RETREAT AT TIMBERRIDGE

WATER RESOURCES
And
WASTEWATER REPORT
For
Retreat at TimberRidge

November, 2020

Prepared By:

JDS-HYDRO CONSULTANTS, INC.

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Executive Summary:
Water Resources and Wastewater Report—Retreat at TimberRidge
Revision November, 2020

Retreat at TimberRidge development by Arroya Investments consists of approximately 227 acres located east of Vollmer Rd and north of Woodmen Rd, in portions of Section 21, 22, 27 & 28, Township 12 South, Range 65 West of the 6th P.M. The land is to be provided water and sewer services through either the Sterling Ranch Metropolitan District (SRMD) or on-site individual wells and septic.

It is expected an urban residential home in Retreat at TimberRidge will require an average of 0.353 annual acre-feet. Rural residential homes in Retreat at TimberRidge will require an average of 0.32 annual acre-feet. This is consistent with historic needs for nearby developments.

The larger rural lots anticipated will be served by on-site single-family wells and septic. After considering water line layout, it was determined that larger rural lots 39, 40, and 41, could be easily provided for Central Water and would be better served on central water. For this reason, the overall Water Resources needed for the Retreat include 167 lots. The following augmentation plans are in place, or pending, to serve these lots.

- An augmentation plan (18CW3002-pending) relinquishes 2,796 acre-feet of Laramie Fox Hills NT water to augment the single family wells on in the Dawson NNT aquifer.

The water available for the Central System from On-site sources is 42.76 annual acre-feet (on a 300 year basis). Therefore, the available supply will not meet the legal and physical needs of 167 residential homes (or single family equivalents) which is 58.95 annual acre-feet. **An additional 16.19 annual acre-feet is required.**

The SRMD has committed to providing the additional water resources on a 300-year basis to make up the annual acre-foot shortfall from the District's overall sources of supply. The Arapahoe and LFH NT water available on Phase 1 of the Retreat at TimberRidge was not included in the currently available on-site supply in the SRMD commitment letter.

Additional NNT water may be made available if and when an augmentation plan is developed and approved. Certain other rights will be necessary in order to develop and augment this supply.

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SECTION 1 INTRODUCTION

The purpose of this study is to provide a preliminary outline of the water resources and wastewater needs that would be necessary for Phase 1-6 of the Retreat at TimberRidge development.

1.1 New Development Description:

Retreat at TimberRidge development consists of approximately 261 acres located east of Vollmer Rd and north of Woodmen Rd and approximately 7 acres west of Vollmer Rd allocated for Lots 11 and 12 owned by Jacob Decoto, Section 27 & 28, Township 12 South, Range 65 West of the 6th P.M. Phase 1-6 is designated for 205 residential units in addition to stormwater detention facilities, open space, drainageway, and trails.

Appendix A contains a preliminary plan for the Retreat at TimberRidge.

SECTION 2 PROJECTION OF WATER NEEDS

2.1 *Analysis of Water Demands:*

It is expected that the residential lots on central water will be developed with single family housing anticipating turf grass landscaping. The expected water demands are shown below. Displayed below is Table 2-1: Projected Water Demands for Retreat at TimberRidge:

Table 2-1 -Projected Water Demands for Retreat at TimberRidge

# of Units	*Land Use*	*Water Use Per Unit (AF/Unit)*	*Annual Demand (AF)*	*Average Daily Flow (ADF) (GPD)*	*Maximum Daily Flow (MDF) (@ 2.45 x ADF) (GPD)*	*Peak Hour Flow (@ 1.5 x MDF) (GPM)*
167	**Residential (Urban, Central systems)**	**0.353**	**58.95**	**52,627**	**128,900**	**133**
41 *	**Residential (Rural, Well & OWTS)**	**0.32**	**21.73**	**19,399**	**47,528**	**50**

Total Annual Demand of Retreat at TimberRidge (sans individual wells on rural lots) is 58.95 Acre-Feet.

- ***The augmentation case 18 CW 3002 covers 41 lots, so we have re-iterated that number here but it should be noted that 3 of the larger lots will be served with central water and are also included in the 167.***

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. The findings and relevant summary information is displayed in **Appendix B**.

