l			WG561137	10/18/11 14:44
Acrylonitrile	< .01	mg/l			WG561137	10/18/11 14:44
Benzene	< .001	mg/l			WG561137	10/18/11 14:44
Bromochloromethane	< .001	mg/l			WG561137	10/18/11 14:44
Bromodichloromethane	< .001	mg/l			WG561137	10/18/11 14:44
Bromoform	< .001	mg/l			WG561137	10/18/11 14:44
Bromomethane	< .005	mg/l			WG561137	10/18/11 14:44
Carbon disulfide	< .001	mg/l			WG561137	10/18/11 14:44
Carbon tetrachloride	< .001	mg/l			WG561137	10/18/11 14:44
Chlorobenzene	< .001	mg/l			WG561137	10/18/11 14:44
Chlorodibromomethane	< .001	mg/l			WG561137	10/18/11 14:44
Chloroethane	< .005	mg/l			WG561137	10/18/11 14:44
Chloroform	< .005	mg/l			WG561137	10/18/11 14:44
Chloromethane	< .0025	mg/l			WG561137	10/18/11 14:44
cis-1,2-Dichloroethene	< .001	mg/l			WG561137	10/18/11 14:44
cis-1,3-Dichloropropene	< .001	mg/l			WG561137	10/18/11 14:44
Dibromomethane	< .001	mg/l			WG561137	10/18/11 14:44
Ethylbenzene	< .001	mg/l			WG561137	10/18/11 14:44
Iodomethane	< .01	mg/l			WG561137	10/18/11 14:44
Methylene Chloride	< .005	mg/l			WG561137	10/18/11 14:44
Styrene	< .001	mg/l			WG561137	10/18/11 14:44
Tetrachloroethene	< .001	mg/l			WG561137	10/18/11 14:44
Toluene	< .005	mg/l			WG561137	10/18/11 14:44
trans-1,2-Dichloroethene	< .001	mg/l			WG561137	10/18/11 14:44
trans-1,3-Dichloropropene	< .001	mg/l			WG561137	10/18/11 14:44
trans-1,4-Dichloro-2-butene	< .0025	mg/l			WG561137	10/18/11 14:44
Trichloroethene	< .001	mg/l			WG561137	10/18/11 14:44
Trichlorofluoromethane	< .005	mg/l			WG561137	10/18/11 14:44
Vinyl acetate	< .01	mg/l			WG561137	10/18/11 14:44
Vinyl chloride	< .001	mg/l			WG561137	10/18/11 14:44
Xylenes, Total	< .003	mg/l			WG561137	10/18/11 14:44
4-Bromofluorobenzene		% Rec.	100.5	82-120	WG561137	10/18/11 14:44
Dibromofluoromethane		% Rec.	96.10	82-126	WG561137	10/18/11 14:44
Toluene-d8		% Rec.	100.2	92-112	WG561137	10/18/11 14:44
a,a,a-Trifluorotoluene		% Rec.	100.0	90-116	WG561137	10/18/11 14:44

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
Antimony	< .001	mg/l			WG561149	10/19/11 08:20
Arsenic	< .001	mg/l			WG561149	10/19/11 08:20
Beryllium	< .001	mg/l			WG561149	10/19/11 08:20
Cadmium	< .0005	mg/l			WG561149	10/19/11 08:20
Copper	< .002	mg/l			WG561149	10/19/11 08:20
Lead	< .001	mg/l			WG561149	10/19/11 08:20
Selenium	< .001	mg/l			WG561149	10/19/11 08:20
Thallium	< .001	mg/l			WG561149	10/19/11 08:20
Zinc	< .01	mg/l			WG561149	10/19/11 08:20
pH	5.60	su			WG561202	10/19/11 09:30
Mercury	< .0002	mg/l			WG561244	10/20/11 17:28
Specific Conductance	< 1.8	umhos/cm			WG561585	10/21/11 10:48
Barium	< .005	mg/l			WG561228	10/21/11 11:41
Calcium	< .5	mg/l			WG561228	10/21/11 11:41
Chromium	< .01	mg/l			WG561228	10/21/11 11:41
Cobalt	< .01	mg/l			WG561228	10/21/11 11:41
Magnesium	< .1	mg/l			WG561228	10/21/11 11:41
Nickel	< .02	mg/l			WG561228	10/21/11 11:41
Potassium	< .5	mg/l			WG561228	10/21/11 11:41
Silver	< .01	mg/l			WG561228	10/21/11 11:41
Sodium	< .5	mg/l			WG561228	10/21/11 11:41
Vanadium	< .01	mg/l			WG561228	10/21/11 11:41
Chloride	< 1	mg/l			WG561691	10/21/11 08:29
Sulfate	< 5	mg/l			WG561691	10/21/11 08:29
Antimony	< .001	mg/l			WG561493	10/21/11 08:32
Arsenic	< .001	mg/l			WG561493	10/21/11 08:32
Beryllium	< .001	mg/l			WG561493	10/21/11 08:32
Cadmium	< .0005	mg/l			WG561493	10/21/11 08:32
Copper	< .002	mg/l			WG561493	10/21/11 08:32
Lead	< .001	mg/l			WG561493	10/21/11 08:32
Selenium	< .001	mg/l			WG561493	10/21/11 08:32
Thallium	< .001	mg/l			WG561493	10/21/11 08:32
Zinc	< .01	mg/l			WG561493	10/21/11 15:37
TOC (Total Organic Carbon)	< 1	mg/l			WG561983	10/24/11 12:00

Analyte	Units	Result	Duplicate		RPD	Limit	Ref Samp	Batch
			Duplicate					
Alkalinity	mg/l	0	0		0	20	L541851-05	WG561162
Alkalinity	mg/l	260.	260.		0	20	L541991-04	WG561162
Nitrate	mg/l	0.160	0.160		2.53	20	L541991-01	WG561082
Nitrate	mg/l	0.160	0.160		1.89	20	L541991-06	WG561082

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

October 25, 2011

Analyte	Units	Result	Duplicate	RPD	Limit	Ref Samp	Batch
			Duplicate				
Antimony	mg/l	0	0	0	20	L542000-01	WG561149
Arsenic	mg/l	0.000550	0.000610	10.3	20	L542000-01	WG561149
Beryllium	mg/l	0	0	0	20	L542000-01	WG561149
Cadmium	mg/l	0	0	0	20	L542000-01	WG561149
Copper	mg/l	0	0.00108	NA	20	L542000-01	WG561149
Lead	mg/l	0.00120	0.00112	6.06	20	L542000-01	WG561149
Selenium	mg/l	0	0.000170	NA	20	L542000-01	WG561149
Thallium	mg/l	0	0	0	20	L542000-01	WG561149
Zinc	mg/l	0.0120	0.0140	12.1	20	L542000-01	WG561149
pH	su	6.60	6.60	0.151	1	L541971-01	WG561202
Mercury	mg/l	0	0	0	20	L541873-50	WG561244
Specific Conductance	umhos/cm	3.20	3.10	2.23	20	L541618-02	WG561585
Specific Conductance	umhos/cm	6500	6400	1.09	20	L542209-03	WG561585
Barium	mg/l	0.0220	0.0223	0.893	20	L541655-05	WG561228
Calcium	mg/l	97.0	95.2	1.67	20	L541655-05	WG561228
Chromium	mg/l	0	0.00120	NA	20	L541655-05	WG561228
Cobalt	mg/l	0	0.000600	NA	20	L541655-05	WG561228
Magnesium	mg/l	7.70	7.64	0.392	20	L541655-05	WG561228
Nickel	mg/l	0	0	0	20	L541655-05	WG561228
Potassium	mg/l	6.20	6.12	1.30	20	L541655-05	WG561228
Silver	mg/l	0	0.00187	NA	20	L541655-05	WG561228
Sodium	mg/l	7.90	7.83	1.02	20	L541655-05	WG561228
Vanadium	mg/l	0	0	0	20	L541655-05	WG561228
Sulfate	mg/l	200.	200.	1.01	20	L541991-01	WG561691
Sulfate	mg/l	250.	260.	3.52	20	L541991-06	WG561691
Antimony	mg/l	0	0	0	20	L542227-01	WG561493
Arsenic	mg/l	0	0.000670	NA	20	L542227-01	WG561493
Beryllium	mg/l	0	0	0	20	L542227-01	WG561493
Cadmium	mg/l	0	0	0	20	L542227-01	WG561493
Copper	mg/l	0	0	0	20	L542227-01	WG561493
Lead	mg/l	0	0	0	20	L542227-01	WG561493
Selenium	mg/l	0	0.000370	NA	20	L542227-01	WG561493
Thallium	mg/l	0	0	0	20	L542227-01	WG561493
Zinc	mg/l	0	0	0	20	L542227-01	WG561493
TOC (Total Organic Carbon)	mg/l	2.80	3.00	8.33	20	L541800-01	WG561983
TOC (Total Organic Carbon)	mg/l	2.40	2.40	0.837	20	L541999-03	WG561983

Analyte	Units	Laboratory Control Sample		% Rec	Limit	Batch
		Known Val	Result			
Alkalinity	mg/l	100	98.0	98.0	85-115	WG561162
Chloride	mg/l	40	39.8	99.5	90-110	WG561082
Nitrate	mg/l	8	8.10	101.	90-110	WG561082

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Nitrite	mg/l	8	7.89	98.6	90-110	WG561082
Sulfate	mg/l	40	39.6	99.0	90-110	WG561082
1,1,1,2-Tetrachloroethane	mg/l	.025	0.0229	91.7	77-128	WG561137
1,1,1-Trichloroethane	mg/l	.025	0.0240	95.9	71-126	WG561137
1,1,2,2-Tetrachloroethane	mg/l	.025	0.0229	91.8	78-130	WG561137
1,1,2-Trichloroethane	mg/l	.025	0.0236	94.4	81-121	WG561137
1,1-Dichloroethane	mg/l	.025	0.0256	102.	73-123	WG561137
1,1-Dichloroethene	mg/l	.025	0.0286	114.	54-134	WG561137
1,2,3-Trichloropropane	mg/l	.025	0.0227	90.9	68-130	WG561137
1,2-Dichlorobenzene	mg/l	.025	0.0223	89.0	82-121	WG561137
1,2-Dichloroethane	mg/l	.025	0.0221	88.3	69-128	WG561137
1,2-Dichloropropane	mg/l	.025	0.0232	92.9	77-121	WG561137
1,4-Dichlorobenzene	mg/l	.025	0.0225	89.9	79-117	WG561137
2-Butanone (MEK)	mg/l	.125	0.122	97.9	58-144	WG561137
2-Hexanone	mg/l	.125	0.118	94.8	62-144	WG561137
4-Methyl-2-pentanone (MIBK)	mg/l	.125	0.116	93.1	58-147	WG561137
Acetone	mg/l	.125	0.120	96.4	49-153	WG561137
Acrylonitrile	mg/l	.125	0.129	103.	53-153	WG561137
Benzene	mg/l	.025	0.0253	101.	72-119	WG561137
Bromochloromethane	mg/l	.025	0.0258	103.	79-124	WG561137
Bromodichloromethane	mg/l	.025	0.0230	92.1	75-127	WG561137
Bromoform	mg/l	.025	0.0195	77.9	61-136	WG561137
Bromomethane	mg/l	.025	0.0344	138.	42-172	WG561137
Carbon disulfide	mg/l	.025	0.0264	106.	19-150	WG561137
Carbon tetrachloride	mg/l	.025	0.0216	86.4	63-129	WG561137
Chlorobenzene	mg/l	.025	0.0232	92.8	78-123	WG561137
Chlorodibromomethane	mg/l	.025	0.0205	82.1	73-128	WG561137
Chloroethane	mg/l	.025	0.0267	107.	52-164	WG561137
Chloroform	mg/l	.025	0.0247	99.0	76-122	WG561137
Chloromethane	mg/l	.025	0.0223	89.4	50-141	WG561137
cis-1,2-Dichloroethene	mg/l	.025	0.0255	102.	75-121	WG561137
cis-1,3-Dichloropropene	mg/l	.025	0.0227	90.7	74-124	WG561137
Dibromomethane	mg/l	.025	0.0233	93.4	77-124	WG561137
Ethylbenzene	mg/l	.025	0.0231	92.2	77-124	WG561137
Iodomethane	mg/l	.125	0.129	103.	54-139	WG561137
Methylene Chloride	mg/l	.025	0.0257	103.	67-122	WG561137
Styrene	mg/l	.025	0.0175	70.2	69-145	WG561137
Tetrachloroethene	mg/l	.025	0.0233	93.2	75-121	WG561137
Toluene	mg/l	.025	0.0236	94.2	75-114	WG561137
trans-1,2-Dichloroethene	mg/l	.025	0.0257	103.	63-127	WG561137
trans-1,3-Dichloropropene	mg/l	.025	0.0209	83.4	69-124	WG561137
trans-1,4-Dichloro-2-butene	mg/l	.025	0.0213	85.3	58-137	WG561137
Trichloroethene	mg/l	.025	0.0237	94.7	69-131	WG561137
Trichlorofluoromethane	mg/l	.025	0.0232	92.9	53-161	WG561137
Vinyl acetate	mg/l	.125	0.114	91.5	47-161	WG561137
Vinyl chloride	mg/l	.025	0.0229	91.8	55-142	WG561137
Xylenes, Total	mg/l	.075	0.0691	92.1	77-123	WG561137
4-Bromofluorobenzene				102.5	82-120	WG561137
Dibromofluoromethane				101.8	82-126	WG561137
Toluene-d8				102.7	92-112	WG561137
a,a,a-Trifluorotoluene				103.8	90-116	WG561137
Antimony	mg/l	.0567	0.0509	89.8	85-115	WG561149
Arsenic	mg/l	.0567	0.0519	91.5	85-115	WG561149
Beryllium	mg/l	.0567	0.0525	92.6	85-115	WG561149
Cadmium	mg/l	.0567	0.0526	92.8	85-115	WG561149

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Units	Laboratory Control Known Val	Sample Result	% Rec	Limit	Batch
Copper	mg/l	.0567	0.0528	93.1	85-115	WG561149
Lead	mg/l	.0567	0.0538	94.9	85-115	WG561149
Selenium	mg/l	.0567	0.0512	90.3	85-115	WG561149
Thallium	mg/l	.0567	0.0521	91.9	85-115	WG561149
Zinc	mg/l	.0567	0.0580	102.	85-115	WG561149
pH	su	7.98	8.00	100.	98-101	WG561202
Mercury	mg/l	.003	0.00286	95.3	85-115	WG561244
Specific Conductance	umhos/cm	427	427.	100.	85-115	WG561585
Barium	mg/l	1.13	1.19	105.	85-115	WG561228
Calcium	mg/l	11.3	11.6	103.	85-115	WG561228
Chromium	mg/l	1.13	1.20	106.	85-115	WG561228
Cobalt	mg/l	1.13	1.17	104.	85-115	WG561228
Magnesium	mg/l	11.3	11.6	103.	85-115	WG561228
Nickel	mg/l	1.13	1.06	93.8	85-115	WG561228
Potassium	mg/l	11.3	10.9	96.5	85-115	WG561228
Silver	mg/l	1.13	1.13	100.	85-115	WG561228
Sodium	mg/l	11.3	10.6	93.8	85-115	WG561228
Vanadium	mg/l	1.13	1.17	104.	85-115	WG561228
Chloride	mg/l	40	39.5	98.8	90-110	WG561691
Sulfate	mg/l	40	39.4	98.5	90-110	WG561691
Antimony	mg/l	.0567	0.0629	111.	85-115	WG561493
Arsenic	mg/l	.0567	0.0624	110.	85-115	WG561493
Beryllium	mg/l	.0567	0.0618	109.	85-115	WG561493
Cadmium	mg/l	.0567	0.0627	111.	85-115	WG561493
Copper	mg/l	.0567	0.0617	109.	85-115	WG561493
Lead	mg/l	.0567	0.0625	110.	85-115	WG561493
Selenium	mg/l	.0567	0.0599	106.	85-115	WG561493
Thallium	mg/l	.0567	0.0619	109.	85-115	WG561493
Zinc	mg/l	.0567	0.0525	92.6	85-115	WG561493
TOC (Total Organic Carbon)	mg/l	75	81.6	109.	85-115	WG561983

