



Sterling Ranch Metropolitan District 1

**WATER RESOURCES
And
WASTEWATER REPORT
For
Sterling Ranch Phase 2**

**Dated
July 2020**

Prepared By:



CONSULTANTS, INC.

Executive Summary:
Water Resources and Wastewater Report
Sterling Ranch Phase 2
July 16, 2020

The original Water Report for Sterling Ranch Metropolitan District #1 was prepared and submitted in May of 2015. Since that time, several addendums have been filed, additional service area has been added, and advancement of platting activities has proceeded as well as construction of the physical water system.

Sterling Ranch Metropolitan District #1 (SRMD#1) will be the primary water/wastewater provider for not only areas within Sterling Ranch, but The Retreat at TimberRidge and The Ranch have been added as service areas and will be served via an overlapping district or Intergovernmental Agreement with SRMD#1.

Water

Sterling Ranch has issued several commitments for preliminary and final plats which are contained within the original Sterling Ranch Service area. This update is for an additional commitment for 214.5 single family lots being proposed as Sterling Ranch Phase Two. Sterling Phase Two includes a lift station but does not include any un-platted areas/tracts. This brings the current Sterling Ranch Service area commitments are those commitments based on actual entitled preliminary or final plats. Sketch plans do not rise to the level of land use detail that allows for quantitative identification of water demand. The current total commitment includes 1,104.5 SFE and 389.569AF_{300 year}. **It should be noted that this update includes the Sterling Ranch Phase Two Preliminary Plan. The Phase Two plan includes an elementary school (13 SFE) which was previously committed via the February 20, 2020 comment letter. It is not counted herein as we cannot account for it twice.**

The Retreat at TimberRidge has submitted a preliminary plan that requires a commitment of 57.89 AF_{300 year} for 164 lots that will be served by the central system. The commitment is satisfied by 48.73 AF_{300 year} onsite water and 9.16 AF_{300 year} transferred from SRMD#1. The Retreat commitments are counted in the 1,104.5 SFE.

The Ranch will also be served by SRMD#1. The Ranch has onsite water equivalent to 245 AF_{300 year} but has not yet developed to either a preliminary or final plat stage so currently includes no active hard commitments. It should be noted that The Ranch and the 245 AF are within the Upper Black Squirrel Groundwater Basin and therefore the water must be used within The Ranch boundaries.

SRMD#1 has adequate supply on a 300 year basis to meet all current hard commitments including Sterling Ranch Phase Two preliminary Plan.

Wastewater

SRMD#1 has an agreement with Meridian Service Metropolitan District for the provision of wastewater treatment services. An **interim** agreement with Colorado Springs Utilities for wastewater treatment will provide for temporary treatment service while Sterling Ranch is completing its connections to the Meridian system. The current contract allows for up to 5849 SFE of capacity.

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SECTION 1 INTRODUCTION

The purpose of this report is to provide an accounting of current and contingent water rights and supply for Sterling Ranch Metropolitan District #1. This water report is for the Sterling Comprehensive Service Area which includes two additional service areas.

1.1 Development Description:

Sterling Ranch Development consists of approximately 1,444 acres located east of Vollmer Rd and north of Woodmen Rd, Section 33, Township 12 South, Range 65 West of the 6th P.M. Districts 1, 2 and 3 are considered Special Districts and are under the jurisdiction of the Special District Act.

1,119 acres is designated for 5,225 residential units. 56.36 acres is designated for commercial use. 270 acres is designated for open space, greenways, trails, parks, and school sites.

The Retreat at TimberRidge has 164 single family lots that are anticipated to be served by the Central Sterling system. The Retreat at TimberRidge has a total of 41 Rural sized lots to be served by single family wells and septic systems. Although the Table for water supply notes the water resources for the rural component of the Retreat, we have not calculated that source nor that demand into the central system figures

The Ranch is on 610.47 acres and estimates a single family dwelling demand of between 1307 and 2179 units along with a Park and School. For the purpose of this report we will estimate the demand at 2100 SFE.

SECTION 2 PROJECTION OF WATER NEEDS

2.1 Expected Water User Characteristics:

It is expected that urban style residential lots will be developed with single family housing anticipating turf grass landscaping of less than 3,000 square feet per lot. There are a few larger irrigation users anticipated for the development. There are a limited number of schools, parks, and commercial acreages that we have converted to Single Family Equivalents (SFE). The unit user characteristic employed is consistent with Sterling and other developed areas in the Falcon area. That value is 0.353 AF per SFE annually.

2.2 Summary of Current Commitments

The current level of hard service commitments is summarized as follows. It should be noted that Sketch Plans, long term potential demands and other non-entitled levels of planning are not considered until such a time as land use planning advances to a stage that known land use is identified. Table 1 summarizes the existing commitments for service. These are more specifically tracked in Appendix B attached.

Table 1
Committed Water Demands for Sterling Ranch Service Area

<u>Service Area</u>	<u>SFE</u>	<u>Water-Acre Feet per Yr</u>
Sterling Ranch Phase One (commitment dated May 2015)	725	255.96
The Retreat	164	57.9
Sterling Ranch Phase One includes the following plat areas;		
- Branding Iron at Sterling Ranch Filing #1		
- Sterling Ranch #2		
- Homestead at Sterling Ranch Filing No 1		
- Homestead at Sterling Ranch Filing No 2		
- Copper Chase at Sterling Ranch Filing No 1		
Sterling Ranch Phase Two	212	74.836
Tract M Lift Station	2.5	0.883
<u>Unplatted tracts are not counted until actual platting</u>		
Total Phase Two	214.5	75.719

(commitment dated July, 2020)

(It should be noted that an Elementary School being 11.47 acres was included in a February 20, 2020 Commitment Letter associated with and therefore cannot be counted in both places and therefore is not counted in this commitment because the prior commitment)

Total Annual Committed Demand of the Sterling Service Area is 389.569 Acre-Feet per Year

SECTION 3 PROPOSED WATER RIGHTS AND SYSTEM FACILITIES

3.1 Water Rights:

Water rights adjudications have been decreed by the State of Colorado, Water Division 2 District Court, Water Division 1 District Court, and the Colorado Groundwater Commission. The comprehensive rights for the Sterling Service area include both decrees, and determinations. In addition to groundwater adjudicated under the various service areas, Sterling has contracted for numerous off-site groundwater acquisitions which include three major sites.

Table 2 is a table detailing all of the water rights currently available for the Sterling Service Area.

Table 2

Update July 20, 2020

**Sterling Ranch Metropolitan District
Comprehensive Water Supply Inventory
Currently Available Legal Supply**

Land Formation/Aquifer	Reference Finding/Determination/Decree		Tributary Status	Volume	Annual Allocation 100 Year	Annual Allocation 300 Year	Approved Well Locations	Notes	Saturated	
									Sand Thickness	Specific Yield
				Acre-Feet	A-F/Year	A-F/Year				
Currently Available On-Site Sterling Water Legal Sources										
Laramie Fox Hills	86-CW-19 08CW113		NT	53,900 40	539.00 0.40	179.67 0.13	KLF-1 - KLF-4	Under 1410 acres Under 41.44 acres, reduced to 1.44 acres	255	15%
Arapahoe	86-CW-18		NT	57500	575.00	191.67	KA-1 - KA-4 371.47	Under 1410 acres	240	17%
Currently Available Off-Site Sterling Water Legal Sources (Bar-X)										
Laramie Fox Hills	93-CW-018		NT	55,200	552.00	184.00	184.00	Shamrock/Bar-x Rights	200	15%
Currently Available On-Site The Ranch (Elkhorn) Water Legal Sources										
Laramie Fox Hills	Determination under Section 37-90-107(7)	receipt 471559-D	NT	17,000	170.00	56.67		646.029 acres		
Arapahoe		471559-C	NT	23600	236.00	78.67		646.029 acres		
Denver NNT		receipt 471559-B	NNT	32900	329.00	109.67	245.00	646.029 acres		
Currently Available On-Site Retreat Water Legal Sources (Note 1)										
Laramie Fox Hills LFH (Relinquishment)	17CW3002 18CW3002		NT NT	6,440 -2,796				Under 225.97 acres	190	15%
Arapahoe	17CW3002		NT	3,644	36.44	12.15		Under 225.97 acres	255	17%
Laramie Fox Hills	16CW3095		NT	1,005	10.05	3.35		Under 35.28 Acres	190	15%
Arapahoe Arapahoe (Relinquishment)	16CW3095 16CW3095		NT NT	1,499 -1,324				Under 35.28 Acres	250	17%
Legal Supply: Phase 3, Phase 4 (excluding Lots 39-41) and Phase 6				175	1.75	0.58				
				14,620	146.20	48.73				
Augmentation (Dawson NNT) (excluding Lots 11-12), Legal Supply Phase 1	18CW3002		Aug	2,796	27.96	9.32	29 Single Family Wells [Phase 2 (excluding Lots 11-12); Lots 39, 40 & 41 of Phase 4; & 5]	Replace a min of 34% of pumping		
Augmentation (Dawson NNT) Legal Supply Phase 1	16CW3095		Aug	1567.5	15.68	5.23		Replace actual depletions		
Currently Available Off-Site Ground Water Legal Sources										
Augmentation (Dawson NNT)	18CW3005		Aug	240.0	2.40	0.80	(Phase 2 - Lots 11 & 12)	pumping		
				2)	240.0	2.4	0.8			
Total Current Available 300-Year Water Supply									665.2	
<i>Note 1.</i> The water listed in the shaded area will be used to serve single family wells and is not included in the Total Available for the Central System										

Table 2
Sterling Ranch Metropolitan District
Comprehensive Water Supply Inventory
Contingent Supplies

Land Formation/Aquifer	Finding/Determination/Decree		Tributary Status	Volume	Annual Allocation 100 Year	Annual Allocation 300 Year	Approved Well Locations	Notes	Saturated	
									Sand Thickness	Specific Yield
				Acre-Feet	A-F/Year	A-F/Year				
Contingent On-site Sterling Ground Water Sources (Note 2)										
Arapahoe	08CW113		NNT	60	0.60	0.20		Under 41.44 acres, reduced to 1.44 acres	251.4	17%
Denver	08CW113		NNT	72,893	728.9	242.97		Replace 4%	313.8	17%
Dawson	08CW113		NNT	39,247	392.5	130.83		Replace actual depletions	145.8	20%
Total Additional Contingent Supply Sterling (without augmentation)						243.0				
Contingent Off-site McCune Ground Water Sources (Note 4)										
Laramie Fox Hills	1689-BD		NT	26,300	263.00	87.67		900.52 acres		
Arapahoe	1690-BD		NT	39800	398.00	132.67		900.52 acres		
Denver	1691-BD		NT	52800 -151450.00	528.00 -50.00	176.00 -5.00		900.52 acres Retained Denver Formation Water		
Total Contingent Supply McCune (without augmentation)						391.33				
Contingent On-site Schmidt Ground Water Sources (Note 5)										
Laramie Fox-Hills	Pending		NT	2778	27.78	9.26		97.54 acres	9.26	
Arapahoe	Pending		NNT	3,978	39.78	13.26		97.54 acres	30.85	
Denver	Pending		NNT	5,277	52.77	17.59		97.54 acres		
Total Contingent Water Supply Schmidt (without augmentation)						9.26				
Total Contingent Water Supply potentially available to Sterling with augmentation						30.85				

Note 2 This water noted as Denver NNT requires augmentation, but using other sources, Sterling is making this water available using alternate sources as augmentation

Note 3 This water is also termed the Bar-X water. The sources listed in this table are under contract to Sterling. As the Contract "take-down" proceeds, these supplies will become the property of Sterling and can be made available for use at Sterling. The Laramie Fox Hills Water has been deeded to Sterling

Note 4 This water is also termed the McCune water. The sources listed in this table are under contract to Sterling.

Note 5 Schmidt Water obtained via Deed 5-18. Application for Decree Estimated to yield above amounts

Water within Sterling Service Areas

Elkhorn or The Ranch

Retreat

Sterling Ranch and Schmidt

Retreat Individual Wells (not included in overall supply)

The three local groundwater rights are associated with the three service area portions; Sterling, Retreat, and The Ranch. Each of these sites has existing decrees and/or determinations outlining the rights associated with the development lands. It is noteworthy that the Retreat proposes that 41 rural style lots will be developed using single family wells and septic systems. In Table 2, we have noted the rights associated with those proposed wells, but we have not included those rights in the calculations for water available to the central system.

3.2 *Analysis of Adequacy of Current Legal Water Supply:*

Water rights adjudications have been decreed by the State of Colorado, Water Division 2 District Court, Water Division 1 District Court, and the Colorado Groundwater Commission. It should be noted that the rights have certain limitations in locations of use. The rights by area are as follows;

- Sterling on and off site rights- 555.47 AF_{300 year}
- Retreat at TimberRidge on site rights are 48.73 AF_{300 year}
- The Ranch on site rights- 245.0 AF_{300 year}

Of the Sterling rights, 9.16 AF_{300 year} have been committed to the Retreat Service Area, leaving a net Sterling on-site availability of 546.31 AF_{300 year}.

The on-site rights underlying The Ranch are within the Upper Black Squirrel and are limited in use area to The Ranch and the Upper Black Squirrel Designated Basin. Therefore the 245.0 AF_{300 year} can only be used on the Ranch and not on Sterling ranch proper.

As of February 28, 2019, all of the Retreat water and 9.16 AF from Sterling are committed to the Retreat. As of February 28, 2019, of the net available 546.31 AF_{300 year}, 255.96_{300 year}, have been dedicated to Sterling Ranch Phase One which includes all of the existing preliminary and final plats to date.

This leaves a net uncommitted amount of water for the remainder of Sterling Ranch of 214.63_{300 year}.

In addition to currently available water rights, the Sterling Metropolitan District, has several contingent water supplies. These are all enumerated in greater detail in Table 2, above. The major sources are summarized as follows;

- A recent acquisition is the Schmidt Property which are associated with a 97 acre land parcel acquisition adjacent to Sterling Ranch and therefore, we have termed these contingent rights as On-site. We estimate that upon quantification and issuance of a decree, the NT rights will add 9.26 Acre-Feet₃₀₀ and NNT rights upon an augmentation plan, would add an additional 30.85 Acre-Feet₃₀₀.
- The off-site McCune water includes approximately 391.33 Acre-Feet₃₀₀ of NT water which is under contract to Sterling and would become physically available upon completion of the Bar-X pipeline.

3.3 *Source of Physical Supply:*

Municipal water demand would be met using primarily Arapahoe and Laramie-Fox Hills formation wells in the Sterling area. The first well site will be drilled with an Arapahoe Well (A-1) and Laramie-Fox Hills Well (LFH-1). Well site #1 includes both an Arapahoe and a Laramie Fox Hills well. Permits will be obtained as needed to ultimately continue to add to the system as needed.

Off site water to the north of the Sterling Service Area is generally in the Denver and Arapahoe formations. Some Laramie Fox Hills water has been contracted for and can be either physically accessed or used to augment NNT water not otherwise counted in Table 2.

3.4 *Water Quality and Treatment:*

Appendix C contains the water quality reports for the initial wells drilled at Sterling Ranch. The quality is generally consistent with Denver Basin water typically encountered in the Falcon area. The water quality in these aquifers in this area has typically been suitable for potable use with the addition of iron and manganese treatment.

3.5 *Water Storage, Distribution and Transmission Lines*

An initial tank has already been constructed at the Sterling site.

For the purpose of fire protection, we recommend eight inch lines throughout the residential subdivision. The lines should be looped wherever street layout allows. A transmission line of a minimum of 18 inch diameter should be extended south-southwesterly along one of the major roadways from the storage tank into Phase One of the development.

3.6 *Pumping for Service Pressures:*

Ground elevations within the development service area range from approximately 6,970 to 7,320. Adequate service pressures are generally considered 60 psi for residential service. The tank site is on the Sterling property at a base elevation of approximately 7,310 feet which would be capable of supplying acceptable service pressures to ground elevations of approximately 7,190. Initial development is anticipated to be at elevations below 7,190 so the tank site will be able to provide adequate pressure.

As development construction progresses, the SRMD #1 District plans to construct the northern transmission line to bring in the off-site water contracted for. Because the storage tanks are located at a high elevation, there is substantial pressure for residential service and fire flow for initial development of Sterling Ranch and all of The Ranch.

SECTION 4 WASTEWATER AND WASTEWATER TREATMENT

4.1 Wastewater Contract and Treatment

The Sterling Ranch Metropolitan District has a perpetual contract with the Meridian Service Metropolitan District (MSMD) for the provision of wastewater treatment. The contract allows for the purchase of up to 5849 SFEs of wastewater capacity from MSMD. Wastewater projections are based on similar District historical use developed in the Falcon area. Average daily wastewater loads are expected to be roughly 172 gallons per day per single family residence.

Interim Wastewater Treatment Services will be provided by Colorado Springs Utilities for up to one year while Sterling Ranch is completing its connection to the Meridian System. A copy of the Interim Service Agreement was attached in prior Water and Wastewater Reports and therefor is not included here. An agreement relating to completion of the wastewater outfall and the associated EGF has been extended.

From Table 1, the total committed wastewater taps are identical to those designated for water, which is 164 for the Retreat and 726 plus this commitment of 214.5 for a total of 1,104.5 SFE for Sterling Ranch. Consequently, Sterling has significant uncommitted capacity for wastewater.

4.2 Wastewater Collection and Pumping

All lands to be developed within the Sterling Ranch and the Retreat areas will gravity feed to the southern portion of the Sterling site. This will be the main collection point for most of the entire future development as well. Sterling is completing construction of the Lift Station and Force Main to serve the area. The force main is constructed across the lower portion of The Ranch. From this point wastewater is intercepted by Meridian Service Metropolitan District.

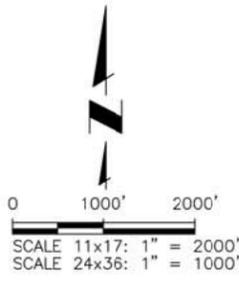
4.3 Wastewater Treatment

MSMD owns 2.2 million gallons per day of wastewater capacity in the Black Squirrel Wastewater Facility. The plant operator, Cherokee Metropolitan District (CMD) has already approved connections, and systems associated with transport and treatment. MSMD and CMD are in compliance with their current COC issued by the Colorado Department of Public Health and Environment.

Appendix A

J:\JDS-Hydro\Project Files\161 Morley Investments, LLC\161.04 Sterling Ranch\Drawings\16104_Sterling_Ranch.dwg

2019/02/22 1:51 PM By: GUS



WATER STORAGE TANK

PRIVATE WELL AREA

THE RESERVE

STERLING RANCH

THE RANCH

JDS-HYDRO CONSULTANTS, INC.
 5540 TECH CENTER DR., SUITE 100
 COLORADO SPRINGS, COLORADO 80919
 (719) 227-0072

DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

STERLING RANCH METROPOLITAN DISTRICT

APPENDIX A
WATER SERVICE AREAS

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

EXHIBIT

Project No.: 161.04
 Date: 02/22/19
 Design: JPM
 Drawn: GUS
 Check: JPM

SHEET OF

Appendix B

Appendix B
Sterling Ranch Metropolitan District #1
Tabulation of Commitments vs. Supply within SRMD#1 Service Area
Update July 20, 2020

Summary of Existing Available Supplies			
Existing Available Supplies summarized from From Table 2	Year	Non -	Year UBS *
The Ranch Onsite (UBS)			245.00
Sterling Ranch Onsite	371.47		
Sterling Ranch Offsite	184.00		
Commit to Retreat	-9.16		
	546.31		
Retreat Onsite (Central System Only) **	48.73		
Commit from Sterling Ranch	9.16		
	57.89		
Total Currently Available On-site plus Retreat Water	604.20		
Sterling Ranch Metropolitan District #1	Total AF		849.20

Summary of Contingent Available Supplies			
Net On-Site Sterling Denver NNT w/augmentation			Net 0 Replaces Bar -X NT Sources
Schmidt On-site NT (Pending Decree)	9.26		Owned Pending Decree
Schmidt On-site NNT (Pending Decree with Augmentation)	30.85		Owned Pending Decree
McCune Off-site (under Contract)	391.33		Under Contract
Off-site Bar-X (under contract)	692.60		Net Bar-X after Aug of On site Sterling Under Contract
Total Contingent Supplies	1124.05		
Sterling Ranch Metropolitan District #1	Total AF		1973.25
			Total Currently Available and Contingent Water

Sterling Ranch Metropolitan District No. 1 Water Commitments

Development	Analysis of Water Commitments					
	Preliminary Commitments			Final Commitments contained in prior commitment		
	Commitment SFE	Supply / Commitment Acre-Feet	Letter or Summary Date	Commitment SFE	Commitment Acre-Feet	Letter or Summary Date
Supply		Retreat Available Supply from Above			57.89	
Commitments	164	The Retreat at TimberRidge Preliminary Plan (Central System Only) Final #1	April 2018 Report			
Remaining Excess		Excess Supply for Retreat at TimberRidge Service Area			0.00	
Supply		Sterling Ranch Available Supply from Above			546.31	
Commitments	726	Sterling Ranch Preliminary Plan Phase One Sterling Ranch Filing #1 Tract BB (10.545) Branding Iron at Sterling Ranch Filing No. 1 Branding Iron Filing No. 2 Sterling Ranch Filing #2 Tract G (19.574) Homestead at Sterling Ranch Filing No. 1 Tract E (29.658) Homestead at Sterling Ranch Filing No. 2 Copper Chase at Sterling Ranch	June 2015 Report/Summary Update February 2019	0 51 88 49 72 104 132	0 17.850 31.07 17.296 25.416 36.712 46.596	Tracts Only Summary and Letter Revised Feb 20, 2020 (includes School--13 SFE/75 Residential) Summary and Letter Revised May 29, 2020 20-Feb-19 21-Feb-19
Commitments	214.5	Sterling Ranch Preliminary Plan Phase Two	July, 2020		174.94	Includes Lift Station but no Unplatted areas. School commitment (13 SFE) contained in Branding Iron Filing #2 above
Commitments		Homestead North at Sterling Ranch Preliminary Plan				Forthcoming
Excess Supply	-331.6785	Excess Un-committed Water Supply for Sterling Ranch Service			214.63	
Supply		The Ranch Available Supply from Above			245.00	
Commitments	0	The Ranch Preliminary Plan There are no Preliminary plans yet filed in The Ranch			0	
Remaining Excess		The Ranch Service Area			245.00	

General Note 1. The Sterling Ranch Metropolitan District #1 is slated to serve multiple service areas through either IGA, overlapping Districts, or bulk service. Therefore, water accounting is performed on a comprehensive basis to assure that the District has adequate resources to provide for all service. Supplies are compared above within each separate service areas because certain water rights have limited use areas.