Analyte	Units	Laboratory Control Result	Ref	Sample Duplicate %Rec	Limit	RPD	Limit	Batch
Alkalinity	mg/l	100.	98.0	100.	85-115	2.02	20	WG561162
Chloride	mg/l	39.8	39.8	100.	90-110	0	20	WG561082
Nitrate	mg/l	8.13	8.10	102.	90-110	0.370	20	WG561082
Nitrite	mg/l	7.97	7.89	100.	90-110	1.01	20	WG561082
Sulfate	mg/l	39.7	39.6	99.0	90-110	0.252	20	WG561082
1,1,1,2-Tetrachloroethane	mg/l	0.0265	0.0229	106.	77-128	14.3	20	WG561137
1,1,1-Trichloroethane	mg/l	0.0273	0.0240	109.	71-126	12.9	20	WG561137

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Units	Laboratory Control Sample Duplicate			Limit	RPD	Limit	Batch
		Result	Ref	%Rec				
1,1,2,2-Tetrachloroethane	mg/l	0.0264	0.0229	106.	78-130	14.0	20	WG561137
1,1,2-Trichloroethane	mg/l	0.0272	0.0236	109.	81-121	14.2	20	WG561137
1,1-Dichloroethane	mg/l	0.0289	0.0256	116.	73-123	12.3	20	WG561137
1,1-Dichloroethene	mg/l	0.0326	0.0286	130.	54-134	13.2	20	WG561137
1,2,3-Trichloropropane	mg/l	0.0260	0.0227	104.	68-130	13.5	20	WG561137
1,2-Dichlorobenzene	mg/l	0.0254	0.0223	102.	82-121	13.4	20	WG561137
1,2-Dichloroethane	mg/l	0.0250	0.0221	100.	69-128	12.5	20	WG561137
1,2-Dichloropropane	mg/l	0.0265	0.0232	106.	77-121	13.0	20	WG561137
1,4-Dichlorobenzene	mg/l	0.0256	0.0225	102.	79-117	12.9	20	WG561137
2-Butanone (MEK)	mg/l	0.138	0.122	110.	58-144	11.9	20	WG561137
2-Hexanone	mg/l	0.138	0.118	110.	62-144	15.0	20	WG561137
4-Methyl-2-pentanone (MIBK)	mg/l	0.135	0.116	108.	58-147	14.6	20	WG561137
Acetone	mg/l	0.137	0.120	109.	49-153	12.6	21	WG561137
Acrylonitrile	mg/l	0.146	0.129	117.	53-153	13.0	20	WG561137
Benzene	mg/l	0.0288	0.0253	115.	72-119	13.2	20	WG561137
Bromochloromethane	mg/l	0.0286	0.0258	114.	79-124	10.3	20	WG561137
Bromodichloromethane	mg/l	0.0263	0.0230	105.	75-127	13.3	20	WG561137
Bromoform	mg/l	0.0222	0.0195	89.0	61-136	13.3	20	WG561137
Bromomethane	mg/l	0.0405	0.0344	162.	42-172	16.3	20	WG561137
Carbon disulfide	mg/l	0.0300	0.0264	120.	19-150	12.8	20	WG561137
Carbon tetrachloride	mg/l	0.0251	0.0216	100.	63-129	14.9	20	WG561137
Chlorobenzene	mg/l	0.0268	0.0232	107.	78-123	14.2	20	WG561137
Chlorodibromomethane	mg/l	0.0233	0.0205	93.0	73-128	12.9	20	WG561137
Chloroethane	mg/l	0.0303	0.0267	121.	52-164	12.6	20	WG561137
Chloroform	mg/l	0.0282	0.0247	113.	76-122	13.1	20	WG561137
Chloromethane	mg/l	0.0250	0.0223	100.	50-141	11.2	20	WG561137
cis-1,2-Dichloroethene	mg/l	0.0290	0.0255	116.	75-121	13.1	20	WG561137
cis-1,3-Dichloropropene	mg/l	0.0262	0.0227	105.	74-124	14.4	20	WG561137
Dibromomethane	mg/l	0.0265	0.0233	106.	77-124	12.6	20	WG561137
Ethylbenzene	mg/l	0.0266	0.0231	106.	77-124	14.2	20	WG561137
Iodomethane	mg/l	0.146	0.129	117.	54-139	12.4	20	WG561137
Methylene Chloride	mg/l	0.0295	0.0257	118.	67-122	13.5	20	WG561137
Styrene	mg/l	0.0200	0.0175	80.0	69-145	13.2	20	WG561137
Tetrachloroethene	mg/l	0.0264	0.0233	106.	75-121	12.6	20	WG561137
Toluene	mg/l	0.0271	0.0236	108.	75-114	14.1	20	WG561137
trans-1,2-Dichloroethene	mg/l	0.0290	0.0257	116.	63-127	12.1	20	WG561137
trans-1,3-Dichloropropene	mg/l	0.0236	0.0209	94.0	69-124	12.2	20	WG561137
trans-1,4-Dichloro-2-butene	mg/l	0.0244	0.0213	97.0	58-137	13.3	20	WG561137
Trichloroethene	mg/l	0.0273	0.0237	109.	69-131	14.1	20	WG561137
Trichlorofluoromethane	mg/l	0.0260	0.0232	104.	53-161	11.1	20	WG561137
Vinyl acetate	mg/l	0.135	0.114	108.	47-161	16.8	20	WG561137
Vinyl chloride	mg/l	0.0259	0.0229	104.	55-142	12.1	20	WG561137
Xylenes, Total	mg/l	0.0798	0.0691	106.	77-123	14.4	20	WG561137
4-Bromofluorobenzene				104.0	82-120			WG561137
Dibromofluoromethane				102.0	82-126			WG561137
Toluene-d8				103.6	92-112			WG561137
a,a,a-Trifluorotoluene				104.7	90-116			WG561137
pH	su	8.00	8.00	100.	98-101	0	20	WG561202
Specific Conductance	umhos/	427.	427.	100.	85-115	0	20	WG561585
Chloride	mg/l	39.4	39.5	98.0	90-110	0.253	20	WG561691
Sulfate	mg/l	39.3	39.4	98.0	90-110	0.254	20	WG561691

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Laboratory Control Sample Duplicate				Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
TOC (Total Organic Carbon)	mg/l	80.1	81.6	107.	85-115	1.94	20	WG561983

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
Alkalinity	mg/l	98.0	0	100	98.0	80-120	L541851-04	WG561162
Nitrate	mg/l	6.21	1.20	5	100.	80-120	L541985-01	WG561082
Nitrite	mg/l	5.48	0	5	110.	80-120	L541985-01	WG561082
1,1,1,2-Tetrachloroethane	mg/l	0.0222	0	.025	88.7	71-130	L541999-01	WG561137
1,1,1-Trichloroethane	mg/l	0.0236	0	.025	94.2	58-137	L541999-01	WG561137
1,1,2,2-Tetrachloroethane	mg/l	0.0239	0	.025	95.4	64-149	L541999-01	WG561137
1,1,2-Trichloroethane	mg/l	0.0240	0	.025	95.9	73-128	L541999-01	WG561137
1,1-Dichloroethane	mg/l	0.0253	0	.025	101.	58-133	L541999-01	WG561137
1,1-Dichloroethene	mg/l	0.0284	0	.025	114.	32-152	L541999-01	WG561137
1,2,3-Trichloropropane	mg/l	0.0230	0	.025	92.1	74-137	L541999-01	WG561137
1,2-Dichlorobenzene	mg/l	0.0228	0	.025	91.1	75-125	L541999-01	WG561137
1,2-Dichloroethane	mg/l	0.0224	0	.025	89.7	59-135	L541999-01	WG561137
1,2-Dichloropropane	mg/l	0.0236	0	.025	94.6	68-126	L541999-01	WG561137
1,4-Dichlorobenzene	mg/l	0.0233	0	.025	93.3	70-123	L541999-01	WG561137
2-Butanone (MEK)	mg/l	0.130	0	.125	104.	51-149	L541999-01	WG561137
2-Hexanone	mg/l	0.124	0	.125	99.2	58-148	L541999-01	WG561137
4-Methyl-2-pentanone (MIBK)	mg/l	0.124	0	.125	99.3	53-154	L541999-01	WG561137
Acetone	mg/l	0.130	0	.125	104.	34-146	L541999-01	WG561137
Acrylonitrile	mg/l	0.135	0	.125	108.	49-162	L541999-01	WG561137
Benzene	mg/l	0.0254	0	.025	101.	51-134	L541999-01	WG561137
Bromochloromethane	mg/l	0.0255	0	.025	102.	67-131	L541999-01	WG561137
Bromodichloromethane	mg/l	0.0231	0	.025	92.6	67-132	L541999-01	WG561137
Bromoform	mg/l	0.0198	0	.025	79.2	59-137	L541999-01	WG561137
Bromomethane	mg/l	0.0345	0	.025	138.	23-177	L541999-01	WG561137
Carbon disulfide	mg/l	0.0257	0	.025	103.	10-165	L541999-01	WG561137
Carbon tetrachloride	mg/l	0.0218	0	.025	87.3	49-140	L541999-01	WG561137
Chlorobenzene	mg/l	0.0227	0	.025	90.7	69-126	L541999-01	WG561137
Chlorodibromomethane	mg/l	0.0204	0	.025	81.4	68-130	L541999-01	WG561137
Chloroethane	mg/l	0.0264	0	.025	105.	32-177	L541999-01	WG561137
Chloroform	mg/l	0.0247	0	.025	98.9	64-130	L541999-01	WG561137
Chloromethane	mg/l	0.0221	0	.025	88.4	27-155	L541999-01	WG561137
cis-1,2-Dichloroethene	mg/l	0.0254	0	.025	102.	54-137	L541999-01	WG561137
cis-1,3-Dichloropropene	mg/l	0.0230	0	.025	92.2	63-127	L541999-01	WG561137
Dibromomethane	mg/l	0.0238	0	.025	95.0	68-131	L541999-01	WG561137
Ethylbenzene	mg/l	0.0225	0	.025	90.0	64-135	L541999-01	WG561137
Iodomethane	mg/l	0.126	0	.125	101.	38-149	L541999-01	WG561137
Methylene Chloride	mg/l	0.0259	0	.025	103.	52-130	L541999-01	WG561137
Styrene	mg/l	0.0169	0	.025	67.6	58-152	L541999-01	WG561137
Tetrachloroethene	mg/l	0.0225	0	.025	90.0	56-139	L541999-01	WG561137
Toluene	mg/l	0.0240	0	.025	96.0	61-126	L541999-01	WG561137
trans-1,2-Dichloroethene	mg/l	0.0252	0	.025	101.	45-137	L541999-01	WG561137
trans-1,3-Dichloropropene	mg/l	0.0214	0	.025	85.6	59-130	L541999-01	WG561137
trans-1,4-Dichloro-2-butene	mg/l	0.0227	0	.025	90.8	51-145	L541999-01	WG561137
Trichloroethene	mg/l	0.0230	0	.025	92.0	40-155	L541999-01	WG561137
Trichlorofluoromethane	mg/l	0.0226	0	.025	90.3	35-177	L541999-01	WG561137
Vinyl acetate	mg/l	0.132	0	.125	105.	36-186	L541999-01	WG561137
Vinyl chloride	mg/l	0.0224	0	.025	89.8	32-159	L541999-01	WG561137
Xylenes, Total	mg/l	0.0681	0	.075	90.7	64-133	L541999-01	WG561137
4-Bromofluorobenzene					101.3	82-120		WG561137
Dibromofluoromethane					102.0	82-126		WG561137

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Units	MS Res	Matrix Spike		% Rec	Limit	Ref Samp	Batch
			Ref Res	TV				
Toluene-d8					103.2	92-112		
a,a,a-Trifluorotoluene					103.9	90-116		
Antimony	mg/l	0.0516	0	.0567	91.0	75-125	L542000-01	WG561149
Arsenic	mg/l	0.0539	0.000610	.0567	94.0	75-125	L542000-01	WG561149
Beryllium	mg/l	0.0537	0	.0567	94.7	75-125	L542000-01	WG561149
Cadmium	mg/l	0.0518	0	.0567	91.4	75-125	L542000-01	WG561149
Copper	mg/l	0.0534	0.00108	.0567	92.3	75-125	L542000-01	WG561149
Lead	mg/l	0.0541	0.00112	.0567	93.4	75-125	L542000-01	WG561149
Selenium	mg/l	0.0509	0.000170	.0567	89.5	75-125	L542000-01	WG561149
Thallium	mg/l	0.0529	0	.0567	93.3	75-125	L542000-01	WG561149
Zinc	mg/l	0.0716	0.0140	.0567	102.	75-125	L542000-01	WG561149
Mercury	mg/l	0.00298	0	.003	99.3	70-130	L541873-50	WG561244
Barium	mg/l	1.22	0.0223	1.13	106.	75-125	L541655-05	WG561228
Calcium	mg/l	110.	95.2	11.3	131.*	75-125	L541655-05	WG561228
Chromium	mg/l	1.22	0.00120	1.13	108.	75-125	L541655-05	WG561228
Cobalt	mg/l	1.18	0.000600	1.13	104.	75-125	L541655-05	WG561228
Magnesium	mg/l	19.6	7.64	11.3	106.	75-125	L541655-05	WG561228
Nickel	mg/l	1.10	0	1.13	97.3	75-125	L541655-05	WG561228
Potassium	mg/l	17.4	6.12	11.3	99.8	75-125	L541655-05	WG561228
Silver	mg/l	0.707	0.00187	1.13	62.4*	75-125	L541655-05	WG561228
Sodium	mg/l	19.4	7.83	11.3	102.	75-125	L541655-05	WG561228
Vanadium	mg/l	1.20	0	1.13	106.	75-125	L541655-05	WG561228
Chloride	mg/l	2510	1700	50	81.0	80-120	L542209-03	WG561691
Sulfate	mg/l	2010	1200	50	81.0	80-120	L542209-03	WG561691
Antimony	mg/l	0.0666	0	.0567	117.	75-125	L542227-01	WG561493
Arsenic	mg/l	0.0654	0	.0567	115.	75-125	L542227-01	WG561493
Beryllium	mg/l	0.0655	0	.0567	116.	75-125	L542227-01	WG561493
Cadmium	mg/l	0.0658	0	.0567	116.	75-125	L542227-01	WG561493
Copper	mg/l	0.0635	0	.0567	112.	75-125	L542227-01	WG561493
Lead	mg/l	0.0650	0	.0567	115.	75-125	L542227-01	WG561493
Selenium	mg/l	0.0619	0	.0567	109.	75-125	L542227-01	WG561493
Thallium	mg/l	0.0653	0	.0567	115.	75-125	L542227-01	WG561493
Zinc	mg/l	0.0513	0	.0567	90.5	75-125	L542227-01	WG561493
TOC (Total Organic Carbon)	mg/l	59.0	9.40	50	99.1	80-120	L541800-03	WG561983

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Alkalinity	mg/l	100.	98.0	100.	80-120	2.02	20	L541851-04	WG561162
Nitrate	mg/l	6.25	6.21	101.	80-120	0.642	20	L541985-01	WG561082
Nitrite	mg/l	5.50	5.48	110.	80-120	0.364	20	L541985-01	WG561082
1,1,1,2-Tetrachloroethane	mg/l	0.0248	0.0222	99.1	71-130	11.1	20	L541999-01	WG561137
1,1,1-Trichloroethane	mg/l	0.0236	0.0236	94.6	58-137	0.360	20	L541999-01	WG561137
1,1,2,2-Tetrachloroethane	mg/l	0.0258	0.0239	103.	64-149	7.71	20	L541999-01	WG561137
1,1,2-Trichloroethane	mg/l	0.0260	0.0240	104.	73-128	8.01	20	L541999-01	WG561137

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205

Quality Assurance Report
Level II

Thornton, CO 80223

October 25, 2011

L541999

Analyte	Units	MSD	Matrix Spike	Duplicate	Limit	RPD	Limit	Ref	Samp	Batch
			Ref	%Rec						
1,1-Dichloroethane	mg/l	0.0254	0.0253	101.	58-133	0.220	20	L541999-01		WG561137
1,1-Dichloroethene	mg/l	0.0289	0.0284	116.	32-152	1.65	20	L541999-01		WG561137
1,2,3-Trichloropropane	mg/l	0.0248	0.0230	99.3	74-137	7.50	20	L541999-01		WG561137
1,2-Dichlorobenzene	mg/l	0.0260	0.0228	104.	75-125	13.4	20	L541999-01		WG561137
1,2-Dichloroethane	mg/l	0.0219	0.0224	87.6	59-135	2.31	20	L541999-01		WG561137
1,2-Dichloropropane	mg/l	0.0239	0.0236	95.7	68-126	1.20	20	L541999-01		WG561137
1,4-Dichlorobenzene	mg/l	0.0265	0.0233	106.	70-123	12.7	20	L541999-01		WG561137
2-Butanone (MEK)	mg/l	0.125	0.130	99.9	51-149	4.08	22	L541999-01		WG561137
2-Hexanone	mg/l	0.133	0.124	107.	58-148	7.36	24	L541999-01		WG561137
4-Methyl-2-pentanone (MIBK)	mg/l	0.124	0.124	99.3	53-154	0.0200	21	L541999-01		WG561137
Acetone	mg/l	0.126	0.130	101.	34-146	3.39	22	L541999-01		WG561137
Acrylonitrile	mg/l	0.133	0.135	106.	49-162	1.49	20	L541999-01		WG561137
Benzene	mg/l	0.0252	0.0254	101.	51-134	0.550	20	L541999-01		WG561137
Bromochloromethane	mg/l	0.0252	0.0255	101.	67-131	1.13	20	L541999-01		WG561137
Bromodichloromethane	mg/l	0.0236	0.0231	94.4	67-132	2.02	20	L541999-01		WG561137
Bromoform	mg/l	0.0221	0.0198	88.4	59-137	11.0	20	L541999-01		WG561137
Bromomethane	mg/l	0.0329	0.0345	132.	23-177	4.68	21	L541999-01		WG561137
Carbon disulfide	mg/l	0.0259	0.0257	104.	10-165	0.810	22	L541999-01		WG561137
Carbon tetrachloride	mg/l	0.0217	0.0218	86.8	49-140	0.550	20	L541999-01		WG561137
Chlorobenzene	mg/l	0.0253	0.0227	101.	69-126	11.1	20	L541999-01		WG561137
Chlorodibromomethane	mg/l	0.0222	0.0204	88.9	68-130	8.82	20	L541999-01		WG561137
Chloroethane	mg/l	0.0259	0.0264	104.	32-177	1.63	21	L541999-01		WG561137
Chloroform	mg/l	0.0247	0.0247	98.8	64-130	0.170	20	L541999-01		WG561137
Chloromethane	mg/l	0.0216	0.0221	86.6	27-155	2.07	20	L541999-01		WG561137
cis-1,2-Dichloroethene	mg/l	0.0253	0.0254	101.	54-137	0.330	20	L541999-01		WG561137
cis-1,3-Dichloropropene	mg/l	0.0237	0.0230	94.9	63-127	2.88	20	L541999-01		WG561137
Dibromomethane	mg/l	0.0242	0.0238	96.8	68-131	1.90	20	L541999-01		WG561137
Ethylbenzene	mg/l	0.0252	0.0225	101.	64-135	11.4	20	L541999-01		WG561137
Iodomethane	mg/l	0.126	0.126	101.	38-149	0.0300	20	L541999-01		WG561137
Methylene Chloride	mg/l	0.0259	0.0259	104.	52-130	0.330	20	L541999-01		WG561137
Styrene	mg/l	0.0189	0.0169	75.6	58-152	11.2	20	L541999-01		WG561137
Tetrachloroethene	mg/l	0.0249	0.0225	99.7	56-139	10.3	20	L541999-01		WG561137
Toluene	mg/l	0.0247	0.0240	98.9	61-126	3.02	20	L541999-01		WG561137
trans-1,2-Dichloroethene	mg/l	0.0255	0.0252	102.	45-137	1.05	20	L541999-01		WG561137
trans-1,3-Dichloropropene	mg/l	0.0215	0.0214	86.1	59-130	0.580	20	L541999-01		WG561137
trans-1,4-Dichloro-2-butene	mg/l	0.0244	0.0227	97.7	51-145	7.35	24	L541999-01		WG561137
Trichloroethene	mg/l	0.0242	0.0230	97.0	40-155	5.24	20	L541999-01		WG561137
Trichlorofluoromethane	mg/l	0.0226	0.0226	90.4	35-177	0.0300	23	L541999-01		WG561137
Vinyl acetate	mg/l	0.127	0.132	102.	36-186	3.52	20	L541999-01		WG561137
Vinyl chloride	mg/l	0.0221	0.0224	88.4	32-159	1.56	21	L541999-01		WG561137
Xylenes, Total	mg/l	0.0760	0.0681	101.	64-133	11.0	20	L541999-01		WG561137
4-Bromofluorobenzene				96.64	82-120					WG561137
Dibromofluoromethane				98.90	82-126					WG561137
Toluene-d8				101.3	92-112					WG561137
a,a,a-Trifluorotoluene				100.2	90-116					WG561137
Antimony	mg/l	0.0530	0.0516	93.5	75-125	2.68	20	L542000-01		WG561149
Arsenic	mg/l	0.0540	0.0539	94.2	75-125	0.185	20	L542000-01		WG561149
Beryllium	mg/l	0.0535	0.0537	94.4	75-125	0.373	20	L542000-01		WG561149
Cadmium	mg/l	0.0530	0.0518	93.5	75-125	2.29	20	L542000-01		WG561149
Copper	mg/l	0.0522	0.0534	90.2	75-125	2.27	20	L542000-01		WG561149
Lead	mg/l	0.0541	0.0541	93.4	75-125	0	20	L542000-01		WG561149
Selenium	mg/l	0.0527	0.0509	92.6	75-125	3.47	20	L542000-01		WG561149
Thallium	mg/l	0.0523	0.0529	92.2	75-125	1.14	20	L542000-01		WG561149
Zinc	mg/l	0.0705	0.0716	99.6	75-125	1.55	20	L542000-01		WG561149

Mercury mg/l 0.00306 0.00298 102. 70-130 2.65 20 L541873-50 WG561244

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

Analyte	Units	MSD	Matrix Spike Duplicate		Limit	RPD	Limit	Ref Samp	Batch
			Ref	%Rec					
Barium	mg/l	1.19	1.22	103.	75-125	2.49	20	L541655-05	WG561228
Calcium	mg/l	108.	110.	113.	75-125	1.83	20	L541655-05	WG561228
Chromium	mg/l	1.18	1.22	104.	75-125	3.33	20	L541655-05	WG561228
Cobalt	mg/l	1.15	1.18	102.	75-125	2.58	20	L541655-05	WG561228
Magnesium	mg/l	19.2	19.6	102.	75-125	2.06	20	L541655-05	WG561228
Nickel	mg/l	1.08	1.10	95.6	75-125	1.83	20	L541655-05	WG561228
Potassium	mg/l	17.5	17.4	101.	75-125	0.573	20	L541655-05	WG561228
Silver	mg/l	0.646	0.707	57.0*	75-125	9.02	20	L541655-05	WG561228
Sodium	mg/l	18.8	19.4	97.1	75-125	3.14	20	L541655-05	WG561228
Vanadium	mg/l	1.18	1.20	104.	75-125	1.68	20	L541655-05	WG561228
Chloride	mg/l	2480	2510	78.0*	80-120	1.20	20	L542209-03	WG561691
Sulfate	mg/l	1980	2010	78.0*	80-120	1.50	20	L542209-03	WG561691
Antimony	mg/l	0.0663	0.0666	117.	75-125	0.451	20	L542227-01	WG561493
Arsenic	mg/l	0.0658	0.0654	116.	75-125	0.610	20	L542227-01	WG561493
Beryllium	mg/l	0.0647	0.0655	114.	75-125	1.23	20	L542227-01	WG561493
Cadmium	mg/l	0.0651	0.0658	115.	75-125	1.07	20	L542227-01	WG561493
Copper	mg/l	0.0639	0.0635	113.	75-125	0.628	20	L542227-01	WG561493
Lead	mg/l	0.0649	0.0650	114.	75-125	0.154	20	L542227-01	WG561493
Selenium	mg/l	0.0620	0.0619	109.	75-125	0.161	20	L542227-01	WG561493
Thallium	mg/l	0.0638	0.0653	112.	75-125	2.32	20	L542227-01	WG561493
Zinc	mg/l	0.0518	0.0513	91.4	75-125	0.970	20	L542227-01	WG561493
TOC (Total Organic Carbon)	mg/l	59.0	59.0	99.2	80-120	0.0509	20	L541800-03	WG561983

Batch number /Run number / Sample number cross reference

WG561162: R1900752: L541999-01 02 03
WG561163: R1900772: L541999-01 02 03
WG561164: R1900776: L541999-01 02 03
WG561082: R1900812: L541999-01 02 03
WG561137: R1901014: L541999-01 02 03
WG561149: R1901073: L541999-01
WG561202: R1901473: L541999-01 02 03
WG561244: R1903433: L541999-01 02 03
WG561585: R1904454: L541999-01 02 03
WG561228: R1904456: L541999-01 02 03
WG561691: R1904752: L541999-01 02
WG561493: R1905474: L541999-02 03
WG561983: R1907072: L541999-01 02 03

* * Calculations are performed prior to rounding of reported values.

* Performance of this Analyte is outside of established criteria.

For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



YOUR LAB OF CHOICE

Molen & Associates, LLC
Mark Molen
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Quality Assurance Report
Level II

L541999

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

October 25, 2011

The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Wednesday April 13, 2011

Report Number: L509692

Samples Received: 04/06/11

Client Project: 10-0133

Description: Broda Al Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Daphne Richards , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 04/05/11 13:50

ESC Sample # : L509692-01

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	130	5.0	mg/l	9056	04/08/11	5
Nitrate	4.3	0.10	mg/l	9056	04/07/11	1
Nitrite	BDL	0.10	mg/l	9056	04/07/11	1
Sulfate	180	25.	mg/l	9056	04/08/11	5
Alkalinity	170	20.	mg/l	2320B	04/07/11	1
Alkalinity, Bicarbonate	170	20.	mg/l	2320B	04/11/11	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	04/11/11	1
pH	7.0		su	9040C	04/13/11	1
Specific Conductance	1100	1.8	umhos/cm	9050A	04/08/11	1
TOC (Total Organic Carbon)	2.3	1.0	mg/l	9060A	04/12/11	1
Antimony	BDL	0.0010	mg/l	6020	04/11/11	1
Arsenic	0.0038	0.0010	mg/l	6020	04/11/11	1
Beryllium	BDL	0.0010	mg/l	6020	04/11/11	1
Cadmium	BDL	0.00050	mg/l	6020	04/11/11	1
Copper	0.0072	0.0020	mg/l	6020	04/11/11	1
Lead	0.0033	0.0010	mg/l	6020	04/11/11	1
Selenium	0.0046	0.0010	mg/l	6020	04/11/11	1
Thallium	BDL	0.0010	mg/l	6020	04/11/11	1
Zinc	0.019	0.010	mg/l	6020	04/11/11	1
Mercury	BDL	0.00020	mg/l	7470A	04/08/11	1
Barium	0.11	0.0050	mg/l	6010B	04/07/11	1
Calcium	67.	0.50	mg/l	6010B	04/07/11	1
Chromium	BDL	0.010	mg/l	6010B	04/07/11	1
Cobalt	BDL	0.010	mg/l	6010B	04/07/11	1
Magnesium	21.	0.10	mg/l	6010B	04/07/11	1
Nickel	BDL	0.020	mg/l	6010B	04/07/11	1
Potassium	8.5	0.50	mg/l	6010B	04/07/11	1
Silver	BDL	0.010	mg/l	6010B	04/07/11	1
Sodium	120	0.50	mg/l	6010B	04/07/11	1
Vanadium	BDL	0.010	mg/l	6010B	04/07/11	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	04/06/11	1
Acrylonitrile	BDL	0.010	mg/l	8260B	04/06/11	1
Benzene	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	04/06/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L509692-01 (PH) - 7.0@20.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 04/05/11 13:50

ESC Sample # : L509692-01

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromomethane	BDL	0.0050	mg/l	8260B	04/06/11	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	04/06/11	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	04/06/11	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Chloroethane	BDL	0.0050	mg/l	8260B	04/06/11	1
Chloroform	BDL	0.0050	mg/l	8260B	04/06/11	1
Chloromethane	BDL	0.0025	mg/l	8260B	04/06/11	1
Dibromomethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	04/06/11	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	04/06/11	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/06/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
2-Hexanone	BDL	0.010	mg/l	8260B	04/06/11	1
Iodomethane	BDL	0.0050	mg/l	8260B	04/06/11	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	04/06/11	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	04/06/11	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	04/06/11	1
Styrene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
Toluene	BDL	0.0050	mg/l	8260B	04/06/11	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Trichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	04/06/11	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	04/06/11	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	04/06/11	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	04/06/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	04/06/11	1
Surrogate Recovery						
Toluene-d8	107.		% Rec.	8260B	04/06/11	1
Dibromofluoromethane	112.		% Rec.	8260B	04/06/11	1
a,a,a-Trifluorotoluene	100.		% Rec.	8260B	04/06/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L509692-01 (PH) - 7.0@20.0c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 04/05/11 13:50

ESC Sample # : L509692-01

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	100.		% Rec.	8260B	04/06/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 04/13/11 17:13 Printed: 04/13/11 17:13
L509692-01 (PH) - 7.0@20.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 04/05/11 14:15

ESC Sample # : L509692-02

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	160	5.0	mg/l	9056	04/07/11	5
Nitrate	0.17	0.10	mg/l	9056	04/06/11	1
Nitrite	BDL	0.10	mg/l	9056	04/06/11	1
Sulfate	230	25.	mg/l	9056	04/07/11	5
Alkalinity	160	20.	mg/l	2320B	04/07/11	1
Alkalinity, Bicarbonate	160	20.	mg/l	2320B	04/11/11	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	04/11/11	1
pH	7.1		su	9040C	04/12/11	1
Specific Conductance	1200	1.8	umhos/cm	9050A	04/08/11	1
TOC (Total Organic Carbon)	5.3	1.0	mg/l	9060A	04/12/11	1
Antimony	BDL	0.0010	mg/l	6020	04/11/11	1
Arsenic	0.0069	0.0010	mg/l	6020	04/11/11	1
Beryllium	BDL	0.0010	mg/l	6020	04/11/11	1
Cadmium	0.00081	0.00050	mg/l	6020	04/11/11	1
Copper	0.0090	0.0020	mg/l	6020	04/11/11	1
Lead	0.0046	0.0010	mg/l	6020	04/11/11	1
Selenium	0.0039	0.0010	mg/l	6020	04/11/11	1
Thallium	BDL	0.0010	mg/l	6020	04/11/11	1
Zinc	0.023	0.010	mg/l	6020	04/11/11	1
Mercury	BDL	0.00020	mg/l	7470A	04/08/11	1
Barium	0.23	0.0050	mg/l	6010B	04/07/11	1
Calcium	66.	0.50	mg/l	6010B	04/07/11	1
Chromium	BDL	0.010	mg/l	6010B	04/07/11	1
Cobalt	BDL	0.010	mg/l	6010B	04/07/11	1
Magnesium	20.	0.10	mg/l	6010B	04/07/11	1
Nickel	BDL	0.020	mg/l	6010B	04/07/11	1
Potassium	9.8	0.50	mg/l	6010B	04/07/11	1
Silver	BDL	0.010	mg/l	6010B	04/07/11	1
Sodium	150	0.50	mg/l	6010B	04/07/11	1
Vanadium	BDL	0.010	mg/l	6010B	04/07/11	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	04/06/11	1
Acrylonitrile	BDL	0.010	mg/l	8260B	04/06/11	1
Benzene	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	04/06/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L509692-02 (PH) - 7.1@18.1c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 04/05/11 14:15

ESC Sample # : L509692-02

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromomethane	BDL	0.0050	mg/l	8260B	04/06/11	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	04/06/11	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	04/06/11	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Chloroethane	BDL	0.0050	mg/l	8260B	04/06/11	1
Chloroform	BDL	0.0050	mg/l	8260B	04/06/11	1
Chloromethane	BDL	0.0025	mg/l	8260B	04/06/11	1
Dibromomethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	04/06/11	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	04/06/11	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/06/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
2-Hexanone	BDL	0.010	mg/l	8260B	04/06/11	1
Iodomethane	BDL	0.0050	mg/l	8260B	04/06/11	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	04/06/11	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	04/06/11	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	04/06/11	1
Styrene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
Toluene	BDL	0.0050	mg/l	8260B	04/06/11	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Trichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	04/06/11	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	04/06/11	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	04/06/11	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	04/06/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	04/06/11	1
Surrogate Recovery						
Toluene-d8	109.		% Rec.	8260B	04/06/11	1
Dibromofluoromethane	106.		% Rec.	8260B	04/06/11	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	04/06/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L509692-02 (PH) - 7.1@18.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 13, 2011

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 04/05/11 14:15

ESC Sample # : L509692-02

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	97.7		% Rec.	8260B	04/06/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 04/13/11 17:13 Printed: 04/13/11 17:13
L509692-02 (PH) - 7.1@18.1c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 04/05/11 14:50