General Note 2; Commitments are not hard commitments until Preliminary Plan, No Sketch plans are considered here

General Note 3; If a final plat/plan is included in a preliminary plan or plat that has designated a commitment, the final plat is only summed against the original committed water

* Water derived from within the UBS cannot be applied outside the UBS without separate export order.

** Tabulation and supply for Retreat Private wells is noted on Table 2 for information only, it is not included as commitment or supply for central system purposes.

Appendix C



Colorado Department
of Public Health
and Environment

Inorganic Chemicals Certified Laboratory Report Form
WQCD - Drinking Water CAS
4300 Cherry Creek Drive South, Denver, CO 80246-1530
Fax: (303) 758-1398; cdphe.drinkingwater@state.co.us

Revised 6/13/2014

IOC

Section I (Submitted or Completed by Public Water System)		Section II (Submitted or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO-0121724	Laboratory ID: CO 0015	Laboratory Name: Colorado Analytical Laboratory	
System Name: LFH-1	Phone #: 719-227-0072	Contact Person: Customer Service	Phone: 303-659-2313
Contact Person: Mark Volle	Do Samples Need to be Compositied BY THE LAB? <input type="checkbox"/>	Comments:	

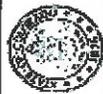
Section III (Supplied or Completed by Public Water System)			
Sample Date: 2/16/17	Collector: Stephanie Schwe	Facility ID (On Schedule):	Sample Pt ID (On Schedule):

Section IV Inorganic Chemicals (Completed by Certified Laboratory)								
Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name	CAS No.	Analytical Method	MCL (mg/L)	Lab MRL (mg/L)	Result (mg/L)
2/17/17	2/17/17	170217005-01	Fluoride	7681-49-4	EPA 300.0	4	0.09	1.07

NT: Not Tested
 Lab MRL: Laboratory Minimum Reporting Level
 BDL: Below Laboratory MRL. A less than (<) may also uscd.

mg/L: Milligrams per Liter
 MCL: Maximum Contaminant Level

3/6/17
 170217005-01
 1/1



Colorado Department
of Public Health
and Environment

Inorganic Chemicals Certified Laboratory Report Form
WQCD - Drinking Water CAS
Submit Online at <http://www.wqcdcompliance.com/login>

Revised 4/13/2015

IOC

Section I (Supplied or Completed by Public Water System)		Section II (Supplied or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO-0121724		Laboratory ID: CO 0015	
System Name: LFH-1		Laboratory Name: Colorado Analytical Laboratory	
Contact Person: Mark Volle		Contact Person: Customer Service Phone: 303-659-2313	
Comments:		Comments:	
Do Samples Need to be Compositied BY THE LAB? <input type="checkbox"/>			

Section III (Supplied or Completed by Public Water System)		Section IV Inorganic Chemicals (Completed by Certified Laboratory)	
Facility ID (On Schedule):		Sample Pt ID (On Schedule):	
Collector: Stephanie Schwe			

Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name	CAS No	Analytical Method	MCL (mg/L)	Lab MRL (mg/L)	Result (mg/L)
2/17/17	2/22/17	170217005-01A	Antimony	7740-36-0	EPA 200.8	0.006	0.001	BDL
2/17/17	2/22/17	170217005-01A	Arsenic	7440-38-2	EPA 200.8	0.01	0.001	0.002
2/17/17	2/22/17	170217005-01A	Barium	7440-39-3	EPA 200.8	2	0.001	0.015
2/17/17	2/22/17	170217005-01A	Beryllium	7440-41-7	EPA 200.8	0.004	0.001	BDL
2/17/17	2/22/17	170217005-01A	Cadmium	7440-43-9	EPA 200.8	0.005	0.001	BDL
2/17/17	2/22/17	170217005-01A	Chromium	7440-47-3	EPA 200.8	0.1	0.001	0.001
2/17/17	2/22/17	170217005-01A	Mercury	7439-97-6	EPA 200.8	0.002	0.0001	BDL
2/17/17	2/22/17	170217005-01A	Nickel	7440-02-0	EPA 200.8	N/A	0.001	0.001
2/17/17	2/24/17	170217005-01A	Selenium	7782-49-2	EPA 200.8	0.05	0.001	BDL
2/17/17	2/22/17	170217005-01A	Sodium	7440-23-5	EPA 200.7	N/A	0.1	142.7
2/17/17	2/22/17	170217005-01A	Thallium	7440-28-0	EPA 200.8	0.002	0.001	BDL

NT: Not Tested
Lab MRL: Laboratory Minimum Reporting Level
BDL: Below Laboratory MRL. A less than (<) may also used.

mg/L: Milligrams per Liter
MCL: Maximum Contaminant Level



Hazen Research, Inc.
 4601 Indiana Street
 Golden, CO 80403 USA
 Tel: (303) 279-4501
 Fax: (303) 276-1528

Lab Control ID: B16917
 Received: Feb 17, 2017
 Reported: Mar 20, 2017
 Purchase Order No.
 None Received

Customer ID: 20040H
 Account ID: Z01034
 Project #: 009-616

ANALYTICAL REPORT

Stuart Nielson
Colorado Analytical Laboratories, Inc.

Lab Sample ID		B16917-001						
Customer Sample ID		170217005-01 - Lfh-1 - PWSID: CO0121724 - LFH-1 sampled on 02/16/17 @ 0906 by Stephanie Schwenke						
Parameter	Units	Code	Precision*		Detection	Method	Analysis Date / Time	Analyst
			Result	+/-	Limit			
Gross Alpha	pCi/L	T	0.0	0.0	1.5	SM 7110 B	3/2/17 @ 0840	LD
Gross Beta	pCi/L	T	0.0	2.1	2.2	SM 7110 B	3/2/17 @ 0840	LD
Radium-226	pCi/L	T	0.0	0.2	0.1	SM 7500-Ra B	3/3/17 @ 0825	LD
Radium-228	pCi/L	T	0.0	0.8	0.8	EPA Ra-05	3/14/17 @ 1257	JR
Radon	pCi/L	T	345	25	13.9	SM 7500-Rn B	2/17/17 @ 1500	AN

Certification ID's: CO/EPA CO00008; CT PH-0152; KS E-10265; NJ CO008; NYSELAP (NELAC Certified) 11417; RI LAO00284; WI 998376610, TX T104704256-15-6

*Variability of the radioactive decay process (counting error) at the 95% confidence level, 1.96 sigma.

Codes: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Residual
 (PD) = Potentially Dissolved < = Less Than



RAD

Radionuclides Certified Laboratory Report Form
 WQCD – Drinking Water CAS
 4300 Cherry Creek Drive South; Denver, CO 80246-1530
 Fax: (303) 758-1398; cdphe.drinkingwater@state.co.us

Section I (Supplied or Completed by Public Water System)

Public Water System Information

PWS ID: CO0121724

System Name: Lfb-1

Collector: Stephanie Schwenke

Facility ID (On Schedule):

Sample Pt ID (On Schedule):

Section III (Supplied or Completed by Public Water System)

Section II (Supplied or Completed by Certified Laboratory)

Certified Laboratory Information

Laboratory ID: CO 00008

Laboratory Name: Hazen Research, Inc.

Contact Person: Jessica Axen

Phone #: 303-279-4501

Do Samples Need to be Composited BY THE LAB?

Comments:

Section IV Radionuclides (Supplied or Completed by Certified Laboratory)

Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name (Code)	CAS No.	Analytical Method	MCL	Lab MRL	Result
02/17/2017	03/02/2017	B16917-001	Gross Alpha Including Uranium (4002)	12587-46-1	SM 7110 B	N/A	1.5	0.0(±0.0)
			Combined Uranium (4006)	7440-61-1	D2907-97	30 ug/L		
02/17/2017	03/03/2017	B16917-001	Radium -226 (4020)	13982-63-3	SM 7500-Ra B	N/A	0.1	0.0(±0.2)
02/17/2017	03/14/2017	B16917-001	Radium -228 (4030)	15262-20-1	EPA Ra-05	N/A	0.8	0.0(±0.8)
02/17/2017	03/02/2017	B16917-001	Gross Beta (4100)	12587-47-2	SM 7110 B	50 pCi/L*	2.2	0.0(±2.1)
			Total Dissolved Solids (1930)		EPA 160.3	N/A		

*The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern.

Section V Calculated Values

Calculated Value	Lab MRL
Gross Alpha Excluding Uranium (4000)	15 pCi/L
Combined Radium {-226 & -228} (4010)	5 pCi/L

NT: Not Tested
 Lab MRL: Laboratory Minimum Reporting Level
 BDL: Below Laboratory MRL. A less than sign (<) may also be used
 ug/L: Micrograms per Liter
 pCi/L: Pico-curies per Liter
 MCL: Maximum Contaminant Level

Analytical Results

TASK NO: 170217005

Report To: Mark Volle
Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300
Colorado Springs CO 80903

Bill To: Jim Morley
Company: SR Water
20 Boulder Crescent St.
Colorado Springs CO 80903

Task No.: 170217005
Client PO:
Client Project: LFH-1 CO-0121724

Date Received: 2/17/17
Date Reported: 3/6/17
Matrix: Water - Drinking

Customer Sample ID: LFH-1
Sample Date/Time: 2/16/17
Lab Number: 170217005-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	155.5 mg/L as CaCO ₃	SM 2320-B	0.1	2/20/17	VDB
Calcium as CaCO ₃	6.3 mg/L	SM 3111-B	0.1	2/24/17	MBN
Carbonate	4.0 mg/L as CaCO ₃	SM 2320-B	0.1	2/20/17	VDB
Langelier Index	-0.43 units	SM 2330-B		2/24/17	SAN
pH	8.44 units	SM 4500-H-B	0.01	2/17/17	MBN
Temperature	20 °C	SM 4500-H-B	1	2/17/17	MBN
Total Alkalinity	159.5 mg/L as CaCO ₃	SM 2320-B	0.1	2/20/17	VDB
Total Dissolved Solids	456 mg/L	SM 2540-C	5	2/23/17	ISG

Abbreviations/ References:

ML = Minimum Level = LRL = RL
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 ml = Most Probable Number Index/ 100 ml
Date Analyzed = Date Test Completed



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Colorado Department
of Public Health
and Environment

Nitrate and Nitrite as Nitrogen Certified Laboratory Report Form
WQCD - Drinking Water CAS
 Submit Online at <http://www.wqcdcompliance.com/login>

Revised 4/13/2015

NOX

Section I (Supplied or Completed by Public Water System)		Section II (Supplied or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO-0121724		Laboratory ID: CO 0015	
System Name: LFH-1		Laboratory Name: Colorado Analytical Laboratory	
Contact Person: Mark Volle	Phone #: 719-227-0072	Contact Person: Customer Service	Phone: 303-659-2313
Comments:			

Section III (Supplied or Completed by Public Water System)				Section IV (Supplied or Completed by Certified Laboratory)								
Sample Date	Collector	Facility ID On Schedule	Sample Pt. ID On Schedule	Confirmation?	Lab Receipt Date	Lab Analysis Date	1 Laboratory Sample ID #	Analyte	Analytical Method	MCL (mg/L)	Lab MRI. (mg/L)	Result (mg/L)
2/16/17	ephanie Schwenk			<input type="checkbox"/>	2/17/17	2/17/17	170217005-01	Nitrate Nitrogen	EPA 300.0	10	0.1	BDL
2/16/17	ephanie Schwenk			<input type="checkbox"/>	2/17/17	2/17/17	170217005-01	Nitrite Nitrogen	EPA 300.0	1	0.1	BDL

NT: Not Tested
 Lab MRI.: Laboratory Minimum Reporting Level
 BDL: Below Laboratory MRI. A less than (<) may also used.

mg/L: Milligrams per Liter
 MCL: Maximum Contaminant Level



Colorado Department
of Public Health
and Environment

Organic Chemicals Certified Laboratory Report Form
WQCD - Drinking Water CAS
Submit Online at <http://www.wqcdcompliance.com/login>

Revised 4/13/2015

VOC/SOC

Section I (Supplied or Completed by Public Water System)	Section II (Supplied or Completed by Certified Laboratory)
Public Water System Information	Certified Laboratory Information
PWSID#: CO-0121724	Laboratory ID: CO 00063
System Name: LFH-1	Laboratory Name: Colorado Analytical Laboratory
Contact Person: Mark Voile	Contact Person: Customer Service Phone: 303-659-2313
Comments:	Comments:
Do Samples Need to be Composited BY THE LAB? <input type="checkbox"/>	

Section V (Supplied or Completed by Public Water System)		Section VI Synthetic Organic Chemicals (Supplied or Completed by Certified Laboratory)		Section VII (On Schedule)		Section VIII (On Schedule)		
Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name	CAS No.	Analytical Method	MCL (ug/L)	Lab MRL (ug/L)	Result (ug/L)
2/17/17	2/24/17	170217005-01E	Dibromochloropropane	96-12-8	EPA 504.1	0.2	0.02	BDL
2/17/17	3/1/17	170217005-01G	2,4-D	94-75-7	EPA 515.4	70	0.1	BDL
2/17/17	3/1/17	170217005-01G	2,4,5-TP	93-72-1	EPA 515.4	50	0.2	BDL
2/17/17	2/23/17	170217005-01H	Atrachlor	15972-60-8	EPA 525.2	2	0.2	BDL
2/17/17	3/2/17	170217005-01I	Aldicarb	116-06-3	EPA 531.1	N/A	0.6	BDL
2/17/17	3/2/17	170217005-01I	Aldicarb sulfone	1646-88-4	EPA 531.1	N/A	1	BDL
2/17/17	3/2/17	170217005-01I	Aldicarb sulfoxide	1646-87-3	EPA 531.1	N/A	0.7	BDL
2/17/17	2/23/17	170217005-01III	Atrazine	1912-24-9	EPA 525.2	3	0.1	BDL
2/17/17	2/23/17	170217005-01H	Benzo(a)pyrene	50-32-8	EPA 525.2	0.2	0.02	BDL
2/17/17	3/2/17	170217005-01I	Carbofuran	1563-66-2	EPA 531.1	40	0.9	BDL
2/17/17	2/24/17	170217005-01F	Chlordane	57-74-9	EPA 505	2	0.2	BDL
2/17/17	3/1/17	170217005-01G	Dalapon	75-99-0	EPA 515.4	200	1	BDL
2/17/17	2/23/17	170217005-01III	Di(2-ethylhexyl)adipate	103-23-1	EPA 525.2	400	0.6	BDL
2/17/17	2/23/17	170217005-01H	Di(2-ethylhexyl)phthalate	117-81-7	EPA 525.2	6	0.6	BDL
2/17/17	3/1/17	170217005-01G	Dinosob	85-85-7	EPA 515.4	7	0.2	BDL
2/17/17	2/23/17	170217005-01K	Diquat	85-00-7	EPA 549.2	20	0.4	BDL
2/17/17	2/23/17	170217005-01J	Endothall	145-73-3	EPA 548.1	100	9	BDL
2/17/17	2/24/17	170217005-01F	Endrin	72-20-8	EPA 505	2	0.01	BDL
2/17/17	2/24/17	170217005-01E	Ethylene dibromide	106-93-4	EPA 504.1	0.05	0.01	BDL
2/17/17	2/23/17	170217005-01H	Heptachlor	76-44-8	EPA 525.2	0.4	0.04	BDL
2/17/17	2/24/17	170217005-01F	Heptachlor epoxide	1024-57-3	EPA 505	0.2	0.02	BDL

NT: Not Tested ug/L; Micrograms per Liter MCL: Maximum Contaminant Level BDL Below Laboratory MRL ^ Less than sign (<) may also be used.

PWSID#: CO-0121724		Section V (Supplied or Completed by Public Water System)						
Sample Date:	2/16/17	Collector:	Stephanie Schwenk	Facility ID (On Schedule):	Sample Pt ID (On Schedule):			
Section VI Synthetic Organic Chemicals (Supplied or Completed by Certified Laboratory)		Lab Sample ID	Analyte Name	CAS No.	Analytical Method	MCL (ug/L)	Lab MRL (ug/L)	Result (ug/L)
2/17/17	2/24/17	170217005-01F	Hexachlorobenzene	118-74-1	EPA 505	1	0.1	BDL
2/17/17	2/24/17	170217005-01F	Hexachlorocyclopentadiene	77-47-4	EPA 505	50	0.1	BDL
2/17/17	2/24/17	170217005-01F	Lindane	58-89-9	EPA 505	0.2	0.02	BDL
2/17/17	2/24/17	170217005-01F	Methoxychlor	72-43-5	EPA 505	40	0.1	BDL
2/17/17	3/2/17	170217005-01I	Oxamyl	23135-22-0	HPA 531.1	200	1	BDL
2/17/17	3/1/17	170217005-01G	Pentachlorophenol	87-86-5	EPA 515.4	1	0.04	BDL
2/17/17	3/1/17	170217005-01G	Picloram	1918-02-1	EPA 515.4	500	0.1	BDL
2/17/17	2/24/17	170217005-01F	Polychlorinated biphenyl's	1336-36-3	EPA 505	0.5	0.1	BDL
2/17/17	2/23/17	170217005-01H	Simazine	122-34-9	EPA 525.2	4	0.07	BDL
2/17/17	2/24/17	170217005-01F	Toxaphene	8001-35-2	EPA 505	3	1	BDL

NT: Not Tested ug/L; Micrograms per Liter MCL: Maximum Contaminant Level BDL: Below Laboratory MRL Δ less than sign (<) may also be used.

170217005-01

2/2
3/6/17

Analytical Results

TASK NO: 170217005

Report To: Mark Voile

Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300
Colorado Springs CO 80903

Bill To: Jim Morley

Company: SR Water
20 Boulder Crescent St.
Colorado Springs CO 80903

Task No.: 170217005
Client PO:
Client Project: LFH-1 CO-0121724

Date Received: 2/17/17
Date Reported: 3/6/17
Matrix: Water - Drinking

Customer Sample ID: LFH-1
Sample Date/Time: 2/16/17
Lab Number: 170217005-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Chloride	5.8 mg/L	EPA 300.0	0.1 mg/L	2/17/17	LJG
Cyanide-Free	< 0.005 mg/L	EPA 335.4	0.005 mg/L	2/24/17	VDB
E-Coli	< 1 mpn/100ml	Colitert	1 mpn/100ml	2/18/17	VDB
Sulfate	142.1 mg/L	EPA 300.0	0.1 mg/L	2/17/17	LJG
Total Coliform	93 mpn/100ml	Colitert	1 mpn/100ml	2/18/17	VDB
Total Organic Carbon	0.8 mg/L	SM 5310-C	0.5 mg/L	2/23/17	ISG
Turbidity	2.49 NTU	SM 2130-B	0.01 NTU	2/17/17	MBN
Total					
Aluminum	0.053 mg/L	EPA 200.8	0.001 mg/L	2/22/17	TCD
Calcium	2.5 mg/L	EPA 200.7	0.1 mg/L	2/22/17	MBN
Copper	0.0026 mg/L	EPA 200.8	0.0008 mg/L	2/22/17	TCD
Iron	0.602 mg/L	EPA 200.7	0.005 mg/L	2/24/17	MBN
Lead	0.0005 mg/L	EPA 200.8	0.0001 mg/L	2/22/17	TCD
Magnesium	0.39 mg/L	EPA 200.7	0.02 mg/L	2/22/17	MBN
Manganese	0.0259 mg/L	EPA 200.8	0.0008 mg/L	2/22/17	TCD
Potassium	1.5 mg/L	EPA 200.7	0.1 mg/L	2/22/17	MBN
Silver	< 0.0001 mg/L	EPA 200.8	0.0001 mg/L	2/22/17	TCD
Strontium	0.037 mg/L	EPA 200.8	0.005 mg/L	2/22/17	TCD
Total Hardness	7.7 mg/L as CaCO3	SM 2340-B	0.1 mg/L as CaCO3	2/24/17	MBN
Uranium	< 0.0002 mg/L	EPA 200.8	0.0002 mg/L	2/22/17	TCD
Zinc	0.004 mg/L	EPA 200.8	0.001 mg/L	2/22/17	TCD

Abbreviations/ References:

ML = Minimum Level = LRL = RL
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 ml = Most Probable Number Index/ 100 ml
Date Analyzed = Date Test Completed



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Analytical Results

TASK NO: 170217005

Report To: Mark Voile

Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300
Colorado Springs CO 80903

Bill To: Jim Morley

Company: SR Water
20 Boulder Crescent St.
Colorado Springs CO 80903

Task No.: 170217005
Client PO:
Client Project: LFH-1 CO-0121724

Date Received: 2/17/17
Date Reported: 3/6/17
Matrix: Water - Drinking

Customer Sample ID: LFH-1
Sample Date/Time: 2/16/17
Lab Number: 170217005-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
<u>Total</u> Zinc	0.005 mg/L	EPA 200.8	0.001 mg/L	2/22/17	TCD

Abbreviations/ References:

ML = Minimum Level = LRL = RL
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 ml = Most Probable Number Index/ 100 ml
Date Analyzed = Date Test Completed



DATA APPROVED FOR RELEASE BY



ANALYTICAL SUMMARY REPORT

March 02, 2017

Colorado Analytical Laboratories Inc
PO Drawer 507
Brighton, CO 80601

Work Order: C17020566 Quote ID: C4542 - 624, 625, 1,4-Dioxane

Project Name: 170217005 LFH-1 CO-0121724

Energy Laboratories, Inc. Casper WY received the following 1 sample for Colorado Analytical Laboratories Inc on 2/21/2017 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C17020566-001	170217005-01 LFH-1	02/16/17 0:00	02/21/17	Drinking Water	Azeotropic Distillation Separatory Funnel Liquid-Liquid Ext. Semi-Volatile Organic Compounds 624-Purgeable Organics Volatile Compounds by Azeotropic Distillation

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.