ESC Sample # : L509692-03

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	120	5.0	mg/l	9056	04/06/11	5
Nitrate	15.	0.50	mg/l	9056	04/06/11	5
Nitrite	BDL	0.10	mg/l	9056	04/07/11	1
Sulfate	120	25.	mg/l	9056	04/06/11	5
Alkalinity	170	20.	mg/l	2320B	04/07/11	1
Alkalinity, Bicarbonate	170	20.	mg/l	2320B	04/11/11	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	04/11/11	1
pH	6.9		su	9040C	04/12/11	1
Specific Conductance	1100	1.8	umhos/cm	9050A	04/08/11	1
TOC (Total Organic Carbon)	2.8	1.0	mg/l	9060A	04/12/11	1
Antimony	BDL	0.0010	mg/l	6020	04/11/11	1
Arsenic	0.0036	0.0010	mg/l	6020	04/11/11	1
Beryllium	BDL	0.0010	mg/l	6020	04/11/11	1
Cadmium	0.00064	0.00050	mg/l	6020	04/11/11	1
Copper	0.011	0.0020	mg/l	6020	04/11/11	1
Lead	0.012	0.0010	mg/l	6020	04/11/11	1
Selenium	0.0068	0.0010	mg/l	6020	04/11/11	1
Thallium	BDL	0.0010	mg/l	6020	04/11/11	1
Zinc	0.039	0.010	mg/l	6020	04/11/11	1
Mercury	BDL	0.00020	mg/l	7470A	04/08/11	1
Barium	0.26	0.0050	mg/l	6010B	04/07/11	1
Calcium	96.	0.50	mg/l	6010B	04/07/11	1
Chromium	0.012	0.010	mg/l	6010B	04/07/11	1
Cobalt	BDL	0.010	mg/l	6010B	04/07/11	1
Magnesium	23.	0.10	mg/l	6010B	04/07/11	1
Nickel	BDL	0.020	mg/l	6010B	04/07/11	1
Potassium	13.	0.50	mg/l	6010B	04/07/11	1
Silver	BDL	0.010	mg/l	6010B	04/07/11	1
Sodium	92.	0.50	mg/l	6010B	04/07/11	1
Vanadium	BDL	0.010	mg/l	6010B	04/07/11	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	04/06/11	1
Acrylonitrile	BDL	0.010	mg/l	8260B	04/06/11	1
Benzene	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	04/06/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L509692-03 (PH) - 6.9@18.3c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

April 13, 2011

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 04/05/11 14:50

ESC Sample # : L509692-03

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	04/06/11	1
Bromomethane	BDL	0.0050	mg/l	8260B	04/06/11	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	04/06/11	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	04/06/11	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Chloroethane	BDL	0.0050	mg/l	8260B	04/06/11	1
Chloroform	BDL	0.0050	mg/l	8260B	04/06/11	1
Chloromethane	BDL	0.0025	mg/l	8260B	04/06/11	1
Dibromomethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	04/06/11	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	04/06/11	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/06/11	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	04/06/11	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	04/06/11	1
2-Hexanone	BDL	0.010	mg/l	8260B	04/06/11	1
Iodomethane	BDL	0.0050	mg/l	8260B	04/06/11	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	04/06/11	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	04/06/11	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	04/06/11	1
Styrene	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
Toluene	BDL	0.0050	mg/l	8260B	04/06/11	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	04/06/11	1
Trichloroethene	BDL	0.0010	mg/l	8260B	04/06/11	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	04/06/11	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	04/06/11	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	04/06/11	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	04/06/11	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	04/06/11	1
Surrogate Recovery						
Toluene-d8	108.		% Rec.	8260B	04/06/11	1
Dibromofluoromethane	110.		% Rec.	8260B	04/06/11	1
a,a,a-Trifluorotoluene	101.		% Rec.	8260B	04/06/11	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L509692-03 (PH) - 6.9@18.3c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 13, 2011

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Date Received : April 06, 2011
Description : Broda Al Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 04/05/11 14:50

ESC Sample # : L509692-03

Site ID : BRODA, AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	101.		% Rec.	8260B	04/06/11	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 04/13/11 17:13 Printed: 04/13/11 17:13
L509692-03 (PH) - 6.9@18.3c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L509692-01	WG530684	SAMP	pH	R1648829	T8
L509692-02	WG530317	SAMP	pH	R1647089	T8
L509692-03	WG530317	SAMP	pH	R1647089	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
04/13/11 at 17:13:37

TSR Signing Reports: 288
R5 - Desired TAT

DO NOT report Hg on M6010AP1 metals for Proj 07-0127-East Regional Landfill

Sample: L509692-01 Account: MOLENTCO Received: 04/06/11 09:00 Due Date: 04/13/11 00:00 RPT Date: 04/13/11 17:13

Sample: L509692-02 Account: MOLENTCO Received: 04/06/11 09:00 Due Date: 04/13/11 00:00 RPT Date: 04/13/11 17:13

Sample: L509692-03 Account: MOLENTCO Received: 04/06/11 09:00 Due Date: 04/13/11 00:00 RPT Date: 04/13/11 17:13



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Wednesday September 01, 2010

Report Number: L474571

Samples Received: 08/19/10

Client Project: 10-0133

Description: Broda

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

John D. Blackman , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 08/18/10 09:00

ESC Sample # : L474571-01

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	140	5.0	mg/l	9056	08/21/10	5
Nitrate	6.3	0.10	mg/l	9056	08/19/10	1
Nitrite	BDL	0.10	mg/l	9056	08/19/10	1
Sulfate	190	25.	mg/l	9056	08/21/10	5
Alkalinity, Bicarbonate	170	20.	mg/l	2320B	08/31/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	08/31/10	1
pH	7.3		su	9040C	08/20/10	1
Specific Conductance	1200		umhos/cm	9050A	08/27/10	1
TOC (Total Organic Carbon)	3.7	1.0	mg/l	9060A	08/26/10	1
Antimony	BDL	0.0010	mg/l	6020	08/23/10	1
Arsenic	0.0018	0.0010	mg/l	6020	08/23/10	1
Beryllium	BDL	0.0010	mg/l	6020	08/25/10	1
Cadmium	BDL	0.00050	mg/l	6020	08/23/10	1
Copper	0.0090	0.0020	mg/l	6020	08/23/10	1
Selenium	0.0032	0.0010	mg/l	6020	08/23/10	1
Thallium	BDL	0.0010	mg/l	6020	08/23/10	1
Zinc	0.027	0.010	mg/l	6020	08/23/10	1
Barium	0.15	0.0050	mg/l	6010B	08/24/10	1
Calcium	79.	0.50	mg/l	6010B	08/24/10	1
Chromium	BDL	0.010	mg/l	6010B	08/24/10	1
Cobalt	BDL	0.010	mg/l	6010B	08/24/10	1
Lead	BDL	0.0050	mg/l	6010B	08/24/10	1
Magnesium	22.	0.10	mg/l	6010B	08/24/10	1
Nickel	BDL	0.020	mg/l	6010B	08/24/10	1
Potassium	10.	0.50	mg/l	6010B	08/24/10	1
Silver	BDL	0.010	mg/l	6010B	08/24/10	1
Sodium	140	0.50	mg/l	6010B	08/24/10	1
Vanadium	0.015	0.010	mg/l	6010B	08/24/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	08/19/10	1
Acrolein	BDL	0.050	mg/l	8260B	08/19/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	08/19/10	1
Benzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromoform	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromomethane	BDL	0.0050	mg/l	8260B	08/19/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474571-01 (PH) - 7.3@19.1c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 08/18/10 09:00

ESC Sample # : L474571-01

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
n-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	08/19/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	08/19/10	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	08/19/10	1
Chloroform	BDL	0.0050	mg/l	8260B	08/19/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	08/19/10	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	08/19/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	08/19/10	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	08/19/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	08/19/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	08/19/10	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	08/19/10	1
Naphthalene	BDL	0.0050	mg/l	8260B	08/19/10	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Styrene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474571-01 (PH) - 7.3@19.1c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 08/18/10 09:00

ESC Sample # : L474571-01

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Tetrachloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
Toluene	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	08/19/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	08/19/10	1
Surrogate Recovery						
Toluene-d8	99.5		% Rec.	8260B	08/19/10	1
Dibromofluoromethane	98.2		% Rec.	8260B	08/19/10	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	08/19/10	1
4-Bromofluorobenzene	99.0		% Rec.	8260B	08/19/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 09/01/10 15:22 Printed: 09/01/10 16:58
L474571-01 (PH) - 7.3@19.1c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 08/18/10 09:50

ESC Sample # : L474571-02

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	150	5.0	mg/l	9056	08/21/10	5
Nitrate	BDL	0.10	mg/l	9056	08/19/10	1
Nitrite	BDL	0.10	mg/l	9056	08/19/10	1
Sulfate	190	25.	mg/l	9056	08/21/10	5
Alkalinity, Bicarbonate	190	20.	mg/l	2320B	08/31/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	08/31/10	1
pH	7.4		su	9040C	08/20/10	1
Specific Conductance	1200		umhos/cm	9050A	08/27/10	1
TOC (Total Organic Carbon)	4.9	1.0	mg/l	9060A	08/26/10	1
Antimony	BDL	0.0010	mg/l	6020	08/23/10	1
Arsenic	0.0085	0.0050	mg/l	6020	08/23/10	5
Beryllium	0.0023	0.0010	mg/l	6020	08/25/10	1
Cadmium	0.0016	0.00050	mg/l	6020	08/23/10	1
Copper	0.063	0.010	mg/l	6020	08/23/10	5
Selenium	BDL	0.0050	mg/l	6020	08/23/10	5
Thallium	0.0012	0.0010	mg/l	6020	08/23/10	1
Zinc	0.26	0.050	mg/l	6020	08/23/10	5
Barium	0.82	0.0050	mg/l	6010B	08/24/10	1
Calcium	76.	0.50	mg/l	6010B	08/24/10	1
Chromium	0.083	0.010	mg/l	6010B	08/24/10	1
Cobalt	0.028	0.010	mg/l	6010B	08/24/10	1
Lead	0.066	0.0050	mg/l	6010B	08/24/10	1
Magnesium	34.	0.10	mg/l	6010B	08/24/10	1
Nickel	0.054	0.020	mg/l	6010B	08/24/10	1
Potassium	33.	0.50	mg/l	6010B	08/24/10	1
Silver	BDL	0.010	mg/l	6010B	08/24/10	1
Sodium	160	0.50	mg/l	6010B	08/24/10	1
Vanadium	0.15	0.010	mg/l	6010B	08/24/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	08/19/10	1
Acrolein	BDL	0.050	mg/l	8260B	08/19/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	08/19/10	1
Benzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromoform	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromomethane	BDL	0.0050	mg/l	8260B	08/19/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474571-02 (PH) - 7.4@19.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 08/18/10 09:50

ESC Sample # : L474571-02

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
n-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	08/19/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	08/19/10	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	08/19/10	1
Chloroform	BDL	0.0050	mg/l	8260B	08/19/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	08/19/10	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	08/19/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	08/19/10	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	08/19/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	08/19/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	08/19/10	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	08/19/10	1
Naphthalene	BDL	0.0050	mg/l	8260B	08/19/10	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Styrene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474571-02 (PH) - 7.4@19.0c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 08/18/10 09:50

ESC Sample # : L474571-02

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Tetrachloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
Toluene	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	08/19/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	08/19/10	1
Surrogate Recovery						
Toluene-d8	98.7		% Rec.	8260B	08/19/10	1
Dibromofluoromethane	100.		% Rec.	8260B	08/19/10	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	08/19/10	1
4-Bromofluorobenzene	99.4		% Rec.	8260B	08/19/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 09/01/10 15:22 Printed: 09/01/10 16:58
L474571-02 (PH) - 7.4@19.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 08/18/10 10:30

ESC Sample # : L474571-03

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	5.0	mg/l	9056	08/19/10	5
Nitrate	15.	0.50	mg/l	9056	08/19/10	5
Nitrite	BDL	0.10	mg/l	9056	08/19/10	1
Sulfate	110	25.	mg/l	9056	08/19/10	5
Alkalinity, Bicarbonate	180	20.	mg/l	2320B	08/31/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	08/31/10	1
pH	7.2		su	9040C	08/20/10	1
Specific Conductance	1000		umhos/cm	9050A	08/27/10	1
TOC (Total Organic Carbon)	2.2	1.0	mg/l	9060A	08/26/10	1
Antimony	BDL	0.0010	mg/l	6020	08/23/10	1
Arsenic	0.012	0.0050	mg/l	6020	08/23/10	5
Beryllium	0.0032	0.0010	mg/l	6020	08/25/10	1
Cadmium	0.0010	0.00050	mg/l	6020	08/23/10	1
Copper	0.077	0.010	mg/l	6020	08/23/10	5
Selenium	BDL	0.0050	mg/l	6020	08/23/10	5
Thallium	0.0015	0.0010	mg/l	6020	08/23/10	1
Zinc	0.32	0.050	mg/l	6020	08/23/10	5
Barium	1.8	0.0050	mg/l	6010B	08/24/10	1
Calcium	110	0.50	mg/l	6010B	08/24/10	1
Chromium	0.082	0.010	mg/l	6010B	08/24/10	1
Cobalt	0.043	0.010	mg/l	6010B	08/24/10	1
Lead	0.14	0.0050	mg/l	6010B	08/24/10	1
Magnesium	36.	0.10	mg/l	6010B	08/24/10	1
Nickel	0.065	0.020	mg/l	6010B	08/24/10	1
Potassium	32.	0.50	mg/l	6010B	08/24/10	1
Silver	BDL	0.010	mg/l	6010B	08/24/10	1
Sodium	100	0.50	mg/l	6010B	08/24/10	1
Vanadium	0.15	0.010	mg/l	6010B	08/24/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	08/19/10	1
Acrolein	BDL	0.050	mg/l	8260B	08/19/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	08/19/10	1
Benzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromoform	BDL	0.0010	mg/l	8260B	08/19/10	1
Bromomethane	BDL	0.0050	mg/l	8260B	08/19/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474571-03 (PH) - 7.2@19.2c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 08/18/10 10:30

ESC Sample # : L474571-03

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
n-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	08/19/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	08/19/10	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	08/19/10	1
Chloroform	BDL	0.0050	mg/l	8260B	08/19/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	08/19/10	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	08/19/10	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	08/19/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	08/19/10	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	08/19/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	08/19/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	08/19/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	08/19/10	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	08/19/10	1
Naphthalene	BDL	0.0050	mg/l	8260B	08/19/10	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Styrene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L474571-03 (PH) - 7.2@19.2c



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

September 01, 2010

Date Received : August 19, 2010
Description : Broda

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 08/18/10 10:30

ESC Sample # : L474571-03

Site ID : BRODA-AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Tetrachloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
Toluene	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	08/19/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	08/19/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	08/19/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	08/19/10	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	08/19/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	08/19/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	08/19/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	08/19/10	1
Dibromofluoromethane	98.0		% Rec.	8260B	08/19/10	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	08/19/10	1
4-Bromofluorobenzene	97.3		% Rec.	8260B	08/19/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 09/01/10 15:22 Printed: 09/01/10 16:58
L474571-03 (PH) - 7.2@19.2c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L474571-01	WG494406	SAMP	pH	R1338930	T8
L474571-02	WG494406	SAMP	pH	R1338930	T8
	WG494394	SAMP	Selenium	R1343768	0
L474571-03	WG494406	SAMP	pH	R1338930	T8
	WG494394	SAMP	Selenium	R1343768	0

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
0	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address Molen & Associates, LLC 2090 East 104th Ave Suite 205 Thornton, CO 80223				Alternate Billing Report to Mark Molen E-mail to: mmolen@west.net				Analysis/Container/Preservative Mg, Na, K, Ca + AP1 Metals - 500ml HDPE w/HN03 <2 CARB, BICARB: ALK - 1L HDPE No Pres Nitrate, Nitrite, Sulfate, Chloride - 500ml HDPE No Pres SPCON, pH - 250ml HDPE No Pres TOC - 250ml Amb-Septa w/HCl <2 V8260 - (3)40ml No Pres								Chain of Custody Page ___ of ___ D060 Prepared by: ENVIRONMENTAL Science corp 12065 Lebanon Road Mt. Juliet TN 37122 Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859			
Project Description: Broda				MOLENTCO-GW															
PHONE: 303.450.1600		Client Project No. 10-0133		Lab Project #															
FAX: 303.452.4515																			
Collected by: <i>Mark Molen</i>		Site/Facility ID# <i>Broda-AI</i>		P.O.#															
Collected by (signature): <i>Mark Molen</i>		☐ Rush? (Lab MUST be Notified) ☐ Same Day.....200% ☐ Next Day.....100% ☐ Two Day.....50%		Date Results Needed Email? ☐ No ☐ Yes FAX? ☐ No ☐ Yes		No of Cntrs													
Packed on Ice N ☒ Y ☐																			
Sample ID	Comp/Grab	Matrix	Depth	Date	Time														
MW-1	Grab	GW	X	8/18/10	900	8	X	X	X	X	X	X					L474571-01		
MW-2	Grab	GW	X	8/18/10	950	8	X	X	X	X	X	X					02		
MW-3	Grab	GW	X	8/18/10	1030	8	X	X	X	X	X	X					03		

Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquisher by (Signature): <i>Mark Molen</i>	Date: 8/18/10	Time: 1550	Received by (Signature): <i>[Signature]</i>	Samples returned via: FedEx ___ UPS ___ Other <i>SWA</i>		Condition	(lab use only)
Relinquisher by (Signature):	Date:	Time:	Received by (Signature): <i>[Signature]</i>	Temp: 2.8°	Bottles Received: 24		
Relinquisher by (Signature):	Date:	Time:	Received for lab by (Signature): <i>[Signature]</i>	Date: 8/19/10	Time: 0730		



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Tuesday October 12, 2010

Report Number: L481481

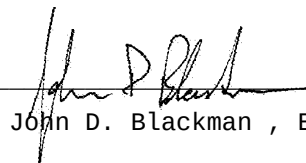
Samples Received: 09/30/10

Client Project: 10-0133

Description: Broda AI-PVP

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


John D. Blackman , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 12, 2010

Date Received : September 30, 2010
Description : Broda AI-PVP

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 09/29/10 09:45

ESC Sample # : L481481-01

Site ID :

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	130	2.0	mg/l	9056	10/09/10	2
Nitrate	5.9	0.10	mg/l	9056	09/30/10	1
Nitrite	0.11	0.10	mg/l	9056	09/30/10	1
Sulfate	180	10.	mg/l	9056	10/09/10	2
Alkalinity, Bicarbonate	180	20.	mg/l	2320B	10/04/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	10/04/10	1
pH	7.5		su	9040C	10/02/10	1
Specific Conductance	1200		umhos/cm	9050A	10/07/10	1
TOC (Total Organic Carbon)	3.6	1.0	mg/l	9060A	10/06/10	1
Antimony	0.0013	0.0010	mg/l	6020	10/05/10	1
Arsenic	0.0032	0.0010	mg/l	6020	10/05/10	1
Beryllium	BDL	0.0010	mg/l	6020	10/05/10	1
Cadmium	BDL	0.00050	mg/l	6020	10/05/10	1
Copper	0.017	0.0020	mg/l	6020	10/05/10	1
Lead	0.011	0.0010	mg/l	6020	10/05/10	1
Selenium	0.0043	0.0010	mg/l	6020	10/05/10	1
Thallium	BDL	0.0010	mg/l	6020	10/05/10	1
Zinc	0.050	0.010	mg/l	6020	10/05/10	1
Mercury	BDL	0.00020	mg/l	7470A	10/04/10	1
Barium	0.15	0.0050	mg/l	6010B	10/06/10	1
Calcium	81.	0.50	mg/l	6010B	10/06/10	1
Chromium	BDL	0.010	mg/l	6010B	10/06/10	1
Cobalt	BDL	0.010	mg/l	6010B	10/06/10	1
Magnesium	22.	0.10	mg/l	6010B	10/06/10	1
Nickel	BDL	0.020	mg/l	6010B	10/06/10	1
Potassium	8.7	0.50	mg/l	6010B	10/09/10	1
Silver	BDL	0.010	mg/l	6010B	10/06/10	1
Sodium	120	0.50	mg/l	6010B	10/06/10	1
Vanadium	BDL	0.010	mg/l	6010B	10/06/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/01/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/01/10	1
Benzene	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromoform	BDL	0.0010	mg/l	8260B	10/01/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L481481-01 (PH) - 7.5@19.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 12, 2010

Date Received : September 30, 2010
Description : Broda AI-PVP

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 09/29/10 09:45

ESC Sample # : L481481-01

Site ID :

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromomethane	BDL	0.0050	mg/l	8260B	10/01/10	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/01/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/01/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/01/10	1
Chloroform	BDL	0.0050	mg/l	8260B	10/01/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/01/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/01/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/01/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/01/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/01/10	1
Iodomethane	BDL	0.0050	mg/l	8260B	10/01/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/01/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/01/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/01/10	1
Styrene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
Toluene	BDL	0.0050	mg/l	8260B	10/01/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/01/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	10/01/10	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	10/01/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/01/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/01/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	10/01/10	1
Dibromofluoromethane	101.		% Rec.	8260B	10/01/10	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	10/01/10	1
4-Bromofluorobenzene	91.9		% Rec.	8260B	10/01/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/12/10 10:45 Revised: 10/12/10 17:50
L481481-01 (PH) - 7.5@19.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 12, 2010

Date Received : September 30, 2010
Description : Broda AI-PVP

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 09/29/10 10:30

ESC Sample # : L481481-02

Site ID :

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	160	2.0	mg/l	9056	10/09/10	2
Nitrate	BDL	0.10	mg/l	9056	09/30/10	1
Nitrite	BDL	0.10	mg/l	9056	09/30/10	1
Sulfate	190	10.	mg/l	9056	10/09/10	2
Alkalinity, Bicarbonate	200	20.	mg/l	2320B	10/04/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	10/04/10	1
pH	7.7		su	9040C	10/02/10	1
Specific Conductance	1200		umhos/cm	9050A	10/07/10	1
TOC (Total Organic Carbon)	6.3	1.0	mg/l	9060A	10/06/10	1
Antimony	BDL	0.0010	mg/l	6020	10/05/10	1
Arsenic	0.0048	0.0010	mg/l	6020	10/05/10	1
Beryllium	BDL	0.0010	mg/l	6020	10/05/10	1
Cadmium	0.0013	0.00050	mg/l	6020	10/05/10	1
Copper	0.018	0.0020	mg/l	6020	10/05/10	1
Lead	0.014	0.0010	mg/l	6020	10/05/10	1
Selenium	0.0049	0.0010	mg/l	6020	10/05/10	1
Thallium	BDL	0.0010	mg/l	6020	10/05/10	1
Zinc	0.071	0.010	mg/l	6020	10/05/10	1
Mercury	BDL	0.00020	mg/l	7470A	10/04/10	1
Barium	0.25	0.0050	mg/l	6010B	10/06/10	1
Calcium	70.	0.50	mg/l	6010B	10/06/10	1
Chromium	0.011	0.010	mg/l	6010B	10/06/10	1
Cobalt	BDL	0.010	mg/l	6010B	10/06/10	1
Magnesium	24.	0.10	mg/l	6010B	10/06/10	1
Nickel	BDL	0.020	mg/l	6010B	10/06/10	1
Potassium	14.	0.50	mg/l	6010B	10/09/10	1
Silver	BDL	0.010	mg/l	6010B	10/06/10	1
Sodium	140	0.50	mg/l	6010B	10/06/10	1
Vanadium	BDL	0.010	mg/l	6010B	10/06/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/01/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/01/10	1
Benzene	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromoform	BDL	0.0010	mg/l	8260B	10/01/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L481481-02 (PH) - 7.7@18.8c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 12, 2010

Date Received : September 30, 2010
Description : Broda AI-PVP

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 09/29/10 10:30

ESC Sample # : L481481-02

Site ID :

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromomethane	BDL	0.0050	mg/l	8260B	10/01/10	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/01/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/01/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/01/10	1
Chloroform	BDL	0.0050	mg/l	8260B	10/01/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/01/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/01/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/01/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/01/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/01/10	1
Iodomethane	BDL	0.0050	mg/l	8260B	10/01/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/01/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/01/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/01/10	1
Styrene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
Toluene	BDL	0.0050	mg/l	8260B	10/01/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/01/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	10/01/10	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	10/01/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/01/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/01/10	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	10/01/10	1
Dibromofluoromethane	100.		% Rec.	8260B	10/01/10	1
a,a,a-Trifluorotoluene	104.		% Rec.	8260B	10/01/10	1
4-Bromofluorobenzene	92.6		% Rec.	8260B	10/01/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/12/10 10:45 Revised: 10/12/10 17:50
L481481-02 (PH) - 7.7@18.8c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 12, 2010

Date Received : September 30, 2010
Description : Broda AI-PVP

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 09/29/10 11:30

ESC Sample # : L481481-03

Site ID :

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	130	10.	mg/l	9056	09/30/10	10
Nitrate	19.	1.0	mg/l	9056	09/30/10	10
Nitrite	BDL	0.10	mg/l	9056	10/01/10	1
Sulfate	140	50.	mg/l	9056	09/30/10	10
Alkalinity, Bicarbonate	220	20.	mg/l	2320B	10/08/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	10/08/10	1
pH	7.4		su	9040C	10/02/10	1
Specific Conductance	1200		umhos/cm	9050A	10/07/10	1
TOC (Total Organic Carbon)	4.0	1.0	mg/l	9060A	10/06/10	1
Antimony	BDL	0.0010	mg/l	6020	10/05/10	1
Arsenic	0.0097	0.0010	mg/l	6020	10/05/10	1
Beryllium	0.0026	0.0010	mg/l	6020	10/05/10	1
Cadmium	0.00097	0.00050	mg/l	6020	10/05/10	1
Copper	0.043	0.0020	mg/l	6020	10/05/10	1
Lead	0.069	0.0010	mg/l	6020	10/05/10	1
Selenium	0.0061	0.0010	mg/l	6020	10/05/10	1
Thallium	BDL	0.0010	mg/l	6020	10/05/10	1
Zinc	0.18	0.010	mg/l	6020	10/05/10	1
Mercury	BDL	0.00020	mg/l	7470A	10/04/10	1
Barium	0.81	0.0050	mg/l	6010B	10/06/10	1
Calcium	100	0.50	mg/l	6010B	10/06/10	1
Chromium	0.027	0.010	mg/l	6010B	10/06/10	1
Cobalt	0.017	0.010	mg/l	6010B	10/06/10	1
Magnesium	29.	0.10	mg/l	6010B	10/06/10	1
Nickel	0.031	0.020	mg/l	6010B	10/06/10	1
Potassium	16.	0.50	mg/l	6010B	10/09/10	1
Silver	BDL	0.010	mg/l	6010B	10/06/10	1
Sodium	95.	0.50	mg/l	6010B	10/06/10	1
Vanadium	0.031	0.010	mg/l	6010B	10/06/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	10/01/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	10/01/10	1
Benzene	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Bromoform	BDL	0.0010	mg/l	8260B	10/01/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L481481-03 (PH) - 7.4@18.8c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

October 12, 2010

Date Received : September 30, 2010
Description : Broda AI-PVP

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 09/29/10 11:30

ESC Sample # : L481481-03

Site ID :

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromomethane	BDL	0.0050	mg/l	8260B	10/01/10	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	10/01/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	10/01/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	10/01/10	1
Chloroform	BDL	0.0050	mg/l	8260B	10/01/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	10/01/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	10/01/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	10/01/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/01/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	10/01/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	10/01/10	1
2-Hexanone	BDL	0.010	mg/l	8260B	10/01/10	1
Iodomethane	BDL	0.0050	mg/l	8260B	10/01/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	10/01/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	10/01/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	10/01/10	1
Styrene	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
Toluene	BDL	0.0050	mg/l	8260B	10/01/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	10/01/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	10/01/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	10/01/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	10/01/10	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	10/01/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	10/01/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	10/01/10	1
Surrogate Recovery						
Toluene-d8	100.		% Rec.	8260B	10/01/10	1
Dibromofluoromethane	99.8		% Rec.	8260B	10/01/10	1
a,a,a-Trifluorotoluene	103.		% Rec.	8260B	10/01/10	1
4-Bromofluorobenzene	89.9		% Rec.	8260B	10/01/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 10/12/10 10:45 Revised: 10/12/10 17:50
L481481-03 (PH) - 7.4@18.8c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L481481-01	WG501037	SAMP	pH	R1407148	T8
	WG500977	SAMP	Styrene	R1408488	J4
L481481-02	WG501037	SAMP	pH	R1407148	T8
	WG500977	SAMP	Styrene	R1408488	J4
L481481-03	WG501037	SAMP	pH	R1407148	T8
	WG500977	SAMP	Styrene	R1408488	J4

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J4	The associated batch QC was outside the established quality control range for accuracy.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
10/12/10 at 17:50:30

TSR Signing Reports: 151
R5 - Desired TAT

Sample: L481481-01 Account: MOLENTCO Received: 09/30/10 09:00 Due Date: 10/07/10 00:00 RPT Date: 10/12/10 10:45

Sample: L481481-02 Account: MOLENTCO Received: 09/30/10 09:00 Due Date: 10/07/10 00:00 RPT Date: 10/12/10 10:45

Sample: L481481-03 Account: MOLENTCO Received: 09/30/10 09:00 Due Date: 10/07/10 00:00 RPT Date: 10/12/10 10:45

Company Name/Address						Alternate Billing		Analysis/Container/Preservative								Chain of Custody Page ___ of ___			
Molen & Associates, LLC 2090 East 104 th Ave Suite 205 Thornton, CO 80223																F137			
						Report to: MARK MOLEN										ENVIRONMENTAL Science corp			
						Email to : mmolen@qwest.net										12065 Lebanon Road Mt. Juliet TN 37122			
Project Description: Broda AI-PVP						Client Project No. 10-0133		Lab Project # MOLENTCO-BRIGDER								Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859			
Collected by Mark Molen Collected by (signature): [Signature]						Site/Facility		P.O.#								CoCode (lab use only)			
Packed on Ice N.Y.X.						Rush? (Lab MUST be Notified) Same Day.....200% Next Day.....100% Two Day... ..50%		Date Results Needed Email? ☐ No ☒ Yes Fax? ☐ No ☒ Yes								MOLENTCO Template/Prelogin			
Sample ID						Comp/Grab	Matrix	Depth	Date	Time	Cntrs	Nitrate, Nitrite, Sulfate, Chloride - 250ml HDPE - no pres	ALKCA, ALKBI - 500ml HDPE - w/HCl	V8260AP1 - 40ml amber - NO Pres	AP1 Metals + Ca, Mg, Ni, K - 500ml HDPE - No Pres	Spectra - 40ml Cit-NaTlto	TOC - 250ml Amber Septa - w/HCl	SICON, PH - 250ml HDPE no Pres	Shipped Via:
MW-1	GRAB	GW		9/21/10	9:45	8	1	1		1								Remarks/contaminant	Sample # (lab only)
MW-2	GRAB	GW		9/29/10	1030	8	1	1		1								L481481	L481489 - 01
MW-3	GRAB	GW		9/29/10	1130	8	1	1		1									02
																			03
Matrix: SS=Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT-Other _____ pH_____ Temp_____ Remarks: Nitrate and Nitrite have 48hr holds 9669 7453 9524 Flow_____ Other_____																			
Relinquisher by (Signature) [Signature]						Date: 9/29/2010 Time: 1530		Received by (Signature) [Signature]						Samples returned via FedEx UPS Other X				Condition (lab use only)	
Relinquisher by (Signature)						Date: Time:		Received by (Signature)						Temp: 36 Bottles Received: 24				NCF	
Relinquisher by (Signature)						Date: Time:		Received for lab by (Signature) Drew Deenman						Date: 9-30-10 Time: 0900				pH Checked:	

Susan Peach

From: Jonan Huckabay
Sent: Saturday, October 02, 2010 9:46 AM
To: John Blackman, Login, Reporting
Subject: RE: Login Confirmation for 10-0133 - L481481
 Done Please scan this email with the Co/C

From: John Blackman
Sent: Friday, October 01, 2010 8:37 PM
To: Login
Subject: FW: Login Confirmation for 10-0133 - L481481

Please add NAICP to L481481 per client request

John D Blackman
 Environmental Science Corp.
 Technical Service Rep.
 (615) 773-9677
 (800) 500-1307 ext 0677
 (615) 948-1706
 jblackman@ESCLabSciences.com

From: Mark A Molen [mailto:mmolen@gwest.net]
Sent: Friday, October 01, 2010 6:33 PM
To: John Blackman
Cc: Tylene Lichtenberg
Subject: Re: Login Confirmation for 10-0133 - L481481

John,
 This COC (L481481) shows API Metals and Ca, Mg, Ni, K. I think the API Metals have Ni in the suite and it should instead be listed as Na. I want Na and the API metals.
 This sampling event was a bit confusing for me and for Tylen. I also screwed up on the COC and said that ALK(A, Al) K(B) was preserved when it was not (I believe) and instead the API Metals was preserved. Tylen had to run out to the job and get other bottles and preservatives to me. I apologize for confusing you both.
 What I am interested in is the same analysis that I have done for the East Regional Landfill. They are both being compared to the Colorado Department of Public Health and Environment (CDPHE) List of Appendix IA and IB groundwater monitoring detection list (attached). The Broda L481481 needs to have the metals (API Metals) included in the suite of analytes including the same metals on East Regional (L481264). Although both L481264 and L481481 should NOT include mercury. Mercury is not on the CDPHE list attached.
 Additionally the East Regional Landfill had a change on the COC, the VOC's need to be the App I Volatiles V4260API which I saw changed to the way I want it on L481264. Lets keep it that way.