Report Approved By:


Randy Horton, Project Manager

Digitally signed by
Randy Horton
Date: 2017.03.02 10:49:28 -07:00



CLIENT: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724
Work Order: C17020566

Report Date: 03/02/17

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724
Lab ID: C17020566-001
Client Sample ID: 170217005-01 LFH-1

Report Date: 03/02/17
Collection Date: 02/16/17
Date Received: 02/21/17
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOCS BY AZEOTROPIC DISTILLATION							
1,4-Dioxane	ND	ug/L		1.0		SW8260M	02/27/17 11:16 / eli-b
- Analysis by direct aqueous injection of the sample distillate. A deuterated version of 1,4-Dioxane was added to the sample prior to distillation and used to quantitate the 1,4-Dioxane and account for any variations in the analysis or distillation.							
VOLATILE ORGANIC COMPOUNDS							
Acetone	ND	ug/L		20		E624	02/24/17 19:19 / eli-b
Acetonitrile	ND	ug/L		20		E624	02/24/17 19:19 / eli-b
Acrolein	ND	ug/L		20		E624	02/24/17 19:19 / eli-b
Acrylonitrile	ND	ug/L		20		E624	02/24/17 19:19 / eli-b
Benzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Bromobenzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Bromochloromethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Bromodichloromethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Bromoform	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Bromomethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Carbon disulfide	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Carbon tetrachloride	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Chlorobenzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Chlorodibromomethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Chloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Chloroform	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Chloromethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
2-Chlorotoluene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
4-Chlorotoluene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,2-Dibromoethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Dibromomethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Dichlorodifluoromethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1-Dichloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,2-Dichloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1-Dichloroethene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,2-Dichloropropane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,3-Dichloropropane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
2,2-Dichloropropane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1-Dichloropropene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Ethylbenzene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724
Lab ID: C17020566-001
Client Sample ID: 170217005-01 LFH-1

Report Date: 03/02/17
Collection Date: 02/16/17
Date Received: 02/21/17
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		2.0		E624	02/24/17 19:19 / eli-b
Methyl ethyl ketone	ND	ug/L		20		E624	02/24/17 19:19 / eli-b
Methyl isobutyl ketone	ND	ug/L		10		E624	02/24/17 19:19 / eli-b
Methylene chloride	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Naphthalene	ND	ug/L		0.50		E624	02/24/17 19:19 / eli-b
Styrene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Tetrachloroethene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Toluene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Trichloroethene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Trichlorofluoromethane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Vinyl Acetate	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Vinyl chloride	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
m+p-Xylenes	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
o-Xylene	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Xylenes, Total	ND	ug/L		1.0		E624	02/24/17 19:19 / eli-b
Surr: 1,2-Dichloroethane-d4	76.0	%REC		71-139		E624	02/24/17 19:19 / eli-b
Surr: p-Bromofluorobenzene	92.0	%REC		80-127		E624	02/24/17 19:19 / eli-b
Surr: Toluene-d8	94.0	%REC		80-123		E624	02/24/17 19:19 / eli-b
SEMI-VOLATILE ORGANIC COMPOUNDS							
Acenaphthene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Acenaphthylene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Anthracene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Azobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Benzidine	ND	ug/L		10		E625	02/28/17 13:13 / eli-b
Benzo(a)anthracene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Benzo(a)pyrene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Benzo(b)fluoranthene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Benzo(g,h,i)perylene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Benzo(k)fluoranthene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
4-Bromophenyl phenyl ether	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Butylbenzylphthalate	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
4-Chloro-3-methylphenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
bis(-2-chloroethoxy)Methane	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
bis(-2-chloroethyl)Ether	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
bis(2-chloroisopropyl)Ether	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2-Chloronaphthalene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2-Chlorophenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724
Lab ID: C17020566-001
Client Sample ID: 170217005-01 LFH-1

Report Date: 03/02/17
Collection Date: 02/16/17
Date Received: 02/21/17
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SEMI-VOLATILE ORGANIC COMPOUNDS							
4-Chlorophenyl phenyl ether	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Chrysene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Diethyl phthalate	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Di-n-butyl phthalate	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
1,2-Dichlorobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
1,3-Dichlorobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
1,4-Dichlorobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
3,3'-Dichlorobenzidine	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2,4-Dichlorophenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Dimethyl phthalate	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Di-n-octyl phthalate	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Dibenzo(a,h)anthracene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2,4-Dimethylphenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
4,6-Dinitro-2-methylphenol	ND	ug/L		50		E625	02/27/17 19:27 / eli-b
2,4-Dinitrophenol	ND	ug/L		50		E625	02/27/17 19:27 / eli-b
2,4-Dinitrotoluene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2,6-Dinitrotoluene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
bis(2-ethylhexyl)Phthalate	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Fluoranthene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Fluorene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Hexachlorobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Hexachlorobutadiene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Hexachlorocyclopentadiene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Hexachloroethane	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Indeno(1,2,3-cd)pyrene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Isophorone	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
n-Nitrosodimethylamine	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
n-Nitroso-di-n-propylamine	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
n-Nitrosodiphenylamine	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2-Nitrophenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
4-Nitrophenol	ND	ug/L		50		E625	02/27/17 19:27 / eli-b
Naphthalene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Nitrobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Pentachlorophenol	ND	ug/L		50		E625	02/27/17 19:27 / eli-b
Phenanthrene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Phenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Pyrene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
1,2,4-Trichlorobenzene	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
2,4,6-Trichlorophenol	ND	ug/L		10		E625	02/27/17 19:27 / eli-b
Surr: 2-Fluorobiphenyl	59.0	%REC		28-107		E625	02/27/17 19:27 / eli-b
Surr: 2-Fluorophenol	34.0	%REC		20-56		E625	02/27/17 19:27 / eli-b
Surr: Nitrobenzene-d5	63.0	%REC		32-94		E625	02/27/17 19:27 / eli-b
Surr: Phenol-d5	33.0	%REC		19-45		E625	02/27/17 19:27 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724
Lab ID: C17020566-001
Client Sample ID: 170217005-01 LFH-1

Report Date: 03/02/17
Collection Date: 02/16/17
Date Received: 02/21/17
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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SEMI-VOLATILE ORGANIC COMPOUNDS

Surr: Terphenyl-d14	69.0	%REC		32-122		E625	02/27/17 19:27 / eli-b
Surr: 2,4,6-Tribromophenol	60.0	%REC		21-130		E625	02/27/17 19:27 / eli-b

• The sample was received past the extraction prep hold time. The prep hold time was exceeded by 4.31 days.

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Analytical Run: R275391		
Lab ID: ccv022417	Continuing Calibration Verification Standard						02/24/17 09:51		
Acetone	40.8	ug/L	20	82	70	130			
Acetonitrile	60.0	ug/L	20	120	70	130			
Acrolein	59.2	ug/L	20	118	70	130			
Acrylonitrile	46.4	ug/L	20	93	70	130			
Benzene	4.80	ug/L	0.50	96	70	130			
Bromobenzene	4.56	ug/L	0.50	91	70	130			
Bromochloromethane	4.64	ug/L	0.50	93	70	130			
Bromodichloromethane	4.08	ug/L	0.50	82	70	130			
Bromoform	4.08	ug/L	0.50	82	70	130			
Bromomethane	5.56	ug/L	0.50	111	70	130			
Carbon disulfide	4.80	ug/L	0.50	96	70	130			
Carbon tetrachloride	3.70	ug/L	0.50	74	70	130			
Chlorobenzene	4.80	ug/L	0.50	96	70	130			
Chlorodibromomethane	4.32	ug/L	0.50	86	70	130			
Chloroethane	4.88	ug/L	0.50	98	70	130			
2-Chloroethyl vinyl ether	3.07	ug/L	1.0	61	70	130			S
Chloroform	4.36	ug/L	0.50	87	70	130			
Chloromethane	4.60	ug/L	0.50	92	70	130			
2-Chlorotoluene	4.84	ug/L	0.50	97	70	130			
4-Chlorotoluene	4.80	ug/L	0.50	96	70	130			
1,2-Dibromoethane	4.40	ug/L	0.50	88	70	130			
Dibromomethane	4.60	ug/L	0.50	92	70	130			
1,2-Dichlorobenzene	4.72	ug/L	0.50	94	70	130			
1,3-Dichlorobenzene	4.84	ug/L	0.50	97	70	130			
1,4-Dichlorobenzene	4.76	ug/L	0.50	95	70	130			
Dichlorodifluoromethane	3.87	ug/L	0.50	77	70	130			
1,1-Dichloroethane	4.40	ug/L	0.50	88	70	130			
1,2-Dichloroethane	3.78	ug/L	0.50	76	70	130			
1,1-Dichloroethene	4.20	ug/L	0.50	84	70	130			
cis-1,2-Dichloroethene	4.72	ug/L	0.50	94	70	130			
trans-1,2-Dichloroethene	4.64	ug/L	0.50	93	70	130			
1,2-Dichloropropane	5.20	ug/L	0.50	104	70	130			
1,3-Dichloropropane	4.64	ug/L	0.50	93	70	130			
2,2-Dichloropropane	3.92	ug/L	0.50	78	70	130			
1,1-Dichloropropene	4.40	ug/L	0.50	88	70	130			
cis-1,3-Dichloropropene	4.56	ug/L	0.50	91	70	130			
trans-1,3-Dichloropropene	4.04	ug/L	0.50	81	70	130			
Ethylbenzene	4.84	ug/L	0.50	97	70	130			
Methyl tert-butyl ether (MTBE)	3.68	ug/L	0.50	74	70	130			
Methyl ethyl ketone	42.8	ug/L	20	86	70	130			
Methyl isobutyl ketone	45.6	ug/L	20	91	70	130			
Methylene chloride	5.44	ug/L	0.50	109	70	130			
Naphthalene	4.88	ug/L	0.50	98	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Analytical Run: R275391		
Lab ID: ccv022417	Continuing Calibration Verification Standard						02/24/17 09:51		
Styrene	4.76	ug/L	0.50	95	70	130			
Tetrachloroethene	4.60	ug/L	0.50	92	70	130			
1,1,1,2-Tetrachloroethane	4.24	ug/L	0.50	85	70	130			
1,1,2,2-Tetrachloroethane	4.96	ug/L	0.50	99	70	130			
Toluene	4.96	ug/L	0.50	99	70	130			
Trichloroethene	4.80	ug/L	0.50	96	70	130			
1,1,1-Trichloroethane	3.75	ug/L	0.50	75	70	130			
1,1,2-Trichloroethane	4.76	ug/L	0.50	95	70	130			
Trichlorofluoromethane	3.34	ug/L	0.50	67	70	130			S
1,2,3-Trichloropropane	4.20	ug/L	0.50	84	70	130			
Vinyl Acetate	4.56	ug/L	1.0	91	70	130			
Vinyl chloride	4.84	ug/L	0.50	97	70	130			
m+p-Xylenes	9.76	ug/L	0.50	98	70	130			
o-Xylene	4.76	ug/L	0.50	95	70	130			
Xylenes, Total	14.5	ug/L	0.50	97	70	130			
Surr: 1,2-Dichloroethane-d4			0.50	74	71	139			
Surr: p-Bromofluorobenzene			0.50	88	80	127			
Surr: Toluene-d8			0.50	92	80	123			

Method: E624							Batch: R275391		
Lab ID: ics022417	Laboratory Control Sample						Run: 5971A.I_170224A		02/24/17 10:31
Acetone	41.6	ug/L	20	83	55	144			
Acetonitrile	60.4	ug/L	20	121	54	142			
Acrolein	49.6	ug/L	20	99	16	233			
Acrylonitrile	46.0	ug/L	20	92	76	127			
Benzene	4.96	ug/L	0.50	99	73	122			
Bromobenzene	4.76	ug/L	0.50	95	74	129			
Bromochloromethane	4.64	ug/L	0.50	93	66	120			
Bromodichloromethane	4.44	ug/L	0.50	89	74	128			
Bromoform	4.36	ug/L	0.50	87	66	128			
Bromomethane	5.76	ug/L	0.50	115	51	123			
Carbon disulfide	4.92	ug/L	0.50	98	46	145			
Carbon tetrachloride	3.80	ug/L	0.50	76	75	125			
Chlorobenzene	4.92	ug/L	0.50	98	80	123			
Chlorodibromomethane	4.64	ug/L	0.50	93	74	125			
Chloroethane	5.04	ug/L	0.50	101	59	142			
2-Chloroethyl vinyl ether	2.74	ug/L	1.0	55	36	144			
Chloroform	4.40	ug/L	0.50	88	68	124			
Chloromethane	4.64	ug/L	0.50	93	53	146			
2-Chlorotoluene	5.04	ug/L	0.50	101	75	131			
4-Chlorotoluene	4.68	ug/L	0.50	94	74	129			
1,2-Dibromoethane	4.40	ug/L	0.50	88	76	124			
Dibromomethane	4.76	ug/L	0.50	95	77	125			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R275391		
Lab ID: lcs022417	Laboratory Control Sample				Run: 5971A.L_170224A		02/24/17 10:31		
1,2-Dichlorobenzene	4.80	ug/L	0.50	96	74	124			
1,3-Dichlorobenzene	5.00	ug/L	0.50	100	77	122			
1,4-Dichlorobenzene	4.80	ug/L	0.50	96	76	126			
Dichlorodifluoromethane	4.36	ug/L	0.50	87	56	146			
1,1-Dichloroethane	4.56	ug/L	0.50	81	74	133			
1,2-Dichloroethane	3.76	ug/L	0.50	75	75	129			
1,1-Dichloroethene	4.28	ug/L	0.50	86	74	132			
cis-1,2-Dichloroethene	4.76	ug/L	0.50	95	81	122			
trans-1,2-Dichloroethene	5.08	ug/L	0.50	102	79	143			
1,2-Dichloropropane	5.20	ug/L	0.50	104	75	126			
1,3-Dichloropropane	4.32	ug/L	0.50	86	71	136			
2,2-Dichloropropane	4.00	ug/L	0.50	80	68	142			
1,1-Dichloropropene	4.16	ug/L	0.50	83	70	131			
cis-1,3-Dichloropropene	4.12	ug/L	0.50	82	74	135			
trans-1,3-Dichloropropene	3.96	ug/L	0.50	79	76	149			
Ethylbenzene	4.92	ug/L	0.50	98	72	130			
Methyl tert-butyl ether (MTBE)	3.71	ug/L	0.50	74	72	120			
Methyl ethyl ketone	45.2	ug/L	20	90	45	130			
Methyl isobutyl ketone	49.2	ug/L	20	98	58	135			
Methylene chloride	5.64	ug/L	0.50	113	66	142			
Naphthalene	5.44	ug/L	0.50	109	69	124			
Styrene	4.84	ug/L	0.50	97	80	124			
Tetrachloroethene	4.68	ug/L	0.50	94	72	131			
1,1,1,2-Tetrachloroethane	4.16	ug/L	0.50	83	78	124			
1,1,2,2-Tetrachloroethane	4.72	ug/L	0.50	94	68	137			
Toluene	5.16	ug/L	0.50	103	72	135			
Trichloroethene	4.80	ug/L	0.50	96	85	126			
1,1,1-Trichloroethane	3.73	ug/L	0.50	75	63	120			
1,1,2-Trichloroethane	4.68	ug/L	0.50	94	78	124			
Trichlorofluoromethane	3.30	ug/L	0.50	66	72	120			S
1,2,3-Trichloropropane	4.04	ug/L	0.50	81	64	138			
Vinyl Acetate	4.08	ug/L	1.0	82	31	124			
Vinyl chloride	5.12	ug/L	0.50	102	58	140			
m+p-Xylenes	9.84	ug/L	0.50	98	67	139			
o-Xylene	4.84	ug/L	0.50	97	74	135			
Xylenes, Total	14.7	ug/L	0.50	98	70	137			
Surr: 1,2-Dichloroethane-d4			0.50	72	71	139			
Surr: p-Bromofluorobenzene			0.50	87	80	127			
Surr: Toluene-d8			0.50	92	80	123			
Lab ID: blk022417	Method Blank				Run: 5971A.L_170224A		02/24/17 11:30		
Acetone	ND	ug/L		20					
Acetonitrile	ND	ug/L		20					

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624									Batch: R275391
Lab ID: blk022417	Method Blank								Run: 5971A.L_170224A 02/24/17 11:30
Acrolein	ND	ug/L		20					
Acrylonitrile	ND	ug/L		3.0					
Benzene	ND	ug/L		0.50					
Bromobenzene	ND	ug/L		0.50					
Bromochloromethane	ND	ug/L		0.50					
Bromodichloromethane	ND	ug/L		0.50					
Bromoform	ND	ug/L		0.50					
Bromomethane	ND	ug/L		0.50					
Carbon disulfide	ND	ug/L		0.50					
Carbon tetrachloride	ND	ug/L		0.50					
Chlorobenzene	ND	ug/L		0.50					
Chlorodibromomethane	ND	ug/L		0.50					
Chloroethane	ND	ug/L		0.50					
2-Chloroethyl vinyl ether	ND	ug/L		1.0					
Chloroform	ND	ug/L		0.50					
Chloromethane	ND	ug/L		0.50					
2-Chlorotoluene	ND	ug/L		0.50					
4-Chlorotoluene	ND	ug/L		0.50					
1,2-Dibromoethane	ND	ug/L		0.50					
Dibromomethane	ND	ug/L		0.50					
1,2-Dichlorobenzene	ND	ug/L		0.50					
1,3-Dichlorobenzene	ND	ug/L		0.50					
1,4-Dichlorobenzene	ND	ug/L		0.50					
Dichlorodifluoromethane	ND	ug/L		0.50					
1,1-Dichloroethane	ND	ug/L		0.50					
1,2-Dichloroethane	ND	ug/L		0.50					
1,1-Dichloroethene	ND	ug/L		0.50					
cis-1,2-Dichloroethene	ND	ug/L		0.50					
trans-1,2-Dichloroethene	ND	ug/L		0.50					
1,2-Dichloropropane	ND	ug/L		0.50					
1,3-Dichloropropane	ND	ug/L		0.50					
2,2-Dichloropropane	ND	ug/L		0.50					
1,1-Dichloropropene	ND	ug/L		0.50					
cis-1,3-Dichloropropene	ND	ug/L		0.30					
trans-1,3-Dichloropropene	ND	ug/L		0.30					
Ethylbenzene	ND	ug/L		0.50					
Methyl tert-butyl ether (MTBE)	ND	ug/L		0.50					
Methyl ethyl ketone	ND	ug/L		20					
Methyl isobutyl ketone	ND	ug/L		20					
Methylene chloride	ND	ug/L		0.50					
Naphthalene	ND	ug/L		0.50					
Styrene	ND	ug/L		0.50					
Tetrachloroethene	ND	ug/L		0.50					

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual	
Method: E624 Batch: R275391										
Lab ID: blk022417	Method Blank		Run: 5971A.I_170224A				02/24/17 11:30			
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50							
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50							
Toluene	ND	ug/L	0.50							
Trichloroethene	ND	ug/L	0.50							
1,1,1-Trichloroethane	ND	ug/L	0.50							
1,1,2-Trichloroethane	ND	ug/L	0.50							
Trichlorofluoromethane	ND	ug/L	0.50							
1,2,3-Trichloropropane	ND	ug/L	0.50							
Vinyl Acetate	ND	ug/L	1.0							
Vinyl chloride	ND	ug/L	0.40							
m+p-Xylenes	ND	ug/L	0.50							
o-Xylene	ND	ug/L	0.50							
Xylenes, Total	ND	ug/L	0.50							
Surr: 1,2-Dichloroethane-d4			0.50	74	71	139				
Surr: p-Bromofluorobenzene			0.50	90	80	127				
Surr: Toluene-d8			0.50	94	80	123				
Lab ID: b17021110-001bms Sample Matrix Spike Run: 5971A.I_170224A 02/24/17 20:47										
Acrolein	ND	ug/L	20	0	16	233			S 1	
Acrylonitrile	48.8	ug/L	20	98	76	127				
2-Chloroethyl vinyl ether	3.44	ug/L	1.0	69	36	144				
Surr: 1,2-Dichloroethane-d4			0.50	80	71	139				
Surr: p-Bromofluorobenzene			0.50	95	80	127				
Surr: Toluene-d8			0.50	100	80	123				
- 1 = This is a known very reactive compound. The recovery of this compound was normal in the Laboratory Control Sample (LCS). The compound appears to have reacted with the sample matrix.										
Lab ID: b17021110-001bmsd Sample Matrix Spike Duplicate Run: 5971A.I_170224A 02/24/17 21:16										
Acrolein	ND	ug/L	20	0	16	233			20 S 1	
Acrylonitrile	48.8	ug/L	20	98	76	127	0.0	20		
2-Chloroethyl vinyl ether	3.66	ug/L	1.0	73	36	144	6.1	20		
Surr: 1,2-Dichloroethane-d4			0.50	81	71	139				
Surr: p-Bromofluorobenzene			0.50	96	80	127				
Surr: Toluene-d8			0.50	99	80	123				
- 1 = This is a known very reactive compound. The recovery of this compound was normal in the Laboratory Control Sample (LCS). The compound appears to have reacted with the sample matrix.										
Lab ID: b17021110-001bms Sample Matrix Spike Run: 5971A.I_170224A 02/24/17 18:21										
Acetone	40.4	ug/L	20	81	55	144				
Acetonitrile	66.0	ug/L	20	132	54	142				
Benzene	4.60	ug/L	0.50	92	73	122				
Bromobenzene	4.60	ug/L	0.50	92	74	129				
Bromochloromethane	4.56	ug/L	0.50	91	66	120				
Bromodichloromethane	4.36	ug/L	0.50	87	74	128				
Bromoform	4.40	ug/L	0.50	88	66	128				
Bromomethane	5.88	ug/L	0.50	118	51	123				

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R275391		
Lab ID: b17021110-001bms	Sample Matrix Spike		Run: 5971A.I_170224A				02/24/17 18:21		
Carbon disulfide	5.12	ug/L	0.50	102	46	145			
Carbon tetrachloride	3.59	ug/L	0.50	72	75	125			S
Chlorobenzene	4.52	ug/L	0.50	90	80	123			
Chlorodibromomethane	4.52	ug/L	0.50	90	74	125			
Chloroethane	5.40	ug/L	0.50	108	59	142			
Chloroform	4.68	ug/L	0.50	82	68	124			
Chloromethane	4.64	ug/L	0.50	93	53	146			
2-Chlorotoluene	4.88	ug/L	0.50	98	75	131			
4-Chlorotoluene	4.68	ug/L	0.50	94	74	129			
1,2-Dibromoethane	4.16	ug/L	0.50	83	76	124			
Dibromomethane	4.64	ug/L	0.50	93	77	125			
1,2-Dichlorobenzene	4.64	ug/L	0.50	93	74	124			
1,3-Dichlorobenzene	4.88	ug/L	0.50	98	77	122			
1,4-Dichlorobenzene	4.76	ug/L	0.50	91	76	126			
Dichlorodifluoromethane	4.32	ug/L	0.50	86	56	146			
1,1-Dichloroethane	4.24	ug/L	0.50	85	74	133			
1,2-Dichloroethane	3.48	ug/L	0.50	70	75	129			S
1,1-Dichloroethene	4.12	ug/L	0.50	82	74	132			
cis-1,2-Dichloroethene	4.48	ug/L	0.50	90	81	122			
trans-1,2-Dichloroethene	4.64	ug/L	0.50	93	79	143			
1,2-Dichloropropane	4.92	ug/L	0.50	98	75	126			
1,3-Dichloropropane	4.24	ug/L	0.50	85	71	136			
2,2-Dichloropropane	3.60	ug/L	0.50	72	68	142			
1,1-Dichloropropene	4.04	ug/L	0.50	81	70	131			
cis-1,3-Dichloropropene	4.08	ug/L	0.50	82	74	135			
trans-1,3-Dichloropropene	3.97	ug/L	0.50	79	76	149			
Ethylbenzene	4.64	ug/L	0.50	93	72	130			
Methyl tert-butyl ether (MTBE)	3.63	ug/L	0.50	73	72	120			
Methyl ethyl ketone	44.4	ug/L	20	89	45	130			
Methyl isobutyl ketone	51.2	ug/L	20	102	58	135			
Methylene chloride	5.44	ug/L	0.50	109	66	142			
Naphthalene	4.84	ug/L	0.50	97	69	124			
Styrene	4.56	ug/L	0.50	91	80	124			
Tetrachloroethene	4.44	ug/L	0.50	89	72	131			
1,1,1,2-Tetrachloroethane	3.95	ug/L	0.50	79	78	124			
1,1,2,2-Tetrachloroethane	4.88	ug/L	0.50	98	68	137			
Toluene	4.88	ug/L	0.50	98	72	135			
Trichloroethene	4.56	ug/L	0.50	91	85	126			
1,1,1-Trichloroethane	3.51	ug/L	0.50	70	63	120			
1,1,2-Trichloroethane	4.52	ug/L	0.50	90	78	124			
Trichlorofluoromethane	3.29	ug/L	0.50	66	72	120			S
1,2,3-Trichloropropane	3.90	ug/L	0.50	78	64	138			
Vinyl Acetate	4.00	ug/L	1.0	80	31	124			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R275391		
Lab ID: b17021110-001bms	Sample Matrix Spike			Run: 5971A.I_170224A			02/24/17 18:21		
Vinyl chloride	5.12	ug/L	0.50	102	58	140			
m+p-Xylenes	9.32	ug/L	0.50	93	67	139			
o-Xylene	4.44	ug/L	0.50	89	74	135			
Xylenes, Total	13.8	ug/L	0.50	92	70	137			
Surr: 1,2-Dichloroethane-d4			0.50	80	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	101	80	123			
Lab ID: b17021110-001bmsd	Sample Matrix Spike Duplicate			Run: 5971A.I_170224A			02/24/17 18:50		
Acetone	44.0	ug/L	20	88	55	144	8.5	20	
Acetonitrile	65.6	ug/L	20	131	54	142	0.6	20	
Benzene	5.04	ug/L	0.50	101	73	122	9.1	20	
Bromobenzene	4.96	ug/L	0.50	99	74	129	7.5	20	
Bromochloromethane	4.80	ug/L	0.50	96	68	120	5.1	20	
Bromodichloromethane	4.60	ug/L	0.50	92	74	128	5.4	20	
Bromoform	4.80	ug/L	0.50	96	66	128	8.7	20	
Bromomethane	6.00	ug/L	0.50	120	51	123	2.0	20	
Carbon disulfide	5.20	ug/L	0.50	104	46	145	1.6	20	
Carbon tetrachloride	3.97	ug/L	0.50	79	75	125	10	20	
Chlorobenzene	4.88	ug/L	0.50	98	80	123	7.7	20	
Chlorodibromomethane	4.76	ug/L	0.50	95	74	125	5.2	20	
Chloroethane	5.32	ug/L	0.50	106	59	142	1.5	20	
Chloroform	4.96	ug/L	0.50	87	68	124	5.8	20	
Chloromethane	4.88	ug/L	0.50	98	53	146	5.0	20	
2-Chlorotoluene	5.20	ug/L	0.50	104	75	131	6.3	20	
4-Chlorotoluene	5.04	ug/L	0.50	101	74	129	7.4	20	
1,2-Dibromoethane	4.52	ug/L	0.50	90	76	124	8.3	20	
Dibromomethane	4.88	ug/L	0.50	98	77	125	5.0	20	
1,2-Dichlorobenzene	5.04	ug/L	0.50	101	74	124	8.3	20	
1,3-Dichlorobenzene	5.20	ug/L	0.50	104	77	122	6.3	20	
1,4-Dichlorobenzene	5.12	ug/L	0.50	98	76	126	7.3	20	
Dichlorodifluoromethane	4.36	ug/L	0.50	87	56	146	0.9	20	
1,1-Dichloroethane	4.68	ug/L	0.50	94	74	133	9.9	20	
1,2-Dichloroethane	3.76	ug/L	0.50	75	75	129	7.8	20	
1,1-Dichloroethene	4.44	ug/L	0.50	89	74	132	7.5	20	
cis-1,2-Dichloroethene	4.88	ug/L	0.50	98	81	122	8.5	20	
trans-1,2-Dichloroethene	5.12	ug/L	0.50	102	79	143	9.8	20	
1,2-Dichloropropane	5.24	ug/L	0.50	105	75	126	6.3	20	
1,3-Dichloropropane	4.64	ug/L	0.50	93	71	136	9.0	20	
2,2-Dichloropropane	3.96	ug/L	0.50	79	68	142	9.6	20	
1,1-Dichloropropene	4.44	ug/L	0.50	89	70	131	9.4	20	
cis-1,3-Dichloropropene	4.40	ug/L	0.50	88	74	135	7.5	20	
trans-1,3-Dichloropropene	4.24	ug/L	0.50	85	76	149	6.6	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R275391		
Lab ID: b17021110-001bmsd	Sample Matrix Spike Duplicate			Run: 5971A.L_170224A			02/24/17 18:50		
Ethylbenzene	5.00	ug/L	0.50	100	72	130	7.5	20	
Methyl tert-butyl ether (MTBE)	3.83	ug/L	0.50	77	72	120	5.5	20	
Methyl ethyl ketone	46.0	ug/L	20	92	45	130	3.5	20	
Methyl isobutyl ketone	51.2	ug/L	20	102	58	135	0.0	20	
Methylene chloride	5.72	ug/L	0.50	114	66	142	5.0	20	
Naphthalene	5.56	ug/L	0.50	111	69	124	14	20	
Styrene	4.84	ug/L	0.50	97	80	124	6.0	20	
Tetrachloroethene	4.72	ug/L	0.50	94	72	131	6.1	20	
1,1,1,2-Tetrachloroethane	4.20	ug/L	0.50	84	78	124	6.1	20	
1,1,2,2-Tetrachloroethane	5.20	ug/L	0.50	104	68	137	6.3	20	
Toluene	5.12	ug/L	0.50	102	72	135	4.8	20	
Trichloroethene	4.80	ug/L	0.50	96	85	126	5.1	20	
1,1,1-Trichloroethane	3.94	ug/L	0.50	79	63	120	12	20	
1,1,2-Trichloroethane	4.76	ug/L	0.50	95	78	124	5.2	20	
Trichlorofluoromethane	3.36	ug/L	0.50	67	72	120	2.3	20	S
1,2,3-Trichloropropane	4.20	ug/L	0.50	84	64	138	7.4	20	
Vinyl Acetate	4.20	ug/L	1.0	84	31	124	4.9	20	
Vinyl chloride	5.08	ug/L	0.50	102	58	140	0.8	20	
m+p-Xylenes	9.92	ug/L	0.50	99	67	139	6.2	20	
o-Xylene	4.80	ug/L	0.50	96	74	135	7.8	20	
Xylenes, Total	14.7	ug/L	0.50	98	70	137			
Surr: 1,2-Dichloroethane-d4			0.50	81	71	139			
Surr: p-Bromofluorobenzene			0.50	94	80	127			
Surr: Toluene-d8			0.50	100	80	123			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625									Batch: 107004
Lab ID: MB-107004	Method Blank						Run: SV5973N2.I_170227B		02/27/17 18:24
Acenaphthene	ND	ug/L							
Acenaphthylene	ND	ug/L							
Anthracene	ND	ug/L							
Azobenzene	ND	ug/L							
Benzo(a)anthracene	ND	ug/L							
Benzo(a)pyrene	ND	ug/L							
Benzo(b)fluoranthene	ND	ug/L							
Benzo(g,h,i)perylene	ND	ug/L							
Benzo(k)fluoranthene	ND	ug/L							
4-Bromophenyl phenyl ether	ND	ug/L							
Butylbenzylphthalate	ND	ug/L							
4-Chloro-3-methylphenol	ND	ug/L							
bis(-2-chloroethoxy)Methane	ND	ug/L							
bis(-2-chloroethyl)Ether	ND	ug/L							
bis(2-chloroisopropyl)Ether	ND	ug/L							
2-Chloronaphthalene	ND	ug/L							
2-Chlorophenol	ND	ug/L							
4-Chlorophenyl phenyl ether	ND	ug/L							
Chrysene	ND	ug/L							
Diethyl phthalate	ND	ug/L							
Di-n-butyl phthalate	ND	ug/L							
1,2-Dichlorobenzene	ND	ug/L							
1,3-Dichlorobenzene	ND	ug/L							
1,4-Dichlorobenzene	ND	ug/L							
3,3'-Dichlorobenzidine	ND	ug/L							
2,4-Dichlorophenol	ND	ug/L							
Dimethyl phthalate	ND	ug/L							
Di-n-octyl phthalate	ND	ug/L							
Dibenzo(a,h)anthracene	ND	ug/L							
2,4-Dimethylphenol	ND	ug/L							
4,6-Dinitro-2-methylphenol	ND	ug/L							50
2,4-Dinitrophenol	ND	ug/L							50
2,4-Dinitrotoluene	ND	ug/L							10
2,6-Dinitrotoluene	ND	ug/L							10
bis(2-ethylhexyl)Phthalate	ND	ug/L							10
Fluoranthene	ND	ug/L							10
Fluorene	ND	ug/L							10
Hexachlorobenzene	ND	ug/L							10
Hexachlorobutadiene	ND	ug/L							10
Hexachlorocyclopentadiene	ND	ug/L							10
Hexachloroethane	ND	ug/L							10
Indeno(1,2,3-cd)pyrene	ND	ug/L							10
Isophorone	ND	ug/L							10

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107004		
Lab ID: MB-107004	Method Blank		Run: SV5973N2.I_170227B				02/27/17 18:24		
n-Nitrosodimethylamine	ND	ug/L	10						
n-Nitroso-di-n-propylamine	ND	ug/L	10						
n-Nitrosodiphenylamine	ND	ug/L	10						
2-Nitrophenol	ND	ug/L	10						
4-Nitrophenol	ND	ug/L	50						
Naphthalene	ND	ug/L	10						
Nitrobenzene	ND	ug/L	10						
Pentachlorophenol	ND	ug/L	50						
Phenanthrene	ND	ug/L	10						
Phenol	ND	ug/L	10						
Pyrene	ND	ug/L	10						
1,2,4-Trichlorobenzene	ND	ug/L	10						
2,4,6-Trichlorophenol	ND	ug/L	10						
Surr: 2-Fluorobiphenyl			10	55	28	107			
Surr: 2-Fluorophenol			10	36	20	56			
Surr: Nitrobenzene-d5			10	58	32	94			
Surr: Phenol-d5			10	35	19	45			
Surr: Terphenyl-d14			10	77	32	122			
Surr: 2,4,6-Tribromophenol			10	58	21	130			
Lab ID: LCS-107004	Laboratory Control Sample		Run: SV5973N2.I_170227B				02/27/17 18:55		
Acenaphthene	81.2	ug/L	10	81	58	99			
Acenaphthylene	76.5	ug/L	10	77	57	96			
Anthracene	79.5	ug/L	10	80	60	107			
Azobenzene	79.3	ug/L	10	79	56	100			
Benzo(a)anthracene	84.1	ug/L	10	84	62	114			
Benzo(a)pyrene	80.1	ug/L	10	80	62	108			
Benzo(b)fluoranthene	88.6	ug/L	10	89	48	127			
Benzo(g,h,i)perylene	81.6	ug/L	10	82	82	121			
Benzo(k)fluoranthene	79.2	ug/L	10	79	55	111			
4-Bromophenyl phenyl ether	83.0	ug/L	10	83	58	105			
Butylbenzylphthalate	91.6	ug/L	10	92	60	113			
4-Chloro-3-methylphenol	65.7	ug/L	10	66	53	92			
bis(-2-chloroethoxy)Methane	73.9	ug/L	10	74	50	92			
bis(-2-chloroethyl)Ether	63.4	ug/L	10	63	44	82			
bis(2-chloroisopropyl)Ether	61.2	ug/L	10	61	56	87			
2-Chloronaphthalene	74.9	ug/L	10	75	56	95			
2-Chlorophenol	60.1	ug/L	10	60	47	76			
4-Chlorophenyl phenyl ether	75.8	ug/L	10	76	58	99			
Chrysene	81.9	ug/L	10	82	63	106			
Diethyl phthalate	78.6	ug/L	10	79	58	103			
Di-n-butyl phthalate	87.6	ug/L	10	88	61	110			
1,2-Dichlorobenzene	81.5	ug/L	10	82	43	81			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107004		
Lab ID: LCS-107004	Laboratory Control Sample			Run: SV5973N2.I_170227B			02/27/17 18:55		
1,3-Dichlorobenzene	60.2	ug/L	10	60	41	79			
1,4-Dichlorobenzene	61.4	ug/L	10	61	42	79			
3,3'-Dichlorobenzidine	66.6	ug/L	10	69	51	93			
2,4-Dichlorophenol	64.7	ug/L	10	65	49	90			
Dimethyl phthalate	76.4	ug/L	10	76	58	104			
Di-n-octyl phthalate	88.3	ug/L	10	88	56	110			
Dibenzo(a,h)anthracene	80.4	ug/L	10	80	61	111			
2,4-Dimethylphenol	61.8	ug/L	10	62	45	89			
4,6-Dinitro-2-methylphenol	48.2	ug/L	50	48	37	105			
2,4-Dinitrophenol	39.7	ug/L	50	40	27	81			
2,4-Dinitrotoluene	87.7	ug/L	10	88	63	110			
2,6-Dinitrotoluene	75.5	ug/L	10	76	60	107			
bis(2-ethylhexyl)Phthalate	88.6	ug/L	10	89	56	108			
Fluoranthene	63.8	ug/L	10	84	63	110			
Fluorene	77.4	ug/L	10	77	60	99			
Hexachlorobenzene	76.2	ug/L	10	78	57	103			
Hexachlorobutadiene	67.5	ug/L	10	67	39	83			
Hexachlorocyclopentadiene	68.4	ug/L	10	68	39	91			
Hexachloroethane	59.6	ug/L	10	60	37	75			
Indeno(1,2,3-cd)pyrene	82.0	ug/L	10	82	59	109			
Isophorone	67.1	ug/L	10	67	42	102			
n-Nitrosodimethylamine	36.9	ug/L	10	37	20	45			
n-Nitroso-di-n-propylamine	71.5	ug/L	10	71	49	98			
n-Nitrosodiphenylamine	90.0	ug/L	10	90	61	108			
2-Nitrophenol	68.0	ug/L	10	68	51	96			
4-Nitrophenol	16.3	ug/L	50	18	15	36			
Naphthalene	71.6	ug/L	10	72	48	96			
Nitrobenzene	65.0	ug/L	10	65	51	91			
Pentachlorophenol	70.6	ug/L	50	71	53	109			
Phenanthrene	80.5	ug/L	10	81	58	104			
Phenol	35.4	ug/L	10	35	27	45			
Pyrene	89.3	ug/L	10	89	64	108			
1,2,4-Trichlorobenzene	67.3	ug/L	10	67	49	85			
2,4,6-Trichlorophenol	64.9	ug/L	10	65	47	99			
Surr: 2-Fluorobiphenyl			10	63	28	107			
Surr: 2-Fluorophenol			10	35	20	56			
Surr: Nitrobenzene-d5			10	68	32	94			
Surr: Phenol-d5			10	42	19	45			
Surr: Terphenyl-d14			10	87	32	122			
Surr: 2,4,6-Tribromophenol			10	70	21	130			
Lab ID: B17021688-001CMS	Sample Matrix Spike			Run: SV5973N2.I_170227B			02/27/17 20:29		
Acenaphthene	86.4	ug/L	10	86	58	99			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107004		
Lab ID: B17021688-001CMS	Sample Matrix Spike			Run: SV5973N2.I_170227B			02/27/17 20:29		
Acenaphthylene	83.0	ug/L	10	83	57	96			
Anthracene	86.4	ug/L	10	86	60	107			
Azobenzene	84.3	ug/L	10	84	56	100			
Benzo(a)anthracene	90.3	ug/L	10	90	62	114			
Benzo(a)pyrene	80.9	ug/L	10	81	62	108			
Benzo(b)fluoranthene	80.4	ug/L	10	80	48	127			
Benzo(g,h,i)perylene	80.5	ug/L	10	81	62	121			
Benzo(k)fluoranthene	83.5	ug/L	10	83	55	111			
4-Bromophenyl phenyl ether	80.4	ug/L	10	80	58	105			
Butylbenzylphthalate	99.7	ug/L	10	100	60	113			
4-Chloro-3-methylphenol	77.0	ug/L	10	77	53	92			
bis(-2-chloroethoxy)Methane	77.3	ug/L	10	77	50	92			
bis(-2-chloroethyl)Ether	66.7	ug/L	10	67	44	82			
bis(2-chloroisopropyl)Ether	66.6	ug/L	10	67	56	87			
2-Chloronaphthalene	79.8	ug/L	10	80	56	95			
2-Chlorophenol	64.1	ug/L	10	64	47	76			
4-Chlorophenyl phenyl ether	84.5	ug/L	10	85	58	99			
Chrysene	85.9	ug/L	10	86	63	106			
Diethyl phthalate	85.4	ug/L	10	85	58	103			
Di-n-butyl phthalate	96.0	ug/L	10	96	61	110			
1,2-Dichlorobenzene	66.1	ug/L	10	66	43	81			
1,3-Dichlorobenzene	61.9	ug/L	10	62	41	79			
1,4-Dichlorobenzene	61.8	ug/L	10	62	42	79			
3,3'-Dichlorobenzidine	69.1	ug/L	10	69	51	93			
2,4-Dichlorophenol	68.4	ug/L	10	68	49	90			
Dimethyl phthalate	81.4	ug/L	10	81	58	104			
Di-n-octyl phthalate	90.6	ug/L	10	91	56	110			
Dibenzo(a,h)anthracene	80.0	ug/L	10	80	61	111			
2,4-Dimethylphenol	69.2	ug/L	10	69	45	87			
4,6-Dinitro-2-methylphenol	58.9	ug/L	50	59	37	105			
2,4-Dinitrophenol	54.8	ug/L	50	55	27	81			
2,4-Dinitrotoluene	82.5	ug/L	10	83	63	110			
2,6-Dinitrotoluene	80.8	ug/L	10	81	60	107			
bis(2-ethylhexyl)Phthalate	92.0	ug/L	10	92	56	108			
Fluoranthene	88.0	ug/L	10	88	63	110			
Fluorene	80.1	ug/L	10	80	60	99			
Hexachlorobenzene	82.5	ug/L	10	83	57	103			
Hexachlorobutadiene	69.0	ug/L	10	69	39	83			
Hexachlorocyclopentadiene	68.1	ug/L	10	68	39	91			
Hexachloroethane	65.6	ug/L	10	66	37	75			
Indeno(1,2,3-cd)pyrene	82.3	ug/L	10	82	59	109			
Isophorone	71.3	ug/L	10	71	42	102			
n-Nitrosodimethylamine	41.5	ug/L	10	41	20	45			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107004		
Lab ID: B17021688-001CMS	Sample Matrix Spike						Run: SV5973N2.I_170227B	02/27/17 20:29	
n-Nitroso-di-n-propylamine	76.9	ug/L	10	77	49	98			
n-Nitrosodiphenylamine	93.7	ug/L	10	94	61	108			
2-Nitrophenol	69.9	ug/L	10	70	51	96			
4-Nitrophenol	24.6	ug/L	50	25	15	36			
Naphthalene	76.0	ug/L	10	76	48	96			
Nitrobenzene	72.5	ug/L	10	73	51	91			
Pentachlorophenol	89.2	ug/L	50	89	53	109			
Phenanthrene	85.1	ug/L	10	85	58	104			
Phenol	36.7	ug/L	10	37	27	45			
Pyrene	88.8	ug/L	10	90	64	108			
1,2,4-Trichlorobenzene	70.9	ug/L	10	71	49	85			
2,4,6-Trichlorophenol	67.7	ug/L	10	68	47	99			
Surr: 2-Fluorobiphenyl			10	62	28	107			
Surr: 2-Fluorophenol			10	39	20	56			
Surr: Nitrobenzene-d5			10	72	32	94			
Surr: Phenol-d5			10	35	19	45			
Surr: Terphenyl-d14			10	87	32	122			
Surr: 2,4,6-Tribromophenol			10	75	21	130			
Lab ID: B17021688-003CMS							02/27/17 21:31		
Sample Matrix Spike						Run: SV5973N2.I_170227B			
Acenaphthene	89.8	ug/L	10	90	58	99			
Acenaphthylene	82.2	ug/L	10	82	57	96			
Anthracene	73.2	ug/L	10	73	60	107			
Azobenzene	80.2	ug/L	10	80	56	100			
Benzo(a)anthracene	85.1	ug/L	10	85	62	114			
Benzo(a)pyrene	77.0	ug/L	10	77	62	108			
Benzo(b)fluoranthene	73.3	ug/L	10	73	48	127			
Benzo(g,h,i)perylene	78.5	ug/L	10	79	62	121			
Benzo(k)fluoranthene	83.1	ug/L	10	83	55	111			
4-Bromophenyl phenyl ether	78.1	ug/L	10	78	58	105			
Butylbenzylphthalate	92.9	ug/L	10	93	60	113			
4-Chloro-3-methylphenol	69.5	ug/L	10	69	53	92			
bis(-2-chloroethoxy)Methane	69.6	ug/L	10	70	50	92			
bis(-2-chloroethyl)Ether	58.4	ug/L	10	58	44	82			
bis(2-chloroisopropyl)Ether	57.7	ug/L	10	58	56	87			
2-Chloronaphthalene	77.7	ug/L	10	78	56	95			
2-Chlorophenol	56.6	ug/L	10	57	47	76			
4-Chlorophenyl phenyl ether	82.9	ug/L	10	83	58	99			
Chrysene	82.0	ug/L	10	82	63	106			
Diethyl phthalate	80.2	ug/L	10	80	58	103			
Di-n-butyl phthalate	86.9	ug/L	10	87	61	110			
1,2-Dichlorobenzene	61.5	ug/L	10	62	43	81			
1,3-Dichlorobenzene	59.3	ug/L	10	59	41	79			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107004		
Lab ID: B17021688-003CMS	Sample Matrix Spike		Run: SV5973N2.I_170227B				02/27/17 21:31		
1,4-Dichlorobenzene	57.9	ug/L	10	58	42	79			
3,3'-Dichlorobenzidine	52.9	ug/L	10	53	51	93			
2,4-Dichlorophenol	61.5	ug/L	10	62	49	90			
Dimethyl phthalate	74.3	ug/L	10	74	58	104			
Di-n-octyl phthalate	82.5	ug/L	10	83	56	110			
Dibenzo(a,h)anthracene	75.9	ug/L	10	76	61	111			
2,4-Dimethylphenol	60.0	ug/L	10	60	45	87			
4,6-Dinitro-2-methylphenol	41.6	ug/L	50	42	37	105			
2,4-Dinitrophenol	30.1	ug/L	50	30	27	81			
2,4-Dinitrotoluene	86.9	ug/L	10	87	63	110			
2,6-Dinitrotoluene	75.9	ug/L	10	76	60	107			
bis(2-ethylhexyl)Phthalate	81.5	ug/L	10	82	56	108			
Fluoranthene	82.0	ug/L	10	82	63	110			
Fluorene	81.9	ug/L	10	82	60	99			
Hexachlorobenzene	75.8	ug/L	10	76	57	103			
Hexachlorobutadiene	69.3	ug/L	10	69	39	83			
Hexachlorocyclopentadiene	69.5	ug/L	10	70	39	91			
Hexachloroethane	57.7	ug/L	10	58	37	75			
Indeno(1,2,3-cd)pyrene	73.4	ug/L	10	73	59	109			
Isophorone	68.4	ug/L	10	68	42	102			
n-Nitrosodimethylamine	27.8	ug/L	10	28	20	45			
n-Nitroso-di-n-propylamine	68.7	ug/L	10	69	49	98			
n-Nitrosodiphenylamine	84.0	ug/L	10	84	61	108			
2-Nitrophenol	61.8	ug/L	10	62	51	96			
4-Nitrophenol	27.7	ug/L	50	28	15	36			
Naphthalene	72.4	ug/L	10	72	48	96			
Nitrobenzene	69.7	ug/L	10	70	51	91			
Pentachlorophenol	66.8	ug/L	50	67	53	109			
Phenanthrene	79.7	ug/L	10	80	58	104			
Phenol	33.9	ug/L	10	34	27	45			
Pyrene	81.2	ug/L	10	81	64	108			
1,2,4-Trichlorobenzene	71.3	ug/L	10	71	49	85			
2,4,6-Trichlorophenol	63.8	ug/L	10	64	47	99			
Surr: 2-Fluorobiphenyl			10	45	28	107			
Surr: 2-Fluorophenol			10	37	20	56			
Surr: Nitrobenzene-d5			10	62	32	94			
Surr: Phenol-d5			10	31	19	45			
Surr: Terphenyl-d14			10	64	32	122			
Surr: 2,4,6-Tribromophenol			10	55	21	130			
Lab ID: MB-107004	Method Blank		Run: SV5973N2.I_170228A				02/28/17 12:11		
Benzidine	ND	ug/L	10						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625									Batch: 107004
Lab ID: LCS-107004	Laboratory Control Sample								Run: SV5973N2.I_170228A 02/28/17 12:42
Benzidine	63.4	ug/L	10	63	10	100			
Lab ID: B17021688-001CMS	Sample Matrix Spike								Run: SV5973N2.I_170228A 02/28/17 14:16
Benzidine	25.8	ug/L	20	26	10	100			
Lab ID: B17021688-003CMS	Sample Matrix Spike								Run: SV5973N2.I_170228A 02/28/17 15:18
Benzidine	28.5	ug/L	20	28	10	100			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Analytical Run: R275528		
Lab ID: 27-Feb-17_CCV_2	Continuing Calibration Verification Standard							02/27/17 15:18	
Acenaphthene	75.7	ug/L	10	101	80	120			
Acenaphthylene	75.2	ug/L	10	100	80	120			
Anthracene	78.7	ug/L	10	105	80	120			
Azobenzene	79.8	ug/L	10	106	80	120			
Benzo(a)anthracene	78.0	ug/L	10	104	80	120			
Benzo(a)pyrene	78.0	ug/L	10	104	80	120			
Benzo(b)fluoranthene	78.6	ug/L	10	105	80	120			
Benzo(g,h,i)perylene	75.3	ug/L	10	100	80	120			
Benzo(k)fluoranthene	73.2	ug/L	10	98	80	120			
4-Bromophenyl phenyl ether	74.4	ug/L	10	99	80	120			
Butylbenzylphthalate	84.4	ug/L	10	113	80	120			
4-Chloro-3-methylphenol	77.2	ug/L	10	103	80	120			
bis(-2-chloroethoxy)Methane	79.4	ug/L	10	106	80	120			
bis(-2-chloroethyl)Ether	80.8	ug/L	10	108	80	120			
bis(2-chloroisopropyl)Ether	77.8	ug/L	10	104	80	120			
2-Chloronaphthalene	70.3	ug/L	10	94	80	120			
2-Chlorophenol	80.3	ug/L	10	107	80	120			
4-Chlorophenyl phenyl ether	72.9	ug/L	10	97	80	120			
Chrysene	75.0	ug/L	10	100	80	120			
Diethyl phthalate	75.7	ug/L	10	101	80	120			
Di-n-butyl phthalate	81.6	ug/L	10	109	80	120			
1,2-Dichlorobenzene	72.7	ug/L	10	97	80	120			
1,3-Dichlorobenzene	77.8	ug/L	10	104	80	120			
1,4-Dichlorobenzene	74.9	ug/L	10	100	80	120			
3,3'-Dichlorobenzidine	75.8	ug/L	10	101	80	120			
2,4-Dichlorophenol	74.8	ug/L	10	100	80	120			
Dimethyl phthalate	75.3	ug/L	10	100	80	120			
Di-n-octyl phthalate	83.5	ug/L	10	111	80	120			
Dibenzo(a,h)anthracene	74.8	ug/L	10	100	80	120			
2,4-Dimethylphenol	73.0	ug/L	10	97	80	120			
4,6-Dinitro-2-methylphenol	71.3	ug/L	50	95	80	120			
2,4-Dinitrophenol	69.4	ug/L	50	93	80	120			
2,4-Dinitrotoluene	79.4	ug/L	10	106	80	120			
2,6-Dinitrotoluene	78.1	ug/L	10	104	80	120			
bis(2-ethylhexyl)Phthalate	84.4	ug/L	10	112	80	120			
Fluoranthene	76.0	ug/L	10	101	80	120			
Fluorene	77.8	ug/L	10	104	80	120			
Hexachlorobenzene	73.8	ug/L	10	98	80	120			
Hexachlorobutadiene	71.9	ug/L	10	96	80	120			
Hexachlorocyclopentadiene	73.1	ug/L	10	97	80	120			
Hexachloroethane	77.6	ug/L	10	103	80	120			
Indeno(1,2,3-cd)pyrene	75.6	ug/L	10	101	80	120			
Isophorone	78.1	ug/L	10	104	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 03/02/17