Ty and I are working out the changes to the COC's she has on file.
 Please contact me if you don't understand anything in this email. I would also like to see a revised Login Confirmation (or supplemental confirmation) showing the changes to L481264 and L481481.

I hope you have a good weekend. Thanks

Mark

Molen & Associates, LLC
 2090 E 104th Ave., #205
 Thornton, Colorado 80233
 w 303-450-1600
 f 303-452-4515
 c 303-519-7877

On 10/1/2010 11:20 AM, jblackman@esclabsciences.com wrote:

Please find enclosed a PDF file containing your laboratory login confirmation report.

Thank you,

ESCLab Sciences

As a result of this action, a copy of the report will be sent to the email address listed in the report.

10/4/2010



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

Report Summary

Thursday December 23, 2010

Report Number: L493675

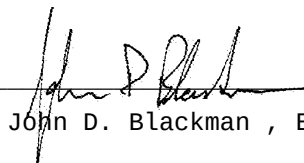
Samples Received: 12/15/10

Client Project: 10-0133

Description: Broda AI Inert Fill

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:


John D. Blackman , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704, ND - R-140
NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032008A,
TX - T104704245, OK-9915

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 12/14/10 09:55

ESC Sample # : L493675-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	110	5.0	mg/l	9056	12/15/10	5
Nitrate	5.2	0.10	mg/l	9056	12/15/10	1
Nitrite	BDL	0.10	mg/l	9056	12/15/10	1
Sulfate	180	25.	mg/l	9056	12/15/10	5
Alkalinity	180	20.	mg/l	2320B	12/21/10	1
Alkalinity, Bicarbonate	180	20.	mg/l	2320B	12/23/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	12/23/10	1
pH	7.1		su	9040C	12/21/10	1
Specific Conductance	1100		umhos/cm	9050A	12/20/10	1
TOC (Total Organic Carbon)	2.8	1.0	mg/l	9060A	12/22/10	1
Antimony	BDL	0.0010	mg/l	6020	12/21/10	1
Arsenic	0.0014	0.0010	mg/l	6020	12/21/10	1
Beryllium	BDL	0.0010	mg/l	6020	12/21/10	1
Cadmium	BDL	0.00050	mg/l	6020	12/21/10	1
Copper	0.0048	0.0020	mg/l	6020	12/21/10	1
Lead	0.0029	0.0010	mg/l	6020	12/22/10	1
Selenium	0.0038	0.0010	mg/l	6020	12/21/10	1
Thallium	BDL	0.0010	mg/l	6020	12/22/10	1
Zinc	0.014	0.010	mg/l	6020	12/21/10	1
Mercury	BDL	0.00020	mg/l	7470A	12/16/10	1
Barium	0.094	0.0050	mg/l	6010B	12/23/10	1
Calcium	75.	0.50	mg/l	6010B	12/23/10	1
Chromium	BDL	0.010	mg/l	6010B	12/23/10	1
Cobalt	BDL	0.010	mg/l	6010B	12/23/10	1
Magnesium	22.	0.10	mg/l	6010B	12/23/10	1
Nickel	BDL	0.020	mg/l	6010B	12/23/10	1
Potassium	9.5	0.50	mg/l	6010B	12/23/10	1
Silver	BDL	0.010	mg/l	6010B	12/23/10	1
Sodium	140	0.50	mg/l	6010B	12/23/10	1
Vanadium	BDL	0.010	mg/l	6010B	12/23/10	1
Volatile Organics						
Acetone	0.095	0.050	mg/l	8260B	12/15/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	12/15/10	1
Benzene	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	12/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L493675-01 (PH) - 7.1@17.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 12/14/10 09:55

ESC Sample # : L493675-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromomethane	BDL	0.0050	mg/l	8260B	12/15/10	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	12/15/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	12/15/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	12/15/10	1
Chloroform	BDL	0.0050	mg/l	8260B	12/15/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	12/15/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	12/15/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	12/15/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	12/15/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
2-Hexanone	BDL	0.010	mg/l	8260B	12/15/10	1
Iodomethane	BDL	0.0050	mg/l	8260B	12/15/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	12/15/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	12/15/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	12/15/10	1
Styrene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
Toluene	BDL	0.0050	mg/l	8260B	12/15/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	12/15/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	12/15/10	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	12/15/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	12/15/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	12/15/10	1
Surrogate Recovery						
Toluene-d8	97.1		% Rec.	8260B	12/15/10	1
Dibromofluoromethane	100.		% Rec.	8260B	12/15/10	1
a,a,a-Trifluorotoluene	98.0		% Rec.	8260B	12/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L493675-01 (PH) - 7.1@17.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-1

Collected By : Mark Molen
Collection Date : 12/14/10 09:55

ESC Sample # : L493675-01

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	95.1		% Rec.	8260B	12/15/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Acenaphthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Chrysene	BDL	0.0010	mg/l	8270C	12/17/10	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Fluorene	BDL	0.0010	mg/l	8270C	12/17/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Naphthalene	BDL	0.0010	mg/l	8270C	12/17/10	1
Phenanthrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Surrogate Recovery						
Nitrobenzene-d5	86.9		% Rec.	8270C	12/17/10	1
2-Fluorobiphenyl	94.3		% Rec.	8270C	12/17/10	1
p-Terphenyl-d14	117.		% Rec.	8270C	12/17/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 12/23/10 16:37 Printed: 12/23/10 16:38
L493675-01 (PH) - 7.1@17.0c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 12/14/10 10:30

ESC Sample # : L493675-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	130	2.0	mg/l	9056	12/19/10	2
Nitrate	BDL	0.10	mg/l	9056	12/15/10	1
Nitrite	BDL	0.10	mg/l	9056	12/15/10	1
Sulfate	180	10.	mg/l	9056	12/19/10	2
Alkalinity	200	20.	mg/l	2320B	12/21/10	1
Alkalinity, Bicarbonate	200	20.	mg/l	2320B	12/23/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	12/23/10	1
pH	7.4		su	9040C	12/21/10	1
Specific Conductance	1200		umhos/cm	9050A	12/20/10	1
TOC (Total Organic Carbon)	4.5	1.0	mg/l	9060A	12/23/10	1
Antimony	BDL	0.0010	mg/l	6020	12/21/10	1
Arsenic	0.0052	0.0010	mg/l	6020	12/21/10	1
Beryllium	BDL	0.0010	mg/l	6020	12/21/10	1
Cadmium	0.0012	0.00050	mg/l	6020	12/21/10	1
Copper	0.022	0.0020	mg/l	6020	12/21/10	1
Lead	0.016	0.0010	mg/l	6020	12/21/10	1
Selenium	0.0032	0.0010	mg/l	6020	12/21/10	1
Thallium	BDL	0.0010	mg/l	6020	12/21/10	1
Zinc	0.082	0.010	mg/l	6020	12/21/10	1
Mercury	BDL	0.00020	mg/l	7470A	12/16/10	1
Barium	0.34	0.0050	mg/l	6010B	12/23/10	1
Calcium	75.	0.50	mg/l	6010B	12/23/10	1
Chromium	0.023	0.010	mg/l	6010B	12/23/10	1
Cobalt	0.012	0.010	mg/l	6010B	12/23/10	1
Magnesium	26.	0.10	mg/l	6010B	12/23/10	1
Nickel	BDL	0.020	mg/l	6010B	12/23/10	1
Potassium	14.	0.50	mg/l	6010B	12/23/10	1
Silver	BDL	0.010	mg/l	6010B	12/23/10	1
Sodium	160	0.50	mg/l	6010B	12/23/10	1
Vanadium	0.033	0.010	mg/l	6010B	12/23/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	12/15/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	12/15/10	1
Benzene	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	12/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L493675-02 (PH) - 7.4@16.4c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 12/14/10 10:30

ESC Sample # : L493675-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromomethane	BDL	0.0050	mg/l	8260B	12/15/10	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	12/15/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	12/15/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	12/15/10	1
Chloroform	BDL	0.0050	mg/l	8260B	12/15/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	12/15/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	12/15/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	12/15/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	12/15/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
2-Hexanone	BDL	0.010	mg/l	8260B	12/15/10	1
Iodomethane	BDL	0.0050	mg/l	8260B	12/15/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	12/15/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	12/15/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	12/15/10	1
Styrene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
Toluene	BDL	0.0050	mg/l	8260B	12/15/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	12/15/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	12/15/10	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	12/15/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	12/15/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	12/15/10	1
Surrogate Recovery						
Toluene-d8	96.5		% Rec.	8260B	12/15/10	1
Dibromofluoromethane	101.		% Rec.	8260B	12/15/10	1
a,a,a-Trifluorotoluene	94.9		% Rec.	8260B	12/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L493675-02 (PH) - 7.4@16.4c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-2

Collected By : Mark Molen
Collection Date : 12/14/10 10:30

ESC Sample # : L493675-02

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	95.4		% Rec.	8260B	12/15/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Acenaphthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Chrysene	BDL	0.0010	mg/l	8270C	12/17/10	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Fluorene	BDL	0.0010	mg/l	8270C	12/17/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Naphthalene	BDL	0.0010	mg/l	8270C	12/17/10	1
Phenanthrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Surrogate Recovery						
Nitrobenzene-d5	82.1		% Rec.	8270C	12/17/10	1
2-Fluorobiphenyl	92.6		% Rec.	8270C	12/17/10	1
p-Terphenyl-d14	99.2		% Rec.	8270C	12/17/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 12/23/10 16:37 Printed: 12/23/10 16:38
L493675-02 (PH) - 7.4@16.4c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 12/14/10 11:25

ESC Sample # : L493675-03

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Chloride	76.	1.0	mg/l	9056	12/15/10	1
Nitrate	12.	0.50	mg/l	9056	12/15/10	5
Nitrite	BDL	0.10	mg/l	9056	12/15/10	1
Sulfate	60.	5.0	mg/l	9056	12/15/10	1
Alkalinity	150	20.	mg/l	2320B	12/22/10	1
Alkalinity, Bicarbonate	150	20.	mg/l	2320B	12/23/10	1
Alkalinity, Carbonate	BDL	20.	mg/l	2320B	12/23/10	1
pH	7.5		su	9040C	12/22/10	1
Specific Conductance	950		umhos/cm	9050A	12/20/10	1
TOC (Total Organic Carbon)	3.6	1.0	mg/l	9060A	12/23/10	1
Antimony	BDL	0.0010	mg/l	6020	12/21/10	1
Arsenic	0.0037	0.0010	mg/l	6020	12/21/10	1
Beryllium	BDL	0.0010	mg/l	6020	12/21/10	1
Cadmium	BDL	0.00050	mg/l	6020	12/21/10	1
Copper	0.016	0.0020	mg/l	6020	12/21/10	1
Lead	0.019	0.0010	mg/l	6020	12/21/10	1
Selenium	0.0043	0.0010	mg/l	6020	12/21/10	1
Thallium	BDL	0.0010	mg/l	6020	12/21/10	1
Zinc	0.064	0.010	mg/l	6020	12/21/10	1
Mercury	BDL	0.00020	mg/l	7470A	12/16/10	1
Barium	0.27	0.0050	mg/l	6010B	12/23/10	1
Calcium	75.	0.50	mg/l	6010B	12/23/10	1
Chromium	0.015	0.010	mg/l	6010B	12/23/10	1
Cobalt	BDL	0.010	mg/l	6010B	12/23/10	1
Magnesium	19.	0.10	mg/l	6010B	12/23/10	1
Nickel	BDL	0.020	mg/l	6010B	12/23/10	1
Potassium	13.	0.50	mg/l	6010B	12/23/10	1
Silver	BDL	0.010	mg/l	6010B	12/23/10	1
Sodium	96.	0.50	mg/l	6010B	12/23/10	1
Vanadium	0.029	0.010	mg/l	6010B	12/23/10	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	12/15/10	1
Acrylonitrile	BDL	0.010	mg/l	8260B	12/15/10	1
Benzene	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromochloromethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	12/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L493675-03 (PH) - 7.5@17.6c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 12/14/10 11:25

ESC Sample # : L493675-03

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Bromoform	BDL	0.0010	mg/l	8260B	12/15/10	1
Bromomethane	BDL	0.0050	mg/l	8260B	12/15/10	1
Carbon disulfide	BDL	0.0010	mg/l	8260B	12/15/10	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	12/15/10	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Chloroethane	BDL	0.0050	mg/l	8260B	12/15/10	1
Chloroform	BDL	0.0050	mg/l	8260B	12/15/10	1
Chloromethane	BDL	0.0025	mg/l	8260B	12/15/10	1
Dibromomethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,4-Dichloro-2-butene	BDL	0.0025	mg/l	8260B	12/15/10	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	12/15/10	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	12/15/10	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	12/15/10	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	12/15/10	1
2-Hexanone	BDL	0.010	mg/l	8260B	12/15/10	1
Iodomethane	BDL	0.0050	mg/l	8260B	12/15/10	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	12/15/10	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	12/15/10	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	12/15/10	1
Styrene	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
Toluene	BDL	0.0050	mg/l	8260B	12/15/10	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	12/15/10	1
Trichloroethene	BDL	0.0010	mg/l	8260B	12/15/10	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	12/15/10	1
1,2,3-Trichloropropane	BDL	0.0010	mg/l	8260B	12/15/10	1
Vinyl acetate	BDL	0.0050	mg/l	8260B	12/15/10	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	12/15/10	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	12/15/10	1
Surrogate Recovery						
Toluene-d8	99.8		% Rec.	8260B	12/15/10	1
Dibromofluoromethane	98.4		% Rec.	8260B	12/15/10	1
a,a,a-Trifluorotoluene	98.8		% Rec.	8260B	12/15/10	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit(PQL)
L493675-03 (PH) - 7.5@17.6c

REPORT OF ANALYSIS

Mark Molen
Molen & Associates, LLC
2090 East 104th Avenue Suite #205
Thornton, CO 80223

December 23, 2010

Date Received : December 15, 2010
Description : Broda AI Inert Fill

Sample ID : MW-3

Collected By : Mark Molen
Collection Date : 12/14/10 11:25

ESC Sample # : L493675-03

Site ID : BRODA AI

Project # : 10-0133

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
4-Bromofluorobenzene	93.0		% Rec.	8260B	12/15/10	1
Polynuclear Aromatic Hydrocarbons						
Anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Acenaphthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	12/17/10	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Chrysene	BDL	0.0010	mg/l	8270C	12/17/10	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	12/17/10	1
Fluoranthene	BDL	0.0010	mg/l	8270C	12/17/10	1
Fluorene	BDL	0.0010	mg/l	8270C	12/17/10	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Naphthalene	BDL	0.0010	mg/l	8270C	12/17/10	1
Phenanthrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Pyrene	BDL	0.0010	mg/l	8270C	12/17/10	1
Surrogate Recovery						
Nitrobenzene-d5	79.8		% Rec.	8270C	12/17/10	1
2-Fluorobiphenyl	79.7		% Rec.	8270C	12/17/10	1
p-Terphenyl-d14	100.		% Rec.	8270C	12/17/10	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 12/23/10 16:37 Printed: 12/23/10 16:38
L493675-03 (PH) - 7.5@17.6c

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L493675-01	WG514024	SAMP	pH	R1511439	T8
	WG514261	SAMP	TOC (Total Organic Carbon)	R1513389	P1
L493675-02	WG514024	SAMP	pH	R1511439	T8
L493675-03	WG514436	SAMP	pH	R1513209	T8

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Summary of Remarks For Samples Printed
12/23/10 at 16:38:16

TSR Signing Reports: 151
R5 - Desired TAT

Sample: L493675-01 Account: MOLENTCO Received: 12/15/10 09:00 Due Date: 12/22/10 00:00 RPT Date: 12/23/10 16:37

Sample: L493675-02 Account: MOLENTCO Received: 12/15/10 09:00 Due Date: 12/22/10 00:00 RPT Date: 12/23/10 16:37

Sample: L493675-03 Account: MOLENTCO Received: 12/15/10 09:00 Due Date: 12/22/10 00:00 RPT Date: 12/23/10 16:37

Company Name/Address Molen & Associates, LLC 2090 East 104th Ave Suite 205 Thornton, CO 80223				Alternate Billing Report to: Mark Molen E-mail to: mmolen@qwest.net				Analysis/Container/Preservative Mg, Na, K, Ca + AP1 Metals - 500ml HDPE w/HN03 CARB, BICARB: ALK - 1L HDPE No Pres Nitrate, Nitrite, Sulfate, Chloride - 500ml HDPE No Pres SPCON, pH - 250ml HDPE No Pres TOC - 250ml Amb w/HCl V8260AP1 - (3)40ml No Pres PAH - (2)1L Amb No Pres ✓ ✓ ✓ ✓ ✓ ✓ ✓												Chain of Custody Page ___ of ___	
Project Description: Broda AI Inert Fill																				Prepared by: ENVIRONMENTAL Science corp 12065 Lebanon Road Mt. Juliet TN 37122 Phone (615)758-5858 Phone (800) 767-5859 FAX (615)758-5859	
PHONE 303.450.1600		Client Project No. 10-0133		Lab Project #																	
FAX 303.452.4515																					
Collected by: <i>Mark Molen</i>		Site/Facility ID# Broda AI		P.O.#																	
Collected by (signature): <i>Mark Molen</i>		Rush? (Lab MUST be Notified) ☐ Same Day... 200% ☐ Next Day... 100% ☐ Two Day... 50%		Date Results Needed		No															
Packed on Ice N <u>Y</u>				Email? ☐ No ☐ Yes		FAX? ☐ No ☐ Yes															
Sample ID		Comp/Grab	Matrix	Depth	Date	Time	Cntrs													Remarks/contaminant	Sample # (lab only)
MW-1	Grab	gw		12/14/10	9:55	10		X	X	X	X	X	X	X	X			1493675-01			
MW-2	Grab	gw		11	10:30	10		X	X	X	X	X	X	X	X			02			
MW-3	Grab	gw		11	11:25	10		X	X	X	X	X	X	X	X			03			

Matrix: SS-Soil/Solid GW-Groundwater WW-Wastewater DW-Drinking Water OT- Other _____

pH _____ Temp _____

Remarks:

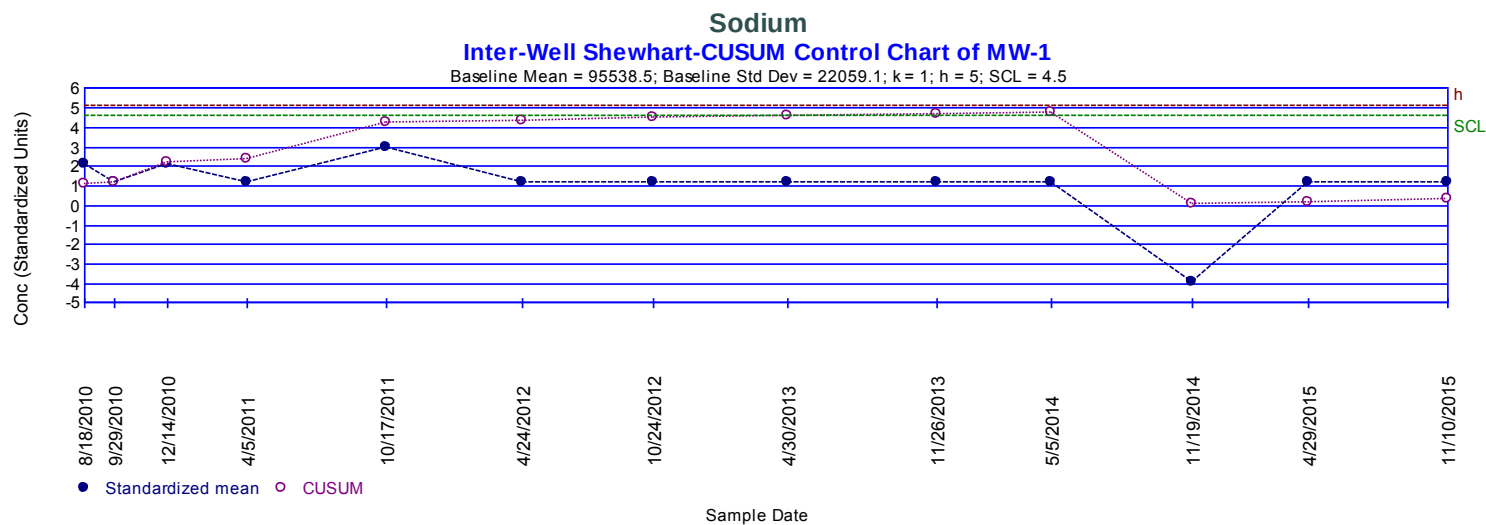
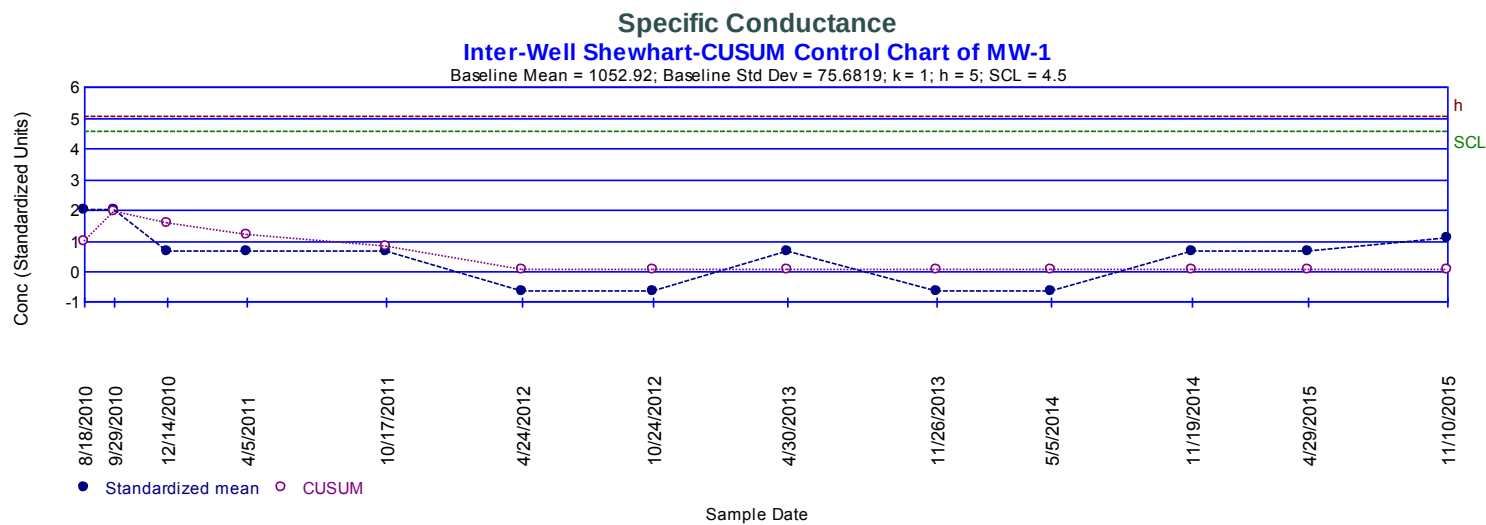
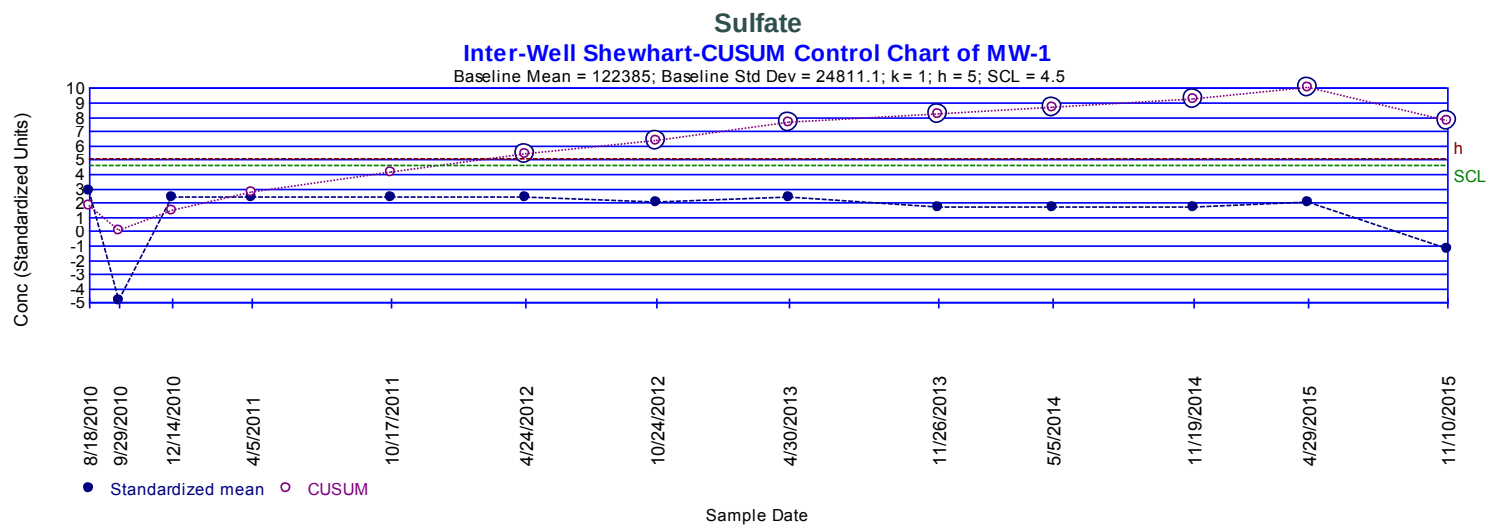
Flow _____ Other _____

Relinquisher by (Signature): <i>Mark Molen</i>		Date: 12/14/10	Time: 1700	Received by (Signature):		Samples returned via: FedEx UPS Other _____		Condition (lab use only)	
Relinquisher by (Signature):		Date:	Time:	Received by (Signature):		Temp: 32°C		Bottles Received: 30	
Relinquisher by (Signature):		Date:	Time:	Received for lab by (Signature): <i>16mm 11/20/20</i>		Date: 12/15/10		Time: 0900	
						pH Checked: <i>LR</i>		NCF:	

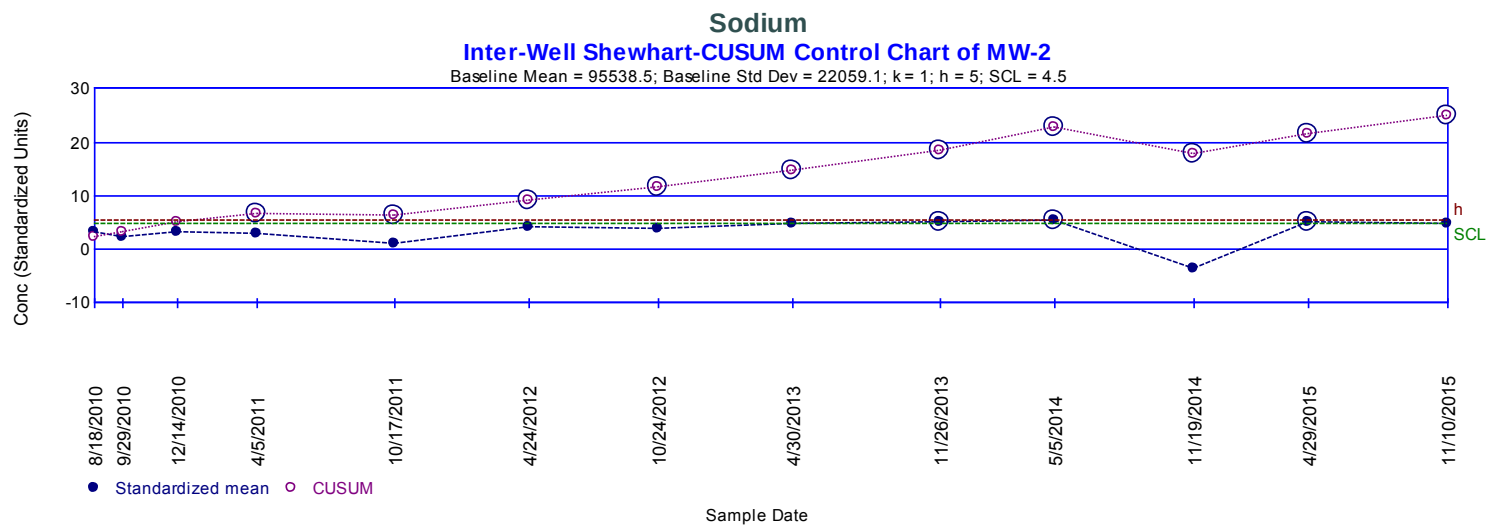
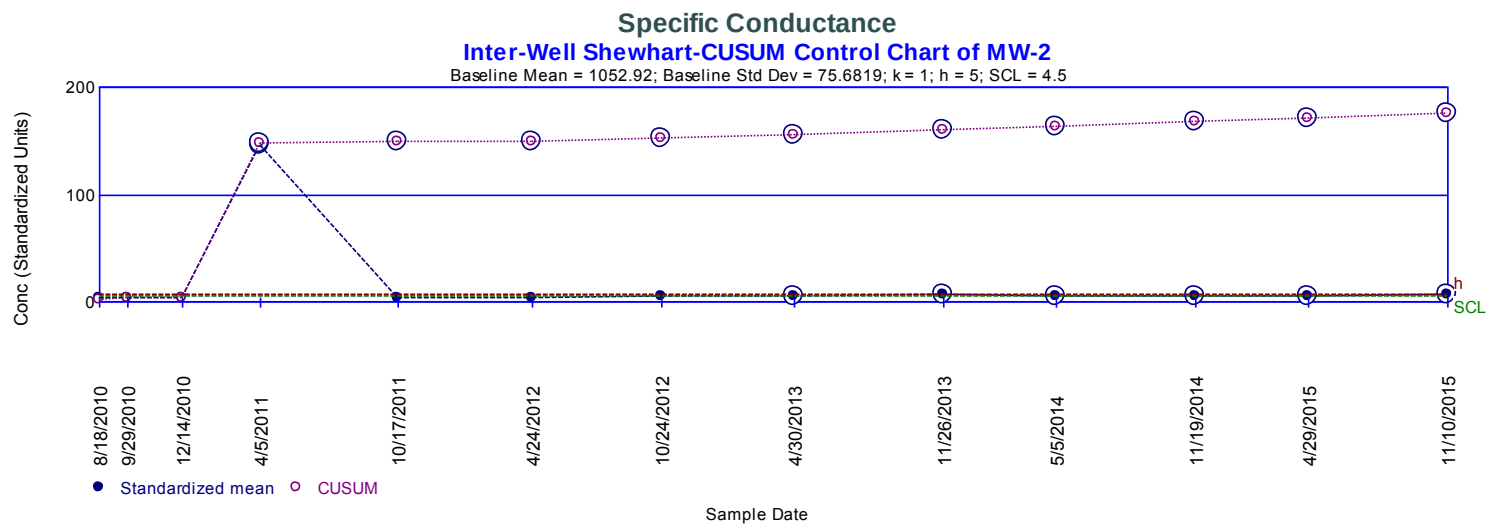
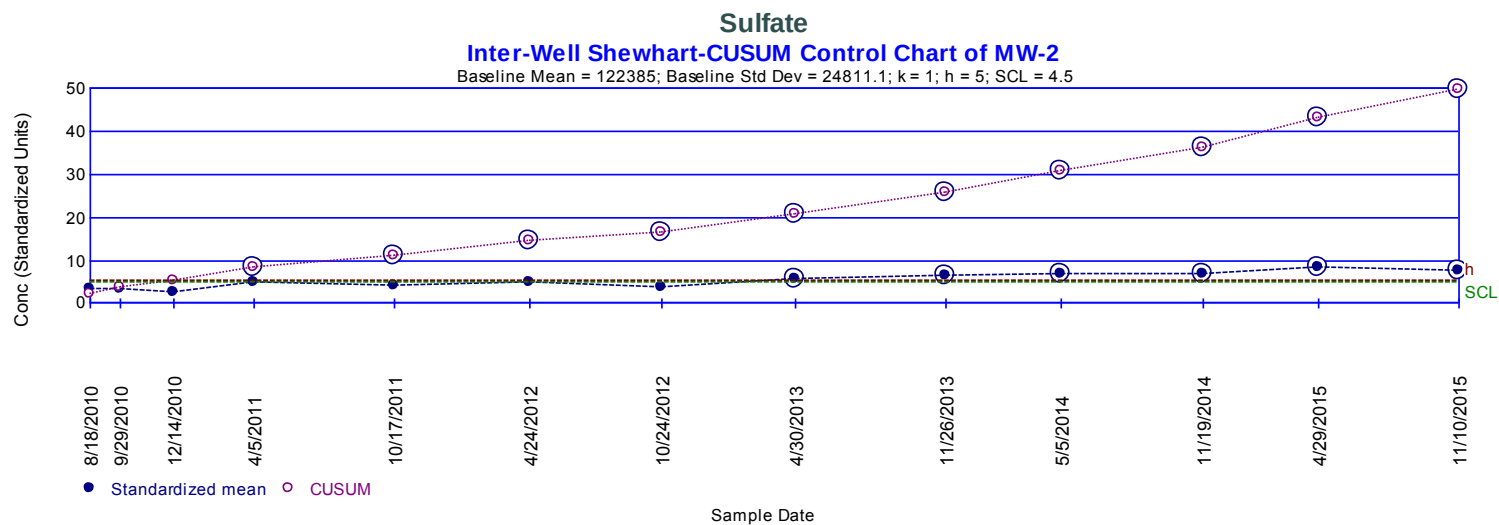
Appendix III