Project: 170217005 LFH-1 CO-0121724

Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Analytical Run: R275528		
Lab ID: 27-Feb-17_CCV_2	Continuing Calibration Verification Standard						02/27/17 15:18		
n-Nitrosodimethylamine	75.3	ug/L	10	100	80	120			
n-Nitroso-di-n-propylamine	77.8	ug/L	10	104	80	120			
n-Nitrosodiphenylamine	78.9	ug/L	10	105	80	120			
2-Nitrophenol	75.8	ug/L	10	101	80	120			
4-Nitrophenol	69.6	ug/L	50	93	80	120			
Naphthalene	79.8	ug/L	10	106	80	120			
Nitrobenzene	76.8	ug/L	10	102	80	120			
Pentachlorophenol	73.3	ug/L	50	98	80	120			
Phenanthrene	74.0	ug/L	10	99	80	120			
Phenol	79.2	ug/L	10	106	80	120			
Pyrene	75.2	ug/L	10	100	80	120			
1,2,4-Trichlorobenzene	72.8	ug/L	10	97	80	120			
2,4,6-Trichlorophenol	73.6	ug/L	10	98	80	120			
Surr: 2-Fluorobiphenyl			10	100	80	120			
Surr: 2-Fluorophenol			10	113	80	120			
Surr: Nitrobenzene-d5			10	105	80	120			
Surr: Phenol-d5			10	121	80	120			S
Surr: Terphenyl-d14			10	101	80	120			
Surr: 2,4,6-Tribromophenol			10	102	80	120			

Method: E625							Analytical Run: R275577		
Lab ID: 28-Feb-17_CCV_2	Continuing Calibration Verification Standard						02/28/17 11:39		
Benzidine	89.5	ug/L	10	119	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170217005 LFH-1 CO-0121724

Report Date: 03/02/17
Work Order: C17020566

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260M									Analytical Run: 107003
Lab ID: CCV-107003	Continuing Calibration Verification Standard								02/27/17 08:30
1,4-Dioxane	105	ug/L	1.0	105	80	120			
Method: SW8260M									Batch: 107003
Lab ID: LCS-107003	Laboratory Control Sample								Run: VOA5973A.I_170227A
1,4-Dioxane	106	ug/L	1.0	106	70	130			02/27/17 09:22
Lab ID: MB-107003	Method Blank								Run: VOA5973A.I_170227A
1,4-Dioxane	ND	ug/L	1.0						02/27/17 09:44
Lab ID: C17020566-001BMS	Sample Matrix Spike								Run: VOA5973A.I_170227A
1,4-Dioxane	200	ug/L	2.0	100	70	130			02/27/17 11:37
Lab ID: C17020566-001BMSD	Sample Matrix Spike Duplicate								Run: VOA5973A.I_170227A
1,4-Dioxane	206	ug/L	2.0	103	70	130	3.0		02/27/17 11:59

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Work Order Receipt Checklist

Colorado Analytical Laboratories Inc

C17020566

Login completed by: Dorian Quis

Date Received: 2/21/2017

Reviewed by: Kasey Vidick

Received by: dcq

Reviewed Date: 2/21/2017

Carrier name: Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	6.8°C Blue ice		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as -dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

None



Colorado Department
of Public Health
and Environment

Inorganic Chemicals Certified Laboratory Report Form
WQCD - Drinking Water CAS
4300 Cherry Creek Drive South, Denver, CO 80246-1530
Fax: (303) 758-1398; cdphe.drinkingwater@state.co.us

Revised 6/13/2014

IOC

Section I (Supplied or Completed by Public Water System)		Section II (Supplied or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO0121724		Laboratory ID: CO 0015	
System Name: Sterling Ranch MD		Laboratory Name: Colorado Analytical Laboratory	
Contact Person: Mark Volle		Contact Person: Customer Service Phone: 303-659-2313	
Comments:		Comments:	
Do Samples Need to be Compositied BY THE LAB? <input type="checkbox"/>			

Section III (Supplied or Completed by Public Water System)			
Sample Date: 3/23/17	Collector: Stephanie Schw	Facility ID (On Schedule): New Well	Sample Pt ID (On Schedule): New Well
Section IV Inorganic Chemicals (Completed by Certified Laboratory)			
Lab Receipt Date: 3/24/17	Lab Analysis Date: 3/24/17	Lab Sample ID: 170324007-01	Analyte Name: Fluoride
		CAS No: 7681-49-4	Analytical Method: EPA 300.0
		MCL (mg/L): 4	Lab MRL (mg/L): 0.09
			Result (mg/L): 1.22

NT: Not Tested
Lab MRL: Laboratory Minimum Reporting Level
BDL: Below Laboratory MRL. A less than (<) may also used.

mg/L: Milligrams per Liter
MCL: Maximum Contaminant Level

4/21/17
170324007-01
1/1
N



Drinking Water Chain of Custody

page 1 of 2

Report To Information		Bill To Information (if different from report to)	
Company Name: <u>JDS-Hydro Consultants</u>	Company Name: <u>SR WATER</u>	PWSID: <u>CO 0121724</u>	
Contact Name: <u>Mark Volle</u>	Contact Name: <u>JIM MORLEY</u>	System Name: <u>STEERING ARCH MD</u>	
Address: <u>545 E. Pikes Peak Ave</u>	Address: <u>20 BOWDER CRESCENT</u>	City: <u>COLO SPRGS</u> State: <u>CO</u> Zip: <u>80903</u>	
City: <u>CS</u> State: <u>CO</u> Zip: <u>80903</u>	City: <u>SPRINGS</u> State: <u>CO</u> Zip: <u>80903</u>	County: <u>El Paso</u>	
Phone: <u>719-227-0072</u> Fax: _____	Phone: _____ Fax: _____	Compliance Samples: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Email: <u>m.volle@jshydro.com</u>	Email: <u>jmorley3870@aol.com</u>	Send Forms to State: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Sampler Name: <u>Stephanie Schwenke</u> PO No.: _____			

CAL Task No. 170324007		PHASE I, II, V Drinking Water Analyses (check analysis)														Subcontract Analyses																				
Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/BCP	505 Pests/PCBS	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbonates	547 Glyphosate	548.1 Endothal	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SVA, UV 254 (Circle)	625-50C	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium						
3-23	7:55	#1	1					X					X																							
	7:57	#2	1							X																										
	8:11	#3	2		X																															
	7:52	#4	1																																	
	7:52	#5	1																																	
	7:52am	#6	3											X													X	X								
	7:53	#7	2																																	
	7:58	#8 - no H2SO4 preservative	1																																	
	7:59	#9	1																																	
	8:03	#10	1																																	

Instructions: No H₂SO₄ preservative was included with the bottle shipment. Please preserve Diquat Sample #8 as soon as you receive the shipment.

Relinquished By: [Signature] Date/Time: 3-23 11:30am Received By: Elise Wilson Date/Time: 3/24/17 10:10

Delivered Via: Fed Ex C/S Charge: C/S Info: _____

Temp: 3.3 °C/ice Seal Present Yes No Headspace Yes No

Sample Pres. Yes No Date/Time: _____



Colorado Department
of Public Health
and Environment

Inorganic Chemicals Certified Laboratory Report Form
WQCD - Drinking Water CAS
Submit Online at <http://www.wqcdcompliance.com/login>

Revised 4/13/2015

IOC

Section I (Supplied or Completed by Public Water System)		Section II (Supplied or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO0121724		Laboratory ID: CO 0015	
System Name: Sterling Ranch MD		Laboratory Name: Colorado Analytical Laboratory	
Contact Person: Mark Volle		Contact Person: Customer Service Phone: 303-659-2313	
Comments:		Comments:	
Do Samples Need to be Compositied BY THE LAB? <input type="checkbox"/>			

Section III (Supplied or Completed by Public Water System)			
Sample Date: 3/23/17	Collector: Stephanie Schwe	Facility ID (On Schedule): New Well	Sample Pt ID (On Schedule): New Well
Section IV Inorganic Chemicals (Completed by Certified Laboratory)			

Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name	CAS No.	Analytical Method	MCL (mg/L)	Lab MRL (mg/L)	Result (mg/L)
3/24/17	3/29/17	170324007-01A	Antimony	7740-36-0	EPA 200.8	0.006	0.001	BDL
3/24/17	3/29/17	170324007-01A	Arsenic	7440-38-2	EPA 200.8	0.01	0.001	0.002
3/24/17	3/29/17	170324007-01A	Barium	7440-39-3	EPA 200.8	2	0.001	0.003
3/24/17	3/29/17	170324007-01A	Beryllium	7440-41-7	EPA 200.8	0.004	0.001	BDL
3/24/17	3/29/17	170324007-01A	Cadmium	7440-43-9	EPA 200.8	0.005	0.001	BDL
3/24/17	3/29/17	170324007-01A	Chromium	7440-47-3	EPA 200.8	0.1	0.001	BDL
3/24/17	3/29/17	170324007-01A	Mercury	7439-97-6	EPA 200.8	0.002	0.0001	BDL
3/24/17	3/29/17	170324007-01A	Nickel	7440-02-0	EPA 200.8	N/A	0.001	0.001
3/24/17	3/29/17	170324007-01A	Selenium	7782-49-2	EPA 200.8	0.05	0.001	BDL
3/24/17	3/30/17	170324007-01A	Sodium	7440-23-5	EPA 200.7	N/A	0.1	52.8
3/24/17	3/29/17	170324007-01A	Thallium	7440-28-0	EPA 200.8	0.002	0.001	BDL

NT: Not Tested
Lab MRL: Laboratory Minimum Reporting Level
BDL: Below Laboratory MRL. A less than (<) may also used.

mg/L: Milligrams per Liter
MCL: Maximum Contaminant Level

Analytical Results

TASK NO: 170324007

Report To: Mark Volle

Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300
Colorado Springs CO 80903

Bill To: Jim Morley

Company: SR Water
20 Boulder Crescent St.
Colorado Springs CO 80903

Task No.: 170324007
Client PO:
Client Project: Sterling Ranch MD CO0121724

Date Received: 3/24/17
Date Reported: 4/21/17
Matrix: Water - Drinking

Customer Sample ID: Sterling Ranch MD
Sample Date/Time: 3/23/17 8:03 AM
Lab Number: 170324007-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	99.7 mg/L as CaCO ₃	SM 2320-B	0.1	3/28/17	VDB
Calcium as CaCO ₃	2.6 mg/L	SM 3111-B	0.1	3/30/17	MBN
Carbonate	< 0.1 mg/L as CaCO ₃	SM 2320-B	0.1	3/28/17	VDB
Langelier Index	-1.23 units	SM 2330-B		3/31/17	LJG
pH	8.16 units	SM 4500-H-B	0.01	3/24/17	MBN
Temperature	20 °C	SM 4500-H-B	1	3/24/17	MBN
Total Alkalinity	99.7 mg/L as CaCO ₃	SM 2320-B	0.1	3/28/17	VDB
Total Dissolved Solids	143 mg/L	SM 2540-C	5	3/29/17	ISG

Abbreviations/ References:

ML = Minimum Level = LRL = RL
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 ml = Most Probable Number Index/ 100 ml
Date Analyzed = Date Test Completed



DATA APPROVED FOR RELEASE BY



Nitrate and Nitrite as Nitrogen Certified Laboratory Report Form
WQCD - Drinking Water CAS
Submit Online at <http://www.wqcdcompliance.com/login>

Revised 4/13/2015

NOX

Section I (Supplied or Completed by Public Water System)		Section II (Supplied or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO0121724		Laboratory ID: CO 0015	
System Name: Sterling Ranch MD		Laboratory Name: Colorado Analytical Laboratory	
Contact Person: Mark Volle	Phone #: 719-227-0072	Contact Person: Customer Service	Phone: 303-659-2313
Comments:		Comments:	

Section III (Supplied or Completed by Public Water System)				Section IV (Supplied or Completed by Certified Laboratory)								
Sample Date	Collector	Facility ID On Schedule	Sample Pt ID On Schedule	Confirmation?	Lab Receipt Date	Lab Analysis Date	Laboratory Sample ID #	Analyte	Analytical Method	MCL (mg/L)	Lab MRL (mg/L)	Result (mg/L)
3/23/17	Ephanie Schwenk	New Well	New Well	<input type="checkbox"/>	3/24/17	3/24/17	170324007-01	Nitrate Nitrogen	EPA 300.0	10	0.1	BDL
3/23/17	Ephanie Schwenk	New Well	New Well	<input type="checkbox"/>	3/24/17	3/24/17	170324007-01	Nitrite Nitrogen	EPA 300.0	1	0.1	BDL

NT: Not Tested
 Lab MRL: Laboratory Minimum Reporting Level
 BDL: Below Laboratory MRL. A less than (<) may also used.

mg/L: Milligrams per Liter
 MCL: Maximum Contaminant Level

4/21/17
 170324007-01
 1/1
 N



Colorado Analytical
LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

Lakewood Lab
12860 W. Cedar Dr, Suite 100A
Lakewood CO 80228

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Drinking Water Chain of Custody

page 2 of 2

Report To Information		Bill To Information (if different from report to)	
Company Name: <u>JDS-Hydro Consultants</u>	Company Name: <u>SR Water</u>	PWSID: <u>CO 0121724</u>	System Name: <u>Serling Ranch MD</u>
Contact Name: <u>Mark Volle</u>	Contact Name: <u>Jim Morley</u>	Address: <u>20 Boulder Crest</u>	Address: <u>20 Boulder Crest</u>
Address: <u>545 E. Pikes Peak Ave</u>	Address: <u>20 Boulder Crest</u>	City: <u>CS</u>	City: <u>CS</u>
State: <u>CO</u>	State: <u>CO</u>	State: <u>CO</u>	State: <u>CO</u>
Zip: <u>80903</u>	Zip: <u>80903</u>	Zip: <u>80903</u>	Zip: <u>80903</u>
Phone: <u>719-227-0072</u>	Phone: <u>3870@caal.com</u>	County: <u>El Paso</u>	County: <u>El Paso</u>
Fax: <u></u>	Email: <u>jmorley@caal.com</u>	Compliance Samples: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Compliance Samples: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Sampler Name: <u>Stephanie Schuster</u>	PO No.: <u></u>	Send Forms to State: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Send Forms to State: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