Shewhart – CUSUM Charts and Time Series Graphs

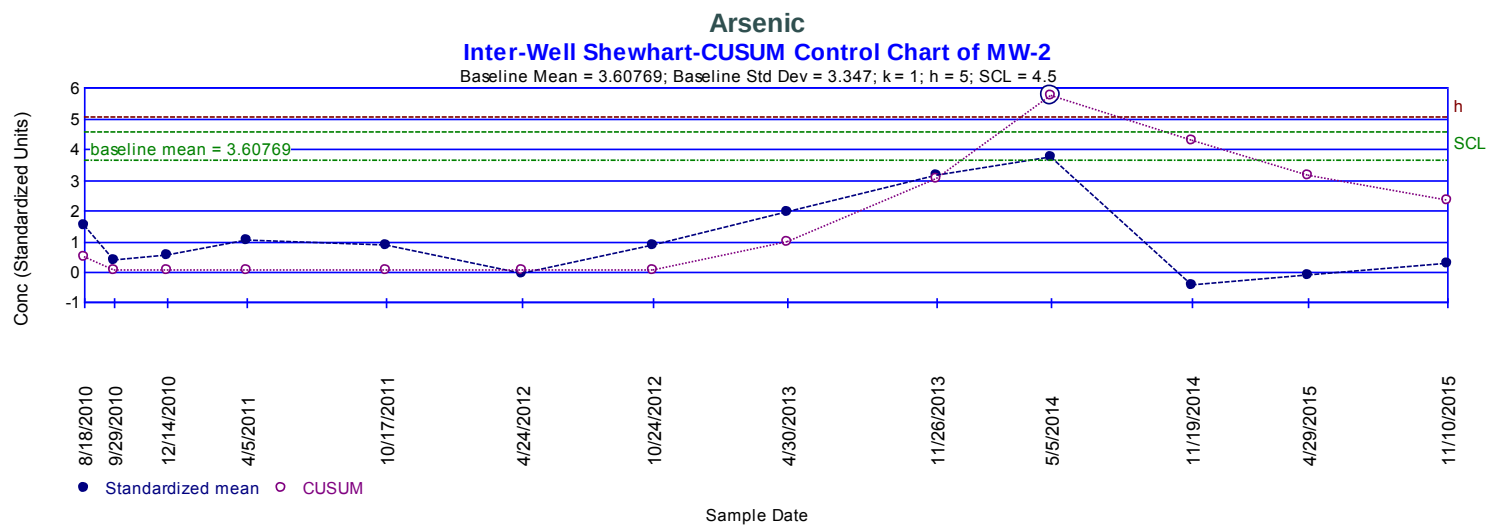
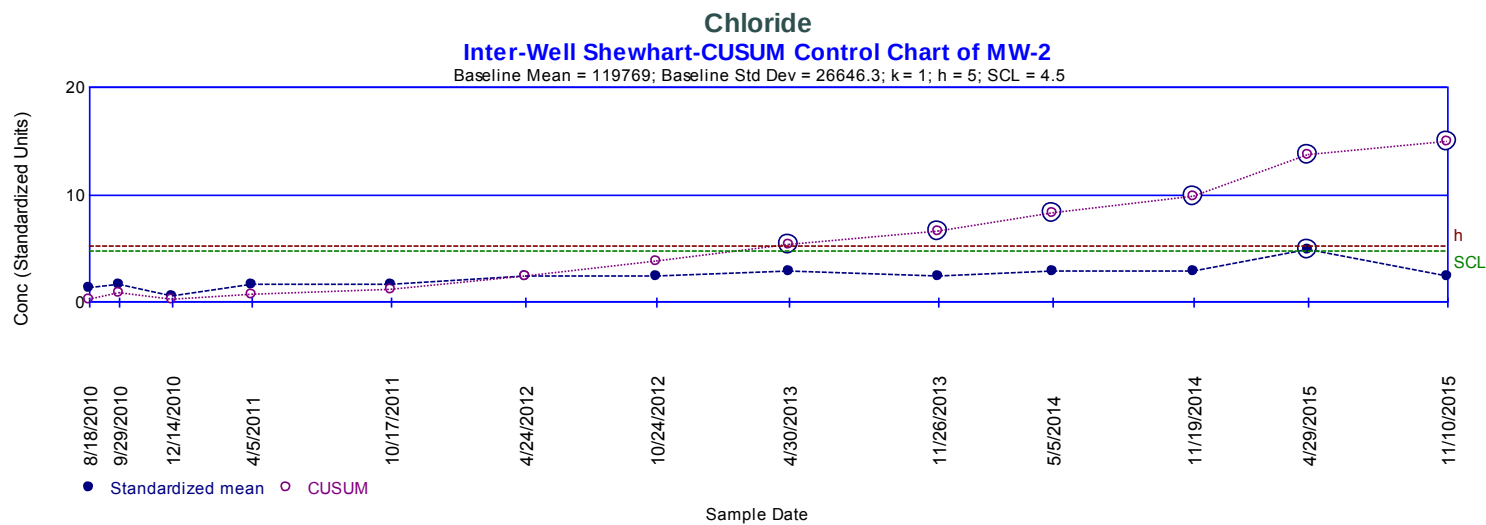
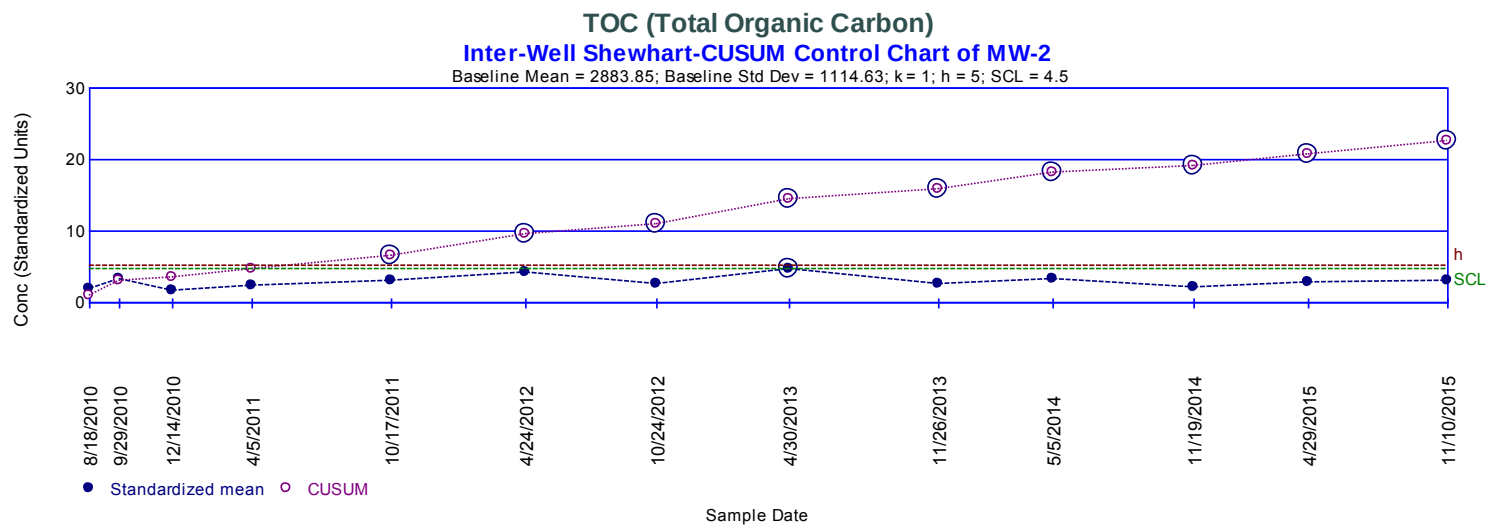
Shewhart CUSUM Control Charts for Out of Control Parameters: Broda's Inert Fill Site



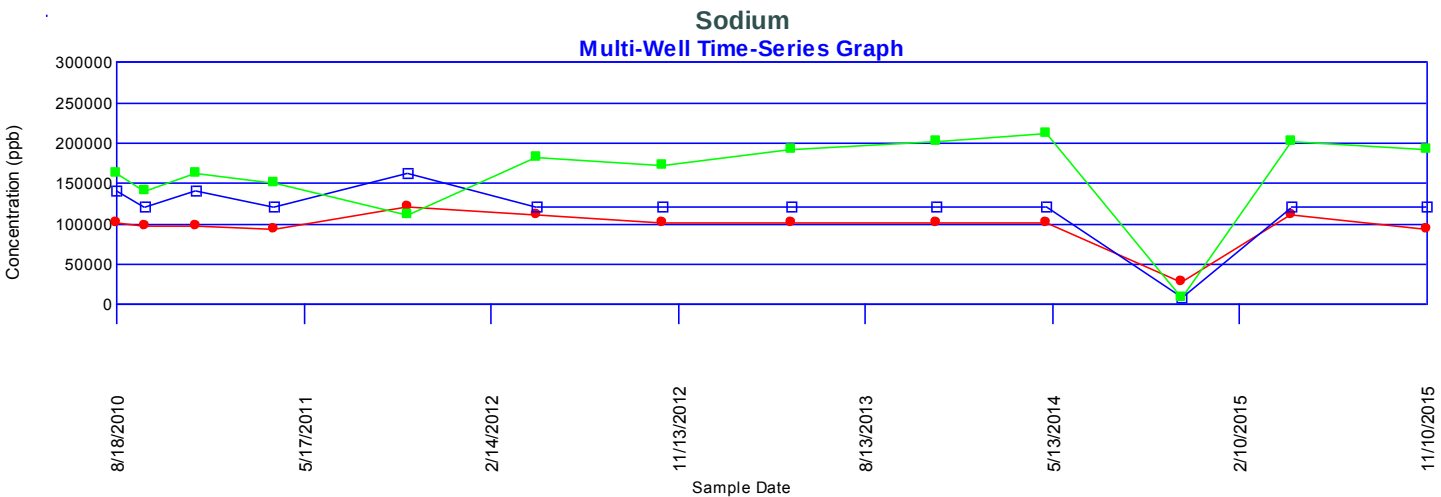
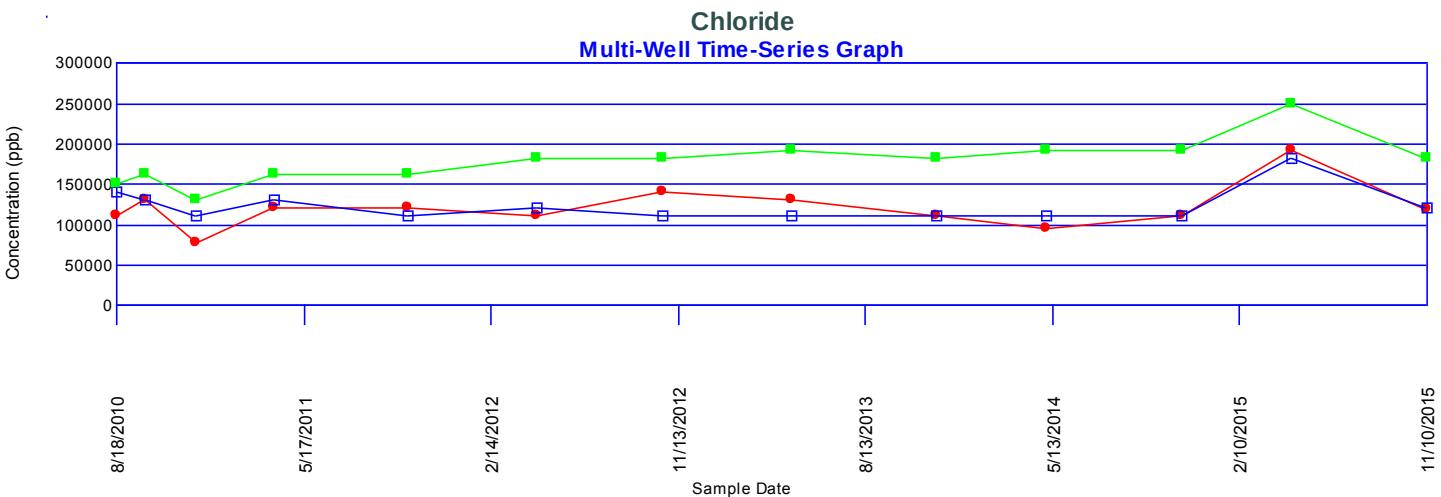
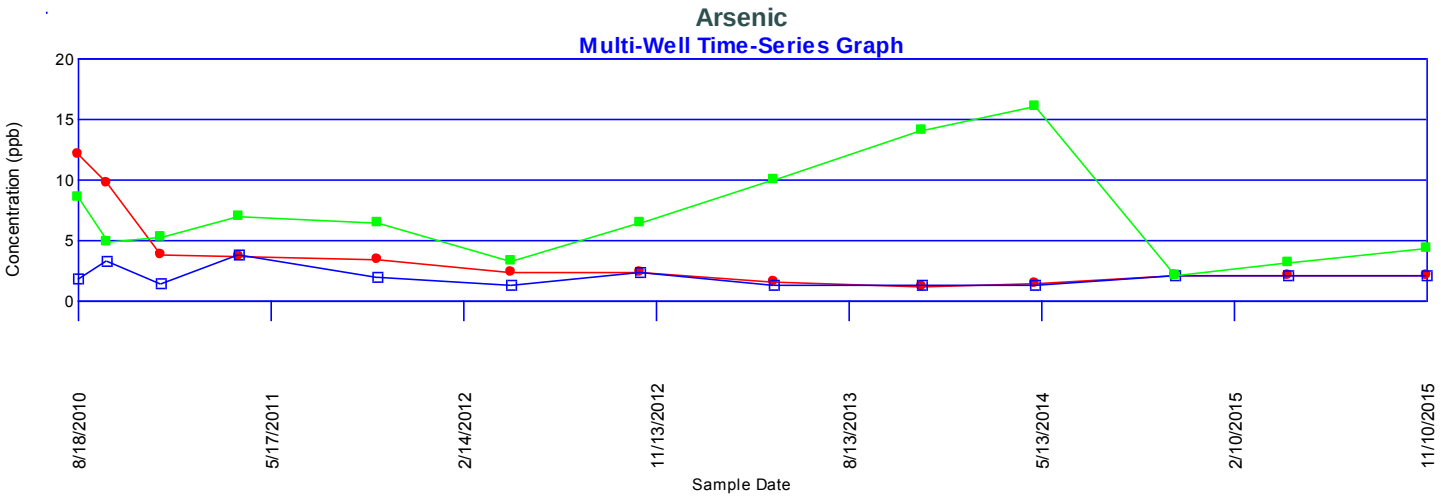
Shewhart CUSUM Control Charts for Out of Control Parameters: Broda's Inert Fill Site



Shewhart CUSUM Control Charts for Out of Control Parameters: Broda's Inert Fill Site



Time Series Charts: Broda's Inert Fill Site



Time Series Charts: Broda's Inert Fill Site