C/L Task No.		PHASE I, II, V Drinking Water Analyses (check analysis)															Subcontract Analyses																				
170324007																																					
ARF																																					
Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L)	P/A Samples Only	Total Coliform P/A	504.1 EDB/BCP	505 Pests/PCBs	515.4 Herbicides	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothal	549.2 Diquat	524.2 THMs	552.2 HAAs	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	(TOC, DOC) (Circle)	SUVA, UV 254 (Circle)	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium								
3-23	8:01	#11	1																																		
	8:00	#12	X																																		
	8:26	#14	3				X																														
	8:18	#15	2																																		
	8:12	#16 (1,4 Dioxane)	3																																		
	8:23	#17	2																																		
	8:24	#18	2																																		
	8:15	#19	3																																		
	8:29	#20	3																																		
Instructions:																																					
		C/S Info:															Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/> Headspace Yes <input type="checkbox"/> No <input type="checkbox"/>																				
		Delivered Via: <input type="checkbox"/> C/S Charge <input type="checkbox"/>															Temp. °C/Ice Sample Pres. Yes <input type="checkbox"/> No <input type="checkbox"/>																				
		Retinquired By: <u>[Signature]</u>															Received By: <u>[Signature]</u>																				
		Date/Time: <u>3-23 11:30am</u>															Date/Time: <u></u>																				



Organic Chemicals Certified Laboratory Report Form
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Revised 4/13/2015

VOC/SOC

Section I (Supplied or Completed by Public Water System)		Section JI (Supplied or Completed by Certified Laboratory)	
Public Water System Information		Certified Laboratory Information	
PWSID#: CO0121724		Laboratory ID: CO 00063	
System Name: Sterling Ranch MD		Laboratory Name: Colorado Analytical Laboratory	
Contact Person: Mark Volle		Contact Person: Customer Service	Phone: 303-659-2313
Comments:		Comments:	
Do Samples Need to be Compositd BY THE LAB? <input type="checkbox"/>			

Section V (Supplied or Completed by Public Water System)		Section VI Synthetic Organic Chemicals (Supplied or Completed by Certified Laboratory)		Section VII (Supplied or Completed by Public Water System)				
Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name	CAS No	Analytical Method	MCL (ug/L)	Lab MRL (ug/L)	Result (ug/L)
3/24/17	4/3/17	170324007-01E	Dibromochloropropane	96-12-8	EPA 504.1	0.2	0.02	BDL
3/24/17	3/29/17	170324007-01G	2,4-D	94-75-7	EPA 515.4	70	0.1	BDL
3/24/17	3/29/17	170324007-01G	2,4,5-TP	93-72-1	EPA 515.4	50	0.2	BDL
3/24/17	3/31/17	170324007-01I	Alachlor	15972-60-8	EPA 525.2	2	0.2	BDL
3/24/17	3/31/17	170324007-01J	Aldicarb	116-06-3	EPA 531.1	N/A	0.6	BDL
3/24/17	3/31/17	170324007-01J	Aldicarb sulfone	1646-88-4	EPA 531.1	N/A	1	BDL
3/24/17	3/31/17	170324007-01J	Aldicarb sulfoxide	1646-87-3	EPA 531.1	N/A	0.7	BDL
3/24/17	3/31/17	170324007-01I	Atrazine	1912-24-9	EPA 525.2	3	0.1	BDL
3/24/17	3/31/17	170324007-01I	Benzo(a)pyrene	50-32-8	EPA 525.2	0.2	0.02	BDL
3/24/17	3/31/17	170324007-01J	Carbofuran	1563-66-2	EPA 531.1	40	0.9	BDL
3/24/17	3/30/17	170324007-01F	Chlordane	57-74-9	EPA 505	2	0.2	BDL
3/24/17	3/29/17	170324007-01G	Delapon	75-99-0	EPA 515.4	200	1	BDL
3/24/17	3/31/17	170324007-01I	Di(2-ethylhexyl)adipate	103-23-1	EPA 525.2	400	0.6	BDL
3/24/17	3/31/17	170324007-01I	Di(2-ethylhexyl)phthalate	117-81-7	EPA 525.2	6	0.6	BDL
3/24/17	3/29/17	170324007-01G	Dinoseb	85-85-7	EPA 515.4	7	0.2	BDL
3/24/17	3/24/17	170324007-01L	Diquat	85-00-7	EPA 549.2	20	0.4	BDL
3/24/17	3/29/17	170324007-01K	Endothall	145-73-3	EPA 548.1	100	9	BDL
3/24/17	3/30/17	170324007-01F	Endrin	72-20-8	EPA 505	2	0.01	BDL
3/24/17	4/3/17	170324007-01E	Ethylene dibromide	106-93-4	EPA 504.1	0.05	0.01	BDL
3/24/17	3/31/17	170324007-01I	Heptachlor	76-44-8	EPA 525.2	0.4	0.04	BDL
3/24/17	3/30/17	170324007-01F	Heptachlor epoxide	1024-57-3	EPA 505	0.2	0.02	BDL

NT: Not Tested ug/L; Micrograms per Liter MCL: Maximum Contaminant Level BDL Below Laboratory MRL A less than sign (<) may also be used.

PWSID#: CO0121724		Section V (Supplied or Completed by Public Water System)						
Sample Date:	3/23/17	Collector:	Stephanie Schwenk	Facility ID (On Schedule):	New Well	Sample Pt ID (On Schedule):	New Well	
Section VI Synthetic Organic Chemicals (Supplied or Completed by Certified Laboratory)		Lab Sample ID	Analyte Name	CAS No.	Analytical Method	MCL (ug/L)	Lab MRL (ug/L)	Result (ug/L)
3/24/17	3/30/17	170324007-01F	Hexachlorobenzene	118-74-1	EPA 505	1	0.1	BDL
3/24/17	3/30/17	170324007-01F	Hexachlorocyclopentadiene	77-47-4	EPA 505	50	0.1	BDL
3/24/17	3/30/17	170324007-01F	Lindane	58-89-9	EPA 505	0.2	0.02	BDL
3/24/17	3/30/17	170324007-01F	Methoxychlor	72-43-5	EPA 505	40	0.1	BDL
3/24/17	3/31/17	170324007-01J	Oxamyl	23135-22-0	EPA 531.1	200	1	BDL
3/24/17	3/29/17	170324007-01G	Pentachlorophenol	87-86-5	EPA 515.4	1	0.04	BDL
3/24/17	3/29/17	170324007-01G	Picloram	1918-02-1	EPA 515.4	500	0.1	BDL
3/24/17	3/30/17	170324007-01F	Polychlorinated biphenyl's	1336-36-3	EPA 505	0.5	0.1	BDL
3/24/17	3/31/17	170324007-01I	Simazine	122-34-9	EPA 525.2	4	0.07	BDL
3/24/17	3/30/17	170324007-01F	Toxaphene	8001-35-2	EPA 505	3	1	BDL

NT: Not Tested ug/L; Micrograms per Liter MCL: Maximum Contaminant Level BDL Below Laboratory MRL. A less than sign (<) may also be used.



Drinking Water Chain of Custody

page 1 of 2

Report To Information		Bill To Information (if different from report to)	
Company Name: <u>JDS Hydro Consultants</u>	Company Name: <u>SR WATER</u>	State Form / Project Information	
Contact Name: <u>Mark Volle</u>	Contact Name: <u>JIM MORLEY</u>	FWSID: <u>CO 0121724</u>	
Address: <u>545 E. Pikes Peak Ave</u>	Address: <u>20 BOULDER CRESCENT</u>	System Name: <u>STEALING RANCH MD</u>	
City: <u>CS</u>	City: <u>BOULDER</u>	City: <u>CO</u>	
State: <u>CO</u>	State: <u>CO</u>	State: <u>CO</u>	
Zip: <u>80903</u>	Zip: <u>80905</u>	Zip: <u>80905</u>	
Phone: <u>719-227-0072</u>	Phone: <u>3870@adl.com</u>	County: <u>El Paso</u>	
Fax: <u></u>	Fax: <u></u>	Compliance Samples: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Email: <u>m.volle@jds-hydro.com</u>	Email: <u>jmorley@adl.com</u>	Send Forms to States: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Sampler Name: <u>Stephanie Schwienke</u>	PO No.: <u></u>		

CAL Task No. 170324007		PHASE I, II, V Drinking Water Analyses (check analysis)															Subcontract Analyses																		
Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/BCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothal	549.2 Diquat	524.2 TTHMs	522 HAAs	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk/Lang. Index	TOC, DOC (Circle)	SVA, UV 254 (Circle)	625-50C	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium					
3-23	7:55	#1	1					X					X																						
	7:57	#2	1							X																									
	8:11	#3	2																																
	7:52	#4	1		X																														
	7:52	#5	1																																
	7:52am	#6	3																																
	7:53	#7	2																																
	7:58	#8 - no H2SO4 preservative included in	1																																
	7:59	#9	1																																
	8:03	#10	1																																

Instructions: No H₂SO₄ preservative was included with the bottle shipment. Please preserve Diquat Sample #8 as soon as you receive this shipment.

Relinquished By: [Signature] Date/Time: 3:23 11:30am

Received By: Elise Wilson Date/Time: 3/24/10 10:10

Delivered Via: Fed Ex C/S Charge: C/S Info: 3.3 °C/ice Sample Pres. Yes No Temp. 3.3 °C/ice Y Seals Present Yes No Headspace Yes No Date/Time: Received By:



Drinking Water Chain of Custody

page 2 of 2

Report To Information Company Name: <u>JDS-Hydro Consultants</u> Contact Name: <u>Mark Volle</u> Address: <u>545 E. Pikes Peak Ave</u> <u>Suite 300</u> City: <u>CS</u> State: <u>CO</u> Zip: <u>80903</u> Phone: <u>719-227-0072</u> Fax: Email: <u>Mvolle@jds-hydro.com</u> Sampler Name: <u>Sophene Schusterke PO No.:</u>		Bill To Information (if different from report to) Company Name: <u>SR Water</u> Contact Name: <u>Jim Morley</u> Address: <u>20 Boulder Crescent</u> <u>City CS</u> State: <u>CO</u> Zip: <u>80903</u> Phone: Fax: Email: <u>jmorley3870@aol.com</u>		State Form / Project Information PWSID: <u>CO 0121724</u> System Name: <u>Serling Ranch MD</u> Address: <u>20 Boulder Crescent</u> City: <u>CS</u> State: <u>CO</u> Zip: <u>80903</u> County: <u>El Paso</u> Compliance Samples: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Send Forms to State: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
--	--	--	--	---	--

Brighton Lab
 240 South Main Street
 Brighton, CO 80601

Lakewood Lab
 12860 W. Cedar Dr, Suite 100A
 Lakewood CO 80228

Phone: 303-659-2313
 Fax: 303-659-2315

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CAL Task No. 170324007		PHASE I, II, V Drinking Water Analyses (check analysis)												Subcontract Analyses															
ARF		No. of Containers	Residual Chlorine (mg/L)	Total Coliform P/A	504.1 EDB/BCP	505 Pests/PCBs	515.4 Herbicides	525.2 SOCs-Pest	531.1 Carbinates	547 Glyphosate	548.1 Endothal	549.2 Diquat	524.2 THMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	(TOC, DOC (Circle))	SUVA, UV 254 (Circle)	X Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium	
3-23	8:01	#11																											
	8:00 am	#12																											
	8:26	#14																											
	8:18	#15																											
	8:12	#16 (1,4 Dioxane)																											
	8:23	#17																											
	8:24	#18																											
	8:15	#19																											
	8:29	#20																											

Instructions:

Retinquinshed By: [Signature] Date/Time: 3-23 11:30am

Received By: [Signature] Date/Time: 3-23 11:30am

Relinquished By: [Signature] Date/Time: 3-23 11:30am

Delivered Via: C/S Charge Temp. °C/fce Sample Pres. Yes No
 Relinquished By: Date/Time: Received By: Date/Time:



Radionuclides Certified Laboratory Report Form

Revision 6/13/2014

WQCD - Drinking Water CAS
4300 Cherry Creek Drive South; Denver, CO 80246-1530
Fax: (303) 758-1398; cdphe.drinkingwater@state.co.us

RAD

Colorado Department
of Public Health
and Environment

Section I (Supplied or Completed by Public Water System)

Section II (Supplied or Completed by Certified Laboratory)

Public Water System Information

Certified Laboratory Information

PWS ID: CO0121724

Laboratory ID: CO 00008

System Name: Sterling Ranch MD

Laboratory Name: Hazen Research, Inc.

Contact Person:

Contact Person: Jessica Axen

Phone #:

Phone #: 303-279-4501

Comments:

Comments:

Do Samples Need to be Compositd BY THE LAB?

Section III (Supplied or Completed by Public Water System)

Sample Date: 03/23/2017 Collector: Facility ID (On Schedule): Sample Pt ID (On Schedule):

Section IV Radionuclides (Supplied or Completed by Certified Laboratory)

Lab Receipt Date	Lab Analysis Date	Lab Sample ID	Analyte Name (Code)	CAS No.	Analytical Method	MCL	Lab MRL	Result
03/24/2017	04/18/2017	C27017-001	Gross Alpha Including Uranium (4002)	12587-46-1	SM 7110 B	N/A	1.5	0.0(±1.5)
			Combined Uranium (4006)	7440-61-1	D2907-97	30 ug/L		
03/24/2017	04/07/2017	C27017-001	Radium -226 (4020)	13982-63-3	SM 7500-Ra B	N/A	0.1	0.4(±0.3)
03/24/2017	03/30/2017	C27017-001	Radium -228 (4030)	15262-20-1	EPA Ra-05	N/A	0.6	0.2(±0.6)
03/24/2017	04/18/2017	C27017-001	Gross Beta (4100)	12587-47-2	SM 7110 B	50 pCi/L.*	2.1	0.0(±2.0)
			Total Dissolved Solids (1930)		EPA 160.3	N/A		

*The MCL for Gross Beta Particle Activity is 4 mrem/year. Since there is no simple conversion between mrem/year and pCi/L EPA considers 50 pCi/L to be the level of concern.

Section V Calculated Values

	Calculated Value	Calculated Value
Gross Alpha Excluding Uranium (4000)		15 pCi/L
Combined Radium {-226 & -228} (4010)		5 pCi/L

NT: Not Tested

Lab MRL: Laboratory Minimum Reporting Level

BDL: Below Laboratory MRL. A less than sign (<) may also be used

ug/L: Micrograms per Liter

pCi/L: Picoocuries per Liter

MCL: Maximum Contaminant Level

Analytical Results

TASK NO: 170324007

Report To: Mark Volle

Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300
Colorado Springs CO 80903

Bill To: Jim Morley

Company: SR Water
20 Boulder Crescent St.
Colorado Springs CO 80903

Task No.: 170324007
Client PO:
Client Project: Sterling Ranch MD CO0121724

Date Received: 3/24/17
Date Reported: 4/21/17
Matrix: Water - Drinking

Customer Sample ID: Sterling Ranch MD
Sample Date/Time: 3/23/17 8:03 AM
Lab Number: 170324007-01

Facility ID: New Well
Sample Point ID: New Well

Test	Result	Method	ML	Date Analyzed	Analyzed By
Chloride	1.3 mg/L	EPA 300.0	0.1 mg/L	3/24/17	LJG
Cyanide-Free	< 0.005 mg/L	EPA 335.4	0.005 mg/L	3/28/17	VDB
E-Coli	< 1 mpn/100ml	Coli fert	1 mpn/100ml	3/25/17	VDB
Sulfate	10.7 mg/L	EPA 300.0	0.1 mg/L	3/24/17	LJG
Total Coliform	68 mpn/100ml	Coli fert	1 mpn/100ml	3/25/17	VDB
Total Organic Carbon	< 0.5 mg/L	SM 5310-C	0.5 mg/L	3/28/17	ISG
Turbidity	1.08 NTU	SM 2130-B	0.01 NTU	3/24/17	MBN
Total					
Aluminum	0.032 mg/L	EPA 200.8	0.001 mg/L	3/29/17	TCD
Calcium	1.0 mg/L	EPA 200.7	0.1 mg/L	3/29/17	MBN
Copper	< 0.0008 mg/L	EPA 200.8	0.0008 mg/L	3/29/17	TCD
Iron	0.180 mg/L	EPA 200.7	0.005 mg/L	3/30/17	MBN
Lead	0.0002 mg/L	EPA 200.8	0.0001 mg/L	3/29/17	TCD
Magnesium	0.06 mg/L	EPA 200.7	0.02 mg/L	3/29/17	MBN
Manganese	0.0071 mg/L	EPA 200.8	0.0008 mg/L	3/29/17	TCD
Potassium	1.0 mg/L	EPA 200.7	0.1 mg/L	3/29/17	MBN
Silver	< 0.0001 mg/L	EPA 200.8	0.0001 mg/L	3/29/17	TCD
Strontium	0.009 mg/L	EPA 200.8	0.005 mg/L	3/29/17	TCD
Total Hardness	2.7 mg/L as CaCO ₃	SM 2340-B	0.1 mg/L as CaCO ₃	3/30/17	MBN
Uranium	< 0.0002 mg/L	EPA 200.8	0.0002 mg/L	3/29/17	TCD
Zinc	0.002 mg/L	EPA 200.8	0.001 mg/L	3/29/17	TCD

Abbreviations/ References:

ML = Minimum Level = LRL = RL
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 ml = Most Probable Number Index/ 100 ml
Date Analyzed = Date Test Completed



DATA APPROVED FOR RELEASE BY

Analytical Results

TASK NO: 170324007

Report To: Mark Volle
Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300
Colorado Springs CO 80903

Bill To: Jim Morley
Company: SR Water
20 Boulder Crescent St.
Colorado Springs CO 80903

Task No.: 170324007
Client PO:
Client Project: Sterling Ranch MD CO0121724

Date Received: 3/24/17
Date Reported: 4/21/17
Matrix: Water - Drinking

Customer Sample ID: Sterling Ranch MD
Sample Date/Time: 3/23/17 8:03 AM
Lab Number: 170324007-01

Facility ID: New Well
Sample Point ID: New Well

Test	Result	Method	ML	Date Analyzed	Analyzed By
<u>Total</u> Zinc	0.002 mg/L	EPA 200.8	0.001 mg/L	3/29/17	TCD

Abbreviations/ References:

ML = Minimum Level = LRL = RL
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpr/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed



DATA APPROVED FOR RELEASE BY



ANALYTICAL SUMMARY REPORT

April 06, 2017

Colorado Analytical Laboratories Inc
PO Drawer 507
Brighton, CO 80601

Work Order: C17030850 Quote ID: C4542 - 624, 625, 1,4-Dioxane
Project Name: 170324007 Sterling Ranch MD

Energy Laboratories, Inc. Casper WY received the following 1 sample for Colorado Analytical Laboratories Inc on 3/28/2017 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
C17030850-001	170324007 Sterling Ranch MD	03/23/17 8:03	03/28/17	Groundwater	Azeotropic Distillation Separatory Funnel Liquid-Liquid Ext. Semi-Volatile Organic Compounds 624-Purgeable Organics Volatile Compounds by Azeotropic Distillation

The results as reported relate only to the item(s) submitted for testing. The analyses presented in this report were performed at Energy Laboratories, Inc., 2393 Salt Creek Hwy., Casper, WY 82601, unless otherwise noted. Any exceptions or problems with the analyses are noted in the Laboratory Analytical Report, the QA/QC Summary Report, or the Case Narrative.

If you have any questions regarding these test results, please call.

Report Approved By:


Randy Horton, Project Manager

Digitally signed by
Randy Horton
Date: 2017.04.06 16:31:29 -06:00



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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

CLIENT: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD
Work Order: C17030850

Report Date: 04/06/17

CASE NARRATIVE

Tests associated with analyst identified as ELI-B were subcontracted to Energy Laboratories, 1120 S. 27th St., Billings, MT, EPA Number MT00005.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD
Lab ID: C17030850-001
Client Sample ID: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Collection Date: 03/23/17 08:03
Date Received: 03/28/17
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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VOCS BY AZEOTROPIC DISTILLATION

1,4-Dioxane	ND	ug/L		1.0		SW8260M	04/06/17 09:34 / eli-b
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- Analysis by direct aqueous injection of the sample distillate. A deuterated version of 1,4-Dioxane was added to the sample prior to distillation and used to quantitate the 1,4-Dioxane and account for any variations in the analysis or distillation.

VOLATILE ORGANIC COMPOUNDS

Acetone	ND	ug/L		20		E624	03/31/17 16:09 / eli-b
Acetonitrile	ND	ug/L		20		E624	03/31/17 16:09 / eli-b
Acrolein	ND	ug/L		20		E624	03/31/17 16:09 / eli-b
Acrylonitrile	ND	ug/L		20		E624	03/31/17 16:09 / eli-b
Benzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Bromobenzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Bromochloromethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Bromodichloromethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Bromoform	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Bromomethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Carbon disulfide	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Carbon tetrachloride	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Chlorobenzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Chlorodibromomethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Chloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
2-Chloroethyl vinyl ether	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Chloroform	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Chloromethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
2-Chlorotoluene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
4-Chlorotoluene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,2-Dibromoethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Dibromomethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,2-Dichlorobenzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,3-Dichlorobenzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,4-Dichlorobenzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Dichlorodifluoromethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1-Dichloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,2-Dichloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1-Dichloroethene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
cis-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
trans-1,2-Dichloroethene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,2-Dichloropropane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,3-Dichloropropane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
2,2-Dichloropropane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1-Dichloropropene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
cis-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
trans-1,3-Dichloropropene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Ethylbenzene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD
Lab ID: C17030850-001
Client Sample ID: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Collection Date: 03/23/17 08:03
Date Received: 03/28/17
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOLATILE ORGANIC COMPOUNDS							
Methyl tert-butyl ether (MTBE)	ND	ug/L		2.0		E624	03/31/17 16:09 / eli-b
Methyl ethyl ketone	ND	ug/L		20		E624	03/31/17 16:09 / eli-b
Methyl isobutyl ketone	ND	ug/L		10		E624	03/31/17 16:09 / eli-b
Methylene chloride	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Naphthalene	ND	ug/L		0.50		E624	03/31/17 16:09 / eli-b
Styrene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Tetrachloroethene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1,1,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1,2,2-Tetrachloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Toluene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Trichloroethene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1,1-Trichloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,1,2-Trichloroethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Trichlorofluoromethane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
1,2,3-Trichloropropane	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Vinyl Acetate	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Vinyl chloride	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
m+p-Xylenes	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
o-Xylene	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Xylenes, Total	ND	ug/L		1.0		E624	03/31/17 16:09 / eli-b
Surr: 1,2-Dichloroethane-d4	105	%REC		71-139		E624	03/31/17 16:09 / eli-b
Surr: p-Bromofluorobenzene	102	%REC		80-127		E624	03/31/17 16:09 / eli-b
Surr: Toluene-d8	92.0	%REC		80-123		E624	03/31/17 16:09 / eli-b

SEMI-VOLATILE ORGANIC COMPOUNDS

Acenaphthene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Acenaphthylene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Anthracene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Azobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Benzidine	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Benzo(a)anthracene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Benzo(a)pyrene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Benzo(b)fluoranthene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Benzo(g,h,i)perylene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Benzo(k)fluoranthene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
4-Bromophenyl phenyl ether	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Butylbenzylphthalate	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
4-Chloro-3-methylphenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
bis(-2-chloroethoxy)Methane	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
bis(-2-chloroethyl)Ether	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
bis(2-chloroisopropyl)Ether	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2-Chloronaphthalene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2-Chlorophenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD
Lab ID: C17030850-001
Client Sample ID: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Collection Date: 03/23/17 08:03
Date Received: 03/28/17
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SEMI-VOLATILE ORGANIC COMPOUNDS							
4-Chlorophenyl phenyl ether	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Chrysene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Diethyl phthalate	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Di-n-butyl phthalate	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
1,2-Dichlorobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
1,3-Dichlorobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
1,4-Dichlorobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
3,3'-Dichlorobenzidine	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2,4-Dichlorophenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Dimethyl phthalate	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Di-n-octyl phthalate	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Dibenzo(a,h)anthracene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2,4-Dimethylphenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
4,6-Dinitro-2-methylphenol	ND	ug/L		50		E625	03/30/17 17:14 / eli-b
2,4-Dinitrophenol	ND	ug/L		50		E625	03/30/17 17:14 / eli-b
2,4-Dinitrotoluene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2,6-Dinitrotoluene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
bis(2-ethylhexyl)Phthalate	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Fluoranthene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Fluorene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Hexachlorobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Hexachlorobutadiene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Hexachlorocyclopentadiene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Hexachloroethane	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Indeno(1,2,3-cd)pyrene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Isophorone	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
n-Nitrosodimethylamine	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
n-Nitroso-di-n-propylamine	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
n-Nitrosodiphenylamine	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2-Nitrophenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
4-Nitrophenol	ND	ug/L		50		E625	03/30/17 17:14 / eli-b
Naphthalene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Nitrobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Pentachlorophenol	ND	ug/L		50		E625	03/30/17 17:14 / eli-b
Phenanthrene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Phenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Pyrene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
1,2,4-Trichlorobenzene	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
2,4,6-Trichlorophenol	ND	ug/L		10		E625	03/30/17 17:14 / eli-b
Surr: 2-Fluorobiphenyl	61.0	%REC		28-107		E625	03/30/17 17:14 / eli-b
Surr: 2-Fluorophenol	39.0	%REC		20-56		E625	03/30/17 17:14 / eli-b
Surr: Nitrobenzene-d5	63.0	%REC		32-94		E625	03/30/17 17:14 / eli-b
Surr: Phenol-d5	27.0	%REC		19-45		E625	03/30/17 17:14 / eli-b

Report RL - Analyte reporting limit.
Definitions: QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



LABORATORY ANALYTICAL REPORT

Prepared by Casper, WY Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD
Lab ID: C17030850-001
Client Sample ID: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Collection Date: 03/23/17 08:03
Date Received: 03/28/17
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
SEMI-VOLATILE ORGANIC COMPOUNDS							
Surr: Terphenyl-d14	70.0	%REC		32-122		E625	03/30/17 17:14 / eli-b
Surr: 2,4,6-Tribromophenol	68.0	%REC		21-130		E625	03/30/17 17:14 / eli-b

Report Definitions: RL - Analyte reporting limit.
QCL - Quality control limit.

MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Analytical Run: R277281		
Lab ID: ccv033117	Continuing Calibration Verification Standard							03/31/17 08:45	
Acetone	58.0	ug/L	20	116	70	130			
Acetonitrile	56.4	ug/L	20	113	70	130			
Acrolein	56.4	ug/L	20	113	70	130			
Acrylonitrile	49.6	ug/L	20	99	70	130			
Benzene	5.08	ug/L	0.50	102	70	130			
Bromobenzene	5.04	ug/L	0.50	101	70	130			
Bromochloromethane	5.36	ug/L	0.50	107	70	130			
Bromodichloromethane	4.92	ug/L	0.50	98	70	130			
Bromoform	5.04	ug/L	0.50	101	70	130			
Bromomethane	4.28	ug/L	0.50	86	70	130			
Carbon disulfide	5.32	ug/L	0.50	106	70	130			
Carbon tetrachloride	5.80	ug/L	0.50	116	70	130			
Chlorobenzene	4.56	ug/L	0.50	91	70	130			
Chlorodibromomethane	5.04	ug/L	0.50	101	70	130			
Chloroethane	4.80	ug/L	0.50	96	70	130			
2-Chloroethyl vinyl ether	2.90	ug/L	1.0	58	70	130			S
Chloroform	5.60	ug/L	0.50	112	70	130			
Chloromethane	3.82	ug/L	0.50	76	70	130			
2-Chlorotoluene	5.00	ug/L	0.50	100	70	130			
4-Chlorotoluene	5.44	ug/L	0.50	109	70	130			
1,2-Dibromoethane	4.68	ug/L	0.50	94	70	130			
Dibromomethane	4.96	ug/L	0.50	99	70	130			
1,2-Dichlorobenzene	5.04	ug/L	0.50	101	70	130			
1,3-Dichlorobenzene	5.16	ug/L	0.50	103	70	130			
1,4-Dichlorobenzene	5.00	ug/L	0.50	100	70	130			
Dichlorodifluoromethane	5.20	ug/L	0.50	104	70	130			
1,1-Dichloroethane	4.96	ug/L	0.50	99	70	130			
1,2-Dichloroethane	6.24	ug/L	0.50	125	70	130			
1,1-Dichloroethene	5.12	ug/L	0.50	102	70	130			
cis-1,2-Dichloroethene	4.76	ug/L	0.50	95	70	130			
trans-1,2-Dichloroethene	5.00	ug/L	0.50	100	70	130			
1,2-Dichloropropane	4.88	ug/L	0.50	98	70	130			
1,3-Dichloropropane	4.88	ug/L	0.50	98	70	130			
2,2-Dichloropropane	5.72	ug/L	0.50	114	70	130			
1,1-Dichloropropene	5.44	ug/L	0.50	109	70	130			
cis-1,3-Dichloropropene	4.80	ug/L	0.50	96	70	130			
trans-1,3-Dichloropropene	4.84	ug/L	0.50	97	70	130			
Ethylbenzene	4.88	ug/L	0.50	98	70	130			
Methyl tert-butyl ether (MTBE)	5.20	ug/L	0.50	104	70	130			
Methyl ethyl ketone	54.0	ug/L	20	108	70	130			
Methyl isobutyl ketone	50.4	ug/L	20	101	70	130			
Methylene chloride	5.88	ug/L	0.50	118	70	130			
Naphthalene	5.08	ug/L	0.50	102	70	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Analytical Run: R277281		
Lab ID: ccv033117	Continuing Calibration Verification Standard						03/31/17 08:45		
Styrene	4.52	ug/L	0.50	90	70	130			
Tetrachloroethene	4.68	ug/L	0.50	94	70	130			
1,1,1,2-Tetrachloroethane	4.72	ug/L	0.50	94	70	130			
1,1,2,2-Tetrachloroethane	4.96	ug/L	0.50	99	70	130			
Toluene	4.76	ug/L	0.50	95	70	130			
Trichloroethene	4.92	ug/L	0.50	98	70	130			
1,1,1-Trichloroethane	5.72	ug/L	0.50	114	70	130			
1,1,2-Trichloroethane	4.72	ug/L	0.50	94	70	130			
Trichlorofluoromethane	4.88	ug/L	0.50	98	70	130			
1,2,3-Trichloropropane	5.24	ug/L	0.50	105	70	130			
Vinyl Acetate	5.32	ug/L	1.0	106	70	130			
Vinyl chloride	4.60	ug/L	0.50	92	70	130			
m+p-Xylenes	9.32	ug/L	0.50	93	70	130			
o-Xylene	4.52	ug/L	0.50	90	70	130			
Xylenes, Total	13.8	ug/L	0.50	92	70	130			
Surr: 1,2-Dichloroethane-d4			0.50	107	71	139			
Surr: p-Bromofluorobenzene			0.50	102	80	127			
Surr: Toluene-d8			0.50	91	80	123			

Method: E624							Batch: R277281		
Lab ID: lcs033117	Laboratory Control Sample						Run: 5971A.L_170331A		03/31/17 09:19
Acetone	56.0	ug/L	20	112	55	144			
Acetonitrile	56.8	ug/L	20	114	54	142			
Acrolein	42.4	ug/L	20	85	16	233			
Acrylonitrile	48.4	ug/L	20	97	76	127			
Benzene	4.92	ug/L	0.50	98	73	122			
Bromobenzene	4.96	ug/L	0.50	99	74	129			
Bromochloromethane	5.16	ug/L	0.50	103	66	120			
Bromodichloromethane	5.16	ug/L	0.50	103	74	128			
Bromoform	5.12	ug/L	0.50	102	66	128			
Bromomethane	4.76	ug/L	0.50	95	51	123			
Carbon disulfide	5.36	ug/L	0.50	107	46	145			
Carbon tetrachloride	5.72	ug/L	0.50	114	75	125			
Chlorobenzene	4.64	ug/L	0.50	93	80	123			
Chlorodibromomethane	5.32	ug/L	0.50	106	74	125			
Chloroethane	4.48	ug/L	0.50	90	59	142			
2-Chloroethyl vinyl ether	2.62	ug/L	1.0	52	36	144			
Chloroform	5.52	ug/L	0.50	110	68	124			
Chloromethane	3.77	ug/L	0.50	75	53	146			
2-Chlorotoluene	5.08	ug/L	0.50	102	75	131			
4-Chlorotoluene	5.36	ug/L	0.50	107	74	129			
1,2-Dibromoethane	4.64	ug/L	0.50	93	76	124			
Dibromomethane	5.16	ug/L	0.50	103	77	125			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R277281		
Lab ID: Ics033117	Laboratory Control Sample				Run: 5971A.I_170331A		03/31/17 09:19		
1,2-Dichlorobenzene	4.96	ug/L	0.50	99	74	124			
1,3-Dichlorobenzene	5.12	ug/L	0.50	102	77	122			
1,4-Dichlorobenzene	4.96	ug/L	0.50	99	76	126			
Dichlorodifluoromethane	5.60	ug/L	0.50	112	56	146			
1,1-Dichloroethane	4.72	ug/L	0.50	94	74	133			
1,2-Dichloroethane	5.76	ug/L	0.50	115	75	129			
1,1-Dichloroethene	5.16	ug/L	0.50	103	74	132			
cis-1,2-Dichloroethene	4.88	ug/L	0.50	98	81	122			
trans-1,2-Dichloroethene	5.12	ug/L	0.50	102	79	143			
1,2-Dichloropropane	4.80	ug/L	0.50	92	75	126			
1,3-Dichloropropane	4.68	ug/L	0.50	94	71	136			
2,2-Dichloropropane	5.68	ug/L	0.50	114	68	142			
1,1-Dichloropropene	5.00	ug/L	0.50	100	70	131			
cis-1,3-Dichloropropene	4.40	ug/L	0.50	88	74	135			
trans-1,3-Dichloropropene	4.84	ug/L	0.50	97	76	149			
Ethylbenzene	4.96	ug/L	0.50	99	72	130			
Methyl tert-butyl ether (MTBE)	5.12	ug/L	0.50	102	72	120			
Methyl ethyl ketone	52.0	ug/L	20	104	45	130			
Methyl isobutyl ketone	50.8	ug/L	20	102	58	135			
Methylene chloride	6.08	ug/L	0.50	122	66	142			
Naphthalene	5.60	ug/L	0.50	112	69	124			
Styrene	4.56	ug/L	0.50	91	80	124			
Tetrachloroethene	4.72	ug/L	0.50	94	72	131			
1,1,1,2-Tetrachloroethane	4.64	ug/L	0.50	93	78	124			
1,1,2,2-Tetrachloroethane	4.76	ug/L	0.50	95	68	137			
Toluene	4.76	ug/L	0.50	95	72	135			
Trichloroethene	4.80	ug/L	0.50	96	85	126			
1,1,1-Trichloroethane	5.40	ug/L	0.50	108	63	120			
1,1,2-Trichloroethane	4.48	ug/L	0.50	90	78	124			
Trichlorofluoromethane	4.52	ug/L	0.50	90	72	120			
1,2,3-Trichloropropane	4.68	ug/L	0.50	94	64	138			
Vinyl Acetate	4.76	ug/L	1.0	95	31	124			
Vinyl chloride	4.76	ug/L	0.50	95	58	140			
m+p-Xylenes	9.08	ug/L	0.50	91	67	139			
o-Xylene	4.48	ug/L	0.50	90	74	135			
Xylenes, Total	13.6	ug/L	0.50	90	70	137			
Surr: 1,2-Dichloroethane-d4			0.50	109	71	139			
Surr: p-Bromofluorobenzene			0.50	102	80	127			
Surr: Toluene-d8			0.50	92	80	123			
Lab ID: blk033117	Method Blank				Run: 5971A.I_170331A		03/31/17 10:18		
Acetone	ND	ug/L	20						
Acetonitrile	ND	ug/L	20						

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 04/06/17

Project: 170324007 Sterling Ranch MD

Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R277281		
Lab ID: blk033117	Method Blank		Run: 5971A.I_170331A				03/31/17 10:18		
Acrolein	ND	ug/L							
Acrylonitrile	ND	ug/L							
Benzene	ND	ug/L			0.50				
Bromobenzene	ND	ug/L			0.50				
Bromochloromethane	ND	ug/L			0.50				
Bromodichloromethane	ND	ug/L			0.50				
Bromoform	ND	ug/L			0.50				
Bromomethane	ND	ug/L			0.50				
Carbon disulfide	ND	ug/L			0.50				
Carbon tetrachloride	ND	ug/L			0.50				
Chlorobenzene	ND	ug/L			0.50				
Chlorodibromomethane	ND	ug/L			0.50				
Chloroethane	ND	ug/L			0.50				
2-Chloroethyl vinyl ether	ND	ug/L			1.0				
Chloroform	ND	ug/L			0.50				
Chloromethane	ND	ug/L			0.50				
2-Chlorotoluene	ND	ug/L			0.50				
4-Chlorotoluene	ND	ug/L			0.50				
1,2-Dibromoethane	ND	ug/L			0.50				
Dibromomethane	ND	ug/L			0.50				
1,2-Dichlorobenzene	ND	ug/L			0.50				
1,3-Dichlorobenzene	ND	ug/L			0.50				
1,4-Dichlorobenzene	ND	ug/L			0.50				
Dichlorodifluoromethane	ND	ug/L			0.50				
1,1-Dichloroethane	ND	ug/L			0.50				
1,2-Dichloroethane	ND	ug/L			0.50				
1,1-Dichloroethene	ND	ug/L			0.50				
cis-1,2-Dichloroethene	ND	ug/L			0.50				
trans-1,2-Dichloroethene	ND	ug/L			0.50				
1,2-Dichloropropane	ND	ug/L			0.50				
1,3-Dichloropropane	ND	ug/L			0.50				
2,2-Dichloropropane	ND	ug/L			0.50				
1,1-Dichloropropene	ND	ug/L			0.50				
cis-1,3-Dichloropropene	ND	ug/L			0.50				
trans-1,3-Dichloropropene	ND	ug/L			0.50				
Ethylbenzene	ND	ug/L			0.50				
Methyl tert-butyl ether (MTBE)	ND	ug/L			0.50				
Methyl ethyl ketone	ND	ug/L			20				
Methyl isobutyl ketone	ND	ug/L			20				
Methylene chloride	ND	ug/L			0.50				
Naphthalene	ND	ug/L			0.50				
Styrene	ND	ug/L			0.50				
Tetrachloroethene	ND	ug/L			0.50				

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R277281		
Lab ID: blk033117	Method Blank		Run: 5971A.I_170331A				03/31/17 10:18		
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50						
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50						
Toluene	ND	ug/L	0.50						
Trichloroethene	ND	ug/L	0.50						
1,1,1-Trichloroethane	ND	ug/L	0.50						
1,1,2-Trichloroethane	ND	ug/L	0.50						
Trichlorofluoromethane	ND	ug/L	0.50						
1,2,3-Trichloropropane	ND	ug/L	0.50						
Vinyl Acetate	ND	ug/L	1.0						
Vinyl chloride	ND	ug/L	0.50						
m+p-Xylenes	ND	ug/L	0.50						
o-Xylene	ND	ug/L	0.50						
Xylenes, Total	ND	ug/L	0.50						
Surr: 1,2-Dichloroethane-d4			0.50	105	71	139			
Surr: p-Bromofluorobenzene			0.50	104	80	127			
Surr: Toluene-d8			0.50	92	80	123			
Lab ID: b17031875-001dms							Run: 5971A.I_170331A		
Sample Matrix Spike						03/31/17 14:12			
Acetone	378	ug/L	100	109	55	144			
Acetonitrile	274	ug/L	100	110	54	142			
Benzene	24.6	ug/L	2.5	98	73	122			
Bromobenzene	24.8	ug/L	2.5	99	74	129			
Bromochloromethane	25.2	ug/L	2.5	101	66	120			
Bromodichloromethane	26.2	ug/L	2.5	105	74	128			
Bromoform	27.0	ug/L	2.5	108	66	128			
Bromomethane	18.8	ug/L	2.5	75	51	123			
Carbon disulfide	26.4	ug/L	2.5	106	46	145			
Carbon tetrachloride	28.2	ug/L	2.5	113	75	125			
Chlorobenzene	22.8	ug/L	2.5	91	80	123			
Chlorodibromomethane	26.8	ug/L	2.5	107	74	125			
Chloroethane	20.2	ug/L	2.5	81	59	142			
Chloroform	33.2	ug/L	2.5	110	68	124			
Chloromethane	18.6	ug/L	2.5	74	53	146			
2-Chlorotoluene	24.8	ug/L	2.5	99	75	131			
4-Chlorotoluene	25.8	ug/L	2.5	103	74	129			
1,2-Dibromoethane	24.0	ug/L	2.5	96	76	124			
Dibromomethane	26.2	ug/L	2.5	105	77	125			
1,2-Dichlorobenzene	24.6	ug/L	2.5	98	74	124			
1,3-Dichlorobenzene	24.6	ug/L	2.5	98	77	122			
1,4-Dichlorobenzene	24.6	ug/L	2.5	98	76	126			
Dichlorodifluoromethane	27.0	ug/L	2.5	108	56	146			
1,1-Dichloroethane	24.2	ug/L	2.5	97	74	133			
1,2-Dichloroethane	29.2	ug/L	2.5	117	75	129			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R277281		
Lab ID: b17031875-001dms	Sample Matrix Spike		Run: 5971A.I_170331A				03/31/17 14:12		
1,1-Dichloroethene	26.6	ug/L	2.5	106	74	132			
cis-1,2-Dichloroethene	24.4	ug/L	2.5	98	81	122			
trans-1,2-Dichloroethene	25.8	ug/L	2.5	103	79	143			
1,2-Dichloropropane	23.0	ug/L	2.5	92	75	126			
1,3-Dichloropropane	22.4	ug/L	2.5	90	71	136			
2,2-Dichloropropane	28.0	ug/L	2.5	112	68	142			
1,1-Dichloropropene	25.2	ug/L	2.5	101	70	131			
cis-1,3-Dichloropropene	22.2	ug/L	2.5	89	74	135			
trans-1,3-Dichloropropene	24.6	ug/L	2.5	98	76	149			
Ethylbenzene	23.6	ug/L	2.5	94	72	130			
Methyl tert-butyl ether (MTBE)	25.6	ug/L	2.5	102	72	120			
Methyl ethyl ketone	268	ug/L	100	107	45	130			
Methyl isobutyl ketone	258	ug/L	100	103	58	135			
Methylene chloride	32.2	ug/L	2.5	129	66	142			
Naphthalene	27.6	ug/L	2.5	110	69	124			
Styrene	22.4	ug/L	2.5	90	80	124			
Tetrachloroethene	22.8	ug/L	2.5	91	72	131			
1,1,1,2-Tetrachloroethane	23.0	ug/L	2.5	92	78	124			
1,1,2,2-Tetrachloroethane	26.0	ug/L	2.5	104	68	137			
Toluene	24.4	ug/L	2.5	95	72	135			
Trichloroethene	23.8	ug/L	2.5	95	85	126			
1,1,1-Trichloroethane	26.8	ug/L	2.5	107	63	120			
1,1,2-Trichloroethane	23.4	ug/L	2.5	94	78	124			
Trichlorofluoromethane	21.2	ug/L	2.5	85	72	120			
1,2,3-Trichloropropane	26.2	ug/L	2.5	105	64	138			
Vinyl Acetate	24.4	ug/L	5.0	98	31	124			
Vinyl chloride	22.6	ug/L	2.5	90	58	140			
m+p-Xylenes	44.8	ug/L	2.5	90	67	139			
o-Xylene	22.6	ug/L	2.5	90	74	135			
Xylenes, Total	67.4	ug/L	2.5	90	70	137			
Surr: 1,2-Dichloroethane-d4			2.5	110	71	139			
Surr: p-Bromofluorobenzene			2.5	102	80	127			
Surr: Toluene-d8			2.5	93	80	123			
Lab ID: b17031875-001dmsd	Sample Matrix Spike Duplicate		Run: 5971A.I_170331A				03/31/17 15:11		
Acetone	410	ug/L	100	122	55	144	8.1	20	
Acetonitrile	262	ug/L	100	105	54	142	4.5	20	
Benzene	25.0	ug/L	2.5	100	73	122	1.6	20	
Bromobenzene	25.6	ug/L	2.5	102	74	129	3.2	20	
Bromochloromethane	25.2	ug/L	2.5	101	66	120	0.0	20	
Bromodichloromethane	27.2	ug/L	2.5	109	74	128	3.7	20	
Bromoform	28.4	ug/L	2.5	114	66	128	5.1	20	
Bromomethane	20.8	ug/L	2.5	83	51	123	10	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R277281		
Lab ID: b17031875-001dmsd	Sample Matrix Spike Duplicate		Run: 5971A.I_170331A				03/31/17 15:11		
Carbon disulfide	25.6	ug/L	2.5	102	46	145	3.1	20	
Carbon tetrachloride	28.6	ug/L	2.5	114	75	125	1.4	20	
Chlorobenzene	23.6	ug/L	2.5	94	80	123	3.4	20	
Chlorodibromomethane	28.0	ug/L	2.5	112	74	125	4.4	20	
Chloroethane	20.6	ug/L	2.5	82	59	142	2.0	20	
Chloroform	33.6	ug/L	2.5	111	68	124	1.2	20	
Chloromethane	19.3	ug/L	2.5	77	53	146	3.8	20	
2-Chlorotoluene	26.4	ug/L	2.5	106	75	131	6.2	20	
4-Chlorotoluene	27.2	ug/L	2.5	109	74	129	5.3	20	
1,2-Dibromoethane	24.0	ug/L	2.5	96	76	124	0.0	20	
Dibromomethane	26.8	ug/L	2.5	107	77	125	2.3	20	
1,2-Dichlorobenzene	25.8	ug/L	2.5	103	74	124	4.8	20	
1,3-Dichlorobenzene	26.0	ug/L	2.5	104	77	122	5.5	20	
1,4-Dichlorobenzene	25.4	ug/L	2.5	102	76	126	3.2	20	
Dichlorodifluoromethane	25.8	ug/L	2.5	103	56	146	4.5	20	
1,1-Dichloroethane	24.8	ug/L	2.5	99	74	133	2.4	20	
1,2-Dichloroethane	29.2	ug/L	2.5	117	75	129	0.0	20	
1,1-Dichloroethene	26.8	ug/L	2.5	107	74	132	0.7	20	
cis-1,2-Dichloroethene	25.2	ug/L	2.5	101	81	122	3.2	20	
trans-1,2-Dichloroethene	26.4	ug/L	2.5	106	79	143	2.3	20	
1,2-Dichloropropane	23.6	ug/L	2.5	94	75	126	2.6	20	
1,3-Dichloropropane	23.8	ug/L	2.5	95	71	136	6.1	20	
2,2-Dichloropropane	28.6	ug/L	2.5	114	68	142	2.1	20	
1,1-Dichloropropene	25.8	ug/L	2.5	103	70	131	2.4	20	
cis-1,3-Dichloropropene	23.2	ug/L	2.5	93	74	135	4.4	20	
trans-1,3-Dichloropropene	25.4	ug/L	2.5	102	76	149	3.2	20	
Ethylbenzene	25.0	ug/L	2.5	100	72	130	5.8	20	
Methyl tert-butyl ether (MTBE)	26.6	ug/L	2.5	106	72	120	3.8	20	
Methyl ethyl ketone	292	ug/L	100	117	45	130	8.6	20	
Methyl isobutyl ketone	286	ug/L	100	114	58	135	10	20	
Methylene chloride	31.4	ug/L	2.5	126	66	142	2.5	20	
Naphthalene	27.8	ug/L	2.5	111	69	124	0.7	20	
Styrene	22.8	ug/L	2.5	91	80	124	1.8	20	
Tetrachloroethene	23.8	ug/L	2.5	95	72	131	4.3	20	
1,1,1,2-Tetrachloroethane	23.2	ug/L	2.5	93	78	124	0.9	20	
1,1,2,2-Tetrachloroethane	27.4	ug/L	2.5	110	68	137	5.2	20	
Toluene	24.4	ug/L	2.5	95	72	135	0.0	20	
Trichloroethene	25.0	ug/L	2.5	100	85	126	4.9	20	
1,1,1-Trichloroethane	27.4	ug/L	2.5	110	63	120	2.2	20	
1,1,2-Trichloroethane	24.8	ug/L	2.5	99	78	124	5.8	20	
Trichlorofluoromethane	22.4	ug/L	2.5	90	72	120	5.5	20	
1,2,3-Trichloropropane	26.8	ug/L	2.5	107	64	138	2.3	20	
Vinyl Acetate	24.4	ug/L	5.0	98	31	124	0.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E624							Batch: R277281		
Lab ID: b17031875-001dmsd	Sample Matrix Spike Duplicate		Run: 5971A.I_170331A				03/31/17 15:11		
Vinyl chloride	22.8	ug/L	2.5	91	58	140	0.9	20	
m+p-Xylenes	46.0	ug/L	2.5	92	67	139	2.6	20	
o-Xylene	23.4	ug/L	2.5	94	74	135	3.5	20	
Xylenes, Total	69.4	ug/L	2.5	93	70	137			
Surr: 1,2-Dichloroethane-d4			2.5	112	71	139			
Surr: p-Bromofluorobenzene			2.5	105	80	127			
Surr: Toluene-d8			2.5	93	80	123			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 04/06/17

Project: 170324007 Sterling Ranch MD

Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107942		
Lab ID: MB-107942	Method Blank		Run: SV5973N2.I_170330B				03/30/17 16:12		
Acenaphthene	ND	ug/L							
Acenaphthylene	ND	ug/L							
Anthracene	ND	ug/L							
Azobenzene	ND	ug/L							
Benzidine	ND	ug/L							
Benzo(a)anthracene	ND	ug/L							
Benzo(a)pyrene	ND	ug/L							
Benzo(b)fluoranthene	ND	ug/L							
Benzo(g,h,i)perylene	ND	ug/L							
Benzo(k)fluoranthene	ND	ug/L							
4-Bromophenyl phenyl ether	ND	ug/L							
Butylbenzylphthalate	ND	ug/L							
4-Chloro-3-methylphenol	ND	ug/L							
bis(2-chloroethoxy)Methane	ND	ug/L							
bis(2-chloroethyl)Ether	ND	ug/L							
bis(2-chloroisopropyl)Ether	ND	ug/L							
2-Chloronaphthalene	ND	ug/L							
2-Chlorophenol	ND	ug/L							
4-Chlorophenyl phenyl ether	ND	ug/L							
Chrysene	ND	ug/L							
Diethyl phthalate	ND	ug/L							
Di-n-butyl phthalate	ND	ug/L							
1,2-Dichlorobenzene	ND	ug/L							
1,3-Dichlorobenzene	ND	ug/L							
1,4-Dichlorobenzene	ND	ug/L							
3,3'-Dichlorobenzidine	ND	ug/L							
2,4-Dichlorophenol	ND	ug/L							
Dimethyl phthalate	ND	ug/L							
Di-n-octyl phthalate	ND	ug/L							
Dibenzo(a,h)anthracene	ND	ug/L							
2,4-Dimethylphenol	ND	ug/L							
4,6-Dinitro-2-methylphenol	ND	ug/L							50
2,4-Dinitrophenol	ND	ug/L							50
2,4-Dinitrotoluene	ND	ug/L							10
2,6-Dinitrotoluene	ND	ug/L							10
bis(2-ethylhexyl)Phthalate	ND	ug/L							10
Fluoranthene	ND	ug/L							10
Fluorene	ND	ug/L							10
Hexachlorobenzene	ND	ug/L							10
Hexachlorobutadiene	ND	ug/L							10
Hexachlorocyclopentadiene	ND	ug/L							10
Hexachloroethane	ND	ug/L							10
Indeno(1,2,3-cd)pyrene	ND	ug/L							10

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107942		
Lab ID: MB-107942	Method Blank		Run: SV5973N2.I_170330B				03/30/17 16:12		
Isophorone	ND	ug/L	10						
n-Nitrosodimethylamine	ND	ug/L	10						
n-Nitroso-di-n-propylamine	ND	ug/L	10						
n-Nitrosodiphenylamine	ND	ug/L	10						
2-Nitrophenol	ND	ug/L	10						
4-Nitrophenol	ND	ug/L	50						
Naphthalene	ND	ug/L	10						
Nitrobenzene	ND	ug/L	10						
Pentachlorophenol	ND	ug/L	50						
Phenanthrene	ND	ug/L	10						
Phenol	ND	ug/L	10						
Pyrene	ND	ug/L	10						
1,2,4-Trichlorobenzene	ND	ug/L	10						
2,4,6-Trichlorophenol	ND	ug/L	10						
Surr: 2-Fluorobiphenyl			10	57	28	107			
Surr: 2-Fluorophenol			10	42	20	56			
Surr: Nitrobenzene-d5			10	62	32	94			
Surr: Phenol-d5			10	30	19	45			
Surr: Terphenyl-d14			10	80	32	122			
Surr: 2,4,6-Tribromophenol			10	68	21	130			
Lab ID: LCS-107942	Laboratory Control Sample		Run: SV5973N2.I_170330B				03/30/17 16:43		
Acenaphthene	89.1	ug/L	10	89	58	99			
Acenaphthylene	84.2	ug/L	10	84	57	96			
Anthracene	75.6	ug/L	10	76	60	107			
Azobenzene	78.0	ug/L	10	78	56	100			
Benzidine	53.1	ug/L	10	53	10	100			
Benzo(a)anthracene	86.4	ug/L	10	86	62	114			
Benzo(a)pyrene	84.7	ug/L	10	85	62	108			
Benzo(b)fluoranthene	89.8	ug/L	10	90	48	127			
Benzo(g,h,i)perylene	87.2	ug/L	10	87	62	121			
Benzo(k)fluoranthene	84.0	ug/L	10	84	55	111			
4-Bromophenyl phenyl ether	87.1	ug/L	10	87	58	105			
Butylbenzylphthalate	90.8	ug/L	10	91	60	113			
4-Chloro-3-methylphenol	74.6	ug/L	10	75	53	92			
bis(2-chloroethoxy)Methane	69.9	ug/L	10	70	50	92			
bis(2-chloroethyl)Ether	72.1	ug/L	10	72	44	82			
bis(2-chloroisopropyl)Ether	63.2	ug/L	10	63	56	87			
2-Chloronaphthalene	84.9	ug/L	10	85	56	95			
2-Chlorophenol	67.2	ug/L	10	67	47	76			
4-Chlorophenyl phenyl ether	83.0	ug/L	10	83	58	99			
Chrysene	87.0	ug/L	10	87	63	106			
Diethyl phthalate	84.6	ug/L	10	85	58	103			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107942		
Lab ID: LCS-107942	Laboratory Control Sample				Run: SV5973N2.I_170330B		03/30/17 16:43		
Di-n-butyl phthalate	87.1	ug/L	10	87	61	110			
1,2-Dichlorobenzene	69.3	ug/L	10	69	43	81			
1,3-Dichlorobenzene	64.0	ug/L	10	64	41	79			
1,4-Dichlorobenzene	64.5	ug/L	10	64	42	79			
3,3'-Dichlorobenzidine	64.8	ug/L	10	65	51	93			
2,4-Dichlorophenol	70.6	ug/L	10	71	49	90			
Dimethyl phthalate	82.5	ug/L	10	82	58	104			
Di-n-octyl phthalate	93.4	ug/L	10	93	56	110			
Dibenzo(a,h)anthracene	87.8	ug/L	10	88	61	111			
2,4-Dimethylphenol	66.2	ug/L	10	66	45	89			
4,6-Dinitro-2-methylphenol	66.1	ug/L	50	66	37	105			
2,4-Dinitrophenol	54.1	ug/L	50	54	27	81			
2,4-Dinitrotoluene	86.2	ug/L	10	86	63	110			
2,6-Dinitrotoluene	77.2	ug/L	10	77	60	107			
bis(2-ethylhexyl)Phthalate	86.0	ug/L	10	86	56	108			
Fluoranthene	84.2	ug/L	10	84	63	110			
Fluorene	89.3	ug/L	10	89	60	99			
Hexachlorobenzene	82.7	ug/L	10	83	57	103			
Hexachlorobutadiene	71.7	ug/L	10	72	39	83			
Hexachlorocyclopentadiene	81.0	ug/L	10	81	39	91			
Hexachloroethane	65.0	ug/L	10	65	37	75			
Indeno(1,2,3-cd)pyrene	83.2	ug/L	10	83	59	109			
Isophorone	69.8	ug/L	10	70	42	102			
n-Nitrosodimethylamine	36.8	ug/L	10	37	20	45			
n-Nitroso-di-n-propylamine	76.6	ug/L	10	77	49	98			
n-Nitrosodiphenylamine	91.5	ug/L	10	92	61	108			
2-Nitrophenol	72.3	ug/L	10	72	51	96			
4-Nitrophenol	27.4	ug/L	50	27	15	36			
Naphthalene	68.1	ug/L	10	68	48	96			
Nitrobenzene	77.9	ug/L	10	78	51	91			
Pentachlorophenol	72.4	ug/L	50	72	53	109			
Phenanthrene	82.0	ug/L	10	82	58	104			
Phenol	40.6	ug/L	10	41	27	45			
Pyrene	85.0	ug/L	10	85	64	108			
1,2,4-Trichlorobenzene	71.2	ug/L	10	71	49	85			
2,4,6-Trichlorophenol	73.9	ug/L	10	74	47	99			
Surr: 2-Fluorobiphenyl			10	69	28	107			
Surr: 2-Fluorophenol			10	42	20	56			
Surr: Nitrobenzene-d5			10	72	32	94			
Surr: Phenol-d5			10	36	19	45			
Surr: Terphenyl-d14			10	80	32	122			
Surr: 2,4,6-Tribromophenol			10	70	21	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Table with columns: Analyte, Result, Units, RL, %REC, Low Limit, High Limit, RPD, RPDLimit, Qual. Includes Method: E625, Lab ID: C17030850-001CMS, Sample Matrix Spike, Run: SV5973N2.I_170330B, Batch: 107942, and 30 analyte rows with various results and limits.

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.

S - Spike recovery outside of advisory limits.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 04/06/17

Project: 170324007 Sterling Ranch MD

Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Batch: 107942		
Lab ID: C17030850-001CMS	Sample Matrix Spike		Run: SV5973N2.I_170330B				03/30/17 17:45		
Isophorone	71.4	ug/L	10	71	42	102			
n-Nitrosodimethylamine	26.1	ug/L	10	26	20	45			
n-Nitroso-di-n-propylamine	76.1	ug/L	10	76	49	98			
n-Nitrosodiphenylamine	105	ug/L	10	105	61	108			
2-Nitrophenol	73.5	ug/L	10	74	51	96			
4-Nitrophenol	25.8	ug/L	50	26	15	36			
Naphthalene	75.6	ug/L	10	76	48	96			
Nitrobenzene	75.6	ug/L	10	76	51	91			
Pentachlorophenol	60.3	ug/L	50	60	53	109			
Phenanthrene	83.8	ug/L	10	84	58	104			
Phenol	38.7	ug/L	10	39	27	45			
Pyrene	87.0	ug/L	10	87	64	108			
1,2,4-Trichlorobenzene	74.7	ug/L	10	75	49	85			
2,4,6-Trichlorophenol	68.8	ug/L	10	69	47	99			
Surr: 2-Fluorobiphenyl			10	51	28	107			
Surr: 2-Fluorophenol			10	41	20	56			
Surr: Nitrobenzene-d5			10	64	32	94			
Surr: Phenol-d5			10	33	19	45			
Surr: Terphenyl-d14			10	73	32	122			
Surr: 2,4,6-Tribromophenol			10	67	21	130			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc

Report Date: 04/06/17

Project: 170324007 Sterling Ranch MD

Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Analytical Run: R277253		
Lab ID: 30-Mar-17_CCV_11	Continuing Calibration Verification Standard						03/30/17 15:40		
Acenaphthene	75.3	ug/L	10	100	80	120			
Acenaphthylene	79.7	ug/L	10	106	80	120			
Anthracene	75.2	ug/L	10	100	80	120			
Azobenzene	75.1	ug/L	10	100	80	120			
Benzidine	70.6	ug/L	10	94	80	120			
Benzo(a)anthracene	76.3	ug/L	10	102	80	120			
Benzo(a)pyrene	81.9	ug/L	10	109	80	120			
Benzo(b)fluoranthene	78.3	ug/L	10	104	80	120			
Benzo(g,h,i)perylene	78.0	ug/L	10	104	80	120			
Benzo(k)fluoranthene	81.6	ug/L	10	109	80	120			
4-Bromophenyl phenyl ether	81.6	ug/L	10	109	80	120			
Butylbenzylphthalate	78.0	ug/L	10	104	80	120			
4-Chloro-3-methylphenol	76.0	ug/L	10	101	80	120			
bis-(2-chloroethoxy)Methane	70.4	ug/L	10	94	80	120			
bis-(2-chloroethyl)Ether	77.2	ug/L	10	103	80	120			
bis(2-chloroisopropyl)Ether	76.7	ug/L	10	102	80	120			
2-Chloronaphthalene	79.8	ug/L	10	106	80	120			
2-Chlorophenol	72.7	ug/L	10	97	80	120			
4-Chlorophenyl phenyl ether	72.7	ug/L	10	97	80	120			
Chrysene	74.9	ug/L	10	100	80	120			
Diethyl phthalate	76.8	ug/L	10	102	80	120			
Di-n-butyl phthalate	76.9	ug/L	10	102	80	120			
1,2-Dichlorobenzene	76.8	ug/L	10	102	80	120			
1,3-Dichlorobenzene	72.1	ug/L	10	96	80	120			
1,4-Dichlorobenzene	74.8	ug/L	10	100	80	120			
3,3'-Dichlorobenzidine	76.2	ug/L	10	102	80	120			
2,4-Dichlorophenol	73.5	ug/L	10	98	80	120			
Dimethyl phthalate	77.0	ug/L	10	103	80	120			
Di-n-octyl phthalate	81.2	ug/L	10	108	80	120			
Dibenzo(a,h)anthracene	76.2	ug/L	10	102	80	120			
2,4-Dimethylphenol	70.3	ug/L	10	94	80	120			
4,6-Dinitro-2-methylphenol	77.4	ug/L	50	103	80	120			
2,4-Dinitrophenol	80.2	ug/L	50	107	80	120			
2,4-Dinitrotoluene	79.8	ug/L	10	106	80	120			
2,6-Dinitrotoluene	80.8	ug/L	10	108	80	120			
bis(2-ethylhexyl)Phthalate	77.3	ug/L	10	103	80	120			
Fluoranthene	76.8	ug/L	10	102	80	120			
Fluorene	82.8	ug/L	10	110	80	120			
Hexachlorobenzene	74.2	ug/L	10	99	80	120			
Hexachlorobutadiene	73.0	ug/L	10	97	80	120			
Hexachlorocyclopentadiene	79.2	ug/L	10	106	80	120			
Hexachloroethane	74.4	ug/L	10	99	80	120			
Indeno(1,2,3-cd)pyrene	73.3	ug/L	10	98	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E625							Analytical Run: R277253		
Lab ID: 30-Mar-17_CCV_11	Continuing Calibration Verification Standard						03/30/17 15:40		
Isophorone	71.5	ug/L	10	95	80	120			
n-Nitrosodimethylamine	79.5	ug/L	10	106	80	120			
n-Nitroso-di-n-propylamine	76.0	ug/L	10	101	80	120			
n-Nitrosodiphenylamine	77.5	ug/L	10	103	80	120			
2-Nitrophenol	74.6	ug/L	10	99	80	120			
4-Nitrophenol	72.4	ug/L	50	97	80	120			
Naphthalene	68.4	ug/L	10	91	80	120			
Nitrobenzene	77.1	ug/L	10	103	80	120			
Pentachlorophenol	71.7	ug/L	50	96	80	120			
Phenanthrene	70.9	ug/L	10	95	80	120			
Phenol	79.0	ug/L	10	105	80	120			
Pyrene	79.0	ug/L	10	105	80	120			
1,2,4-Trichlorobenzene	73.1	ug/L	10	98	80	120			
2,4,6-Trichlorophenol	71.0	ug/L	10	95	80	120			
Surr: 2-Fluorobiphenyl			10	108	80	120			
Surr: 2-Fluorophenol			10	105	80	120			
Surr: Nitrobenzene-d5			10	101	80	120			
Surr: Phenol-d5			10	102	80	120			
Surr: Terphenyl-d14			10	104	80	120			
Surr: 2,4,6-Tribromophenol			10	105	80	120			

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Colorado Analytical Laboratories Inc
Project: 170324007 Sterling Ranch MD

Report Date: 04/06/17
Work Order: C17030850

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: SW8260M									Analytical Run: 108173
Lab ID: CCV-108173	Continuing Calibration Verification Standard								04/06/17 08:29
1,4-Dioxane	95.7	ug/L	1.0	96	80	120			
Method: SW8260M									Batch: 108173
Lab ID: LCS-108173	Laboratory Control Sample								04/06/17 08:51
1,4-Dioxane	87.5	ug/L	1.0	88	70	130			Run: VOA5973A.I_170406A
Lab ID: MB-108173	Method Blank								04/06/17 09:12
1,4-Dioxane	ND	ug/L	1.0						Run: VOA5973A.I_170406A
Lab ID: C17030850-001AMS	Sample Matrix Spike								04/06/17 09:55
1,4-Dioxane	194	ug/L	2.0	97	70	130			Run: VOA5973A.I_170406A
Lab ID: C17030850-001AMSD	Sample Matrix Spike Duplicate								04/06/17 10:17
1,4-Dioxane	206	ug/L	2.0	103	70	130	6.0	20	

Qualifiers:

RL - Analyte reporting limit.

ND - Not detected at the reporting limit.



Work Order Receipt Checklist

Colorado Analytical Laboratories Inc

C17030850

Login completed by: Corinne Wagner

Date Received: 3/28/2017

Reviewed by: Kasey Vidick

Received by: ckw

Reviewed Date: 3/29/2017

Carrier name: Ground

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Custody seals intact on all sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	6.6°C On Ice - From Field		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as -dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

Contact and Corrective Action Comments:

None