Table 3-1
Summary of Immediately Available Legal Water Supply for Retreat at TimberRidge Phase 1-6

Water	Annual Supply (Acre-Feet)	Availability
On-site NT Water	42.76	Available Immediately (Phase 3, 4 (not incl. Lot 39-41), & 6)
On-Site NNT Dawson	15.35	Available Immediately (Phase 2 (not incl. Lot 11-12),
On-Site NNT Dawson	5.23	Available Immediately (Phase 1)
Off-Site NNT Dawson	2.00	Available Immediately Lots 11 & 12 in Phase 2

An augmentation plan (16CW3095) relinquished 1,324 acre-feet of Arapahoe NT water to augment 10 single family wells (Phase 1) in the Dawson NNT aquifer. An augmentation plan (18CWXXXX-pending) relinquishes 3,100 acre-feet of Laramie Fox Hills NT water to augment the 29 single family wells (Phase 2 (not incl. Lot 11 & 12), Lot 39-41 in Phase 4, & Phase 5) in the Dawson NNT aquifer. An augmentation plan (18CW3005-pending) relinquishes 403 acre-feet of Laramie Fox Hills NT water to augment the 2 single family wells on Lots 11 and 12 of Phase 2.

The total 300 year legal water supply currently available from on-site sources is 42.76 annual acre-feet. Therefore, the available supply will not meet the legal and physical needs of 167 residential homes (or single family equivalents) which is 58.95 annual acre-feet. An additional 16.19 annual acre-feet is required.

The SRMD has committed to providing the additional water resources on a 300-year basis to make up the annual acre-foot shortfall from the District's overall sources of supply. An updated SRMD commitment letter allocates an estimated 16.19 annual acre-foot required. The Arapahoe and LFH NT water available on Phase 1 of Retreat at TimberRidge was not included in the currently available on-site supply in the SRMD commitment letter. See SRMD commitment letter in **Appendix E**.

Additional NNT water may be made available if and when an augmentation plan is developed and approved.

Beneficial use of the water from the decrees includes domestic, commercial, irrigation, stock water, recreation, wildlife, wetlands, fire protection, piscatorial, and for storage and augmentation associated with such uses and excludes municipal use. The beneficial uses will need to be revised to include municipal use.

Appendix C includes the applicable decrees enumerated in Table 3 as the onsite/offsite water decrees.

3.2 Source of Supply:

Municipal water demand would be met using primarily Arapahoe and Laramie-Fox Hills formation wells. Arroya Investments has contracted with SRMD for the provision of municipal water services.

Retreat at TimberRidge will be served from SRMD Well Site #1. Well Site #1 will include all storage, treatment, and pumping facilities required to meet the SRMD demands.

3.3 Water Quality and Treatment:

The water quality in Arapahoe and Laramie-Fox Hills aquifers in this area has typically been suitable for potable use with the addition of iron and manganese treatment. SRMD will be responsible for water quality testing and the final design of treatment at Well Site #1 as part of the agreement to provide municipal water services.
See Appendix

3.4 Water Storage:

Water storage at Well Site #1 will be designed based on fire flow needs as well as equalizing storage needs. (Equalizing storage is the amount of water that helps the system meet diurnal peaks during the annual day of highest use in the system). We previously provided recommendations to SRMD that storage should equal at least the required fire supply plus necessary equalizing storage, and should exclude the bottom foot of water storage in the tank. The recommended initial storage tank size was a 1.0 Million Gallon tank followed by a 2.0 Million Gallon tank for future site development.

3.5 *Distribution and Transmission Lines:*

For the purpose of fire protection, we recommend minimum eight-inch lines throughout the residential subdivision. The lines should be looped wherever street layout allows. An 12-inch diameter transmission line should be extended south-southwesterly along one of the major roadways from the Storage tank at Well Site #1 into the Retreat at TimberRidge development.

3.6 Pumping for Service Pressures:

Ground elevations within the development service area range from approximately 7150 to 7280. Adequate service pressures are generally considered 60 psi for residential service. The preliminary tank site is on the Sterling property at a base elevation of approximately 7300 feet which would be capable of supplying acceptable service pressures to ground elevations of approximately 7160. A pumping facility at Well Site #1 would be required to provide for service pressures for lots platted after Filing #1

SECTION 4 WASTEWATER AND WASTEWATER TREATMENT

4.1 Wastewater Loads

Wastewater projections are based on similar District historical use. Average daily wastewater loads are expected to be roughly 172 gallons per day per single family residence. Maximum daily wastewater loads are expected to be roughly 210 gallons per day per single family residence. There are 164 initial residential units expected in Phase 3, 4 (not incl. Lot 39-41), & 6 on the central wastewater system Table 4-1 includes a complete breakdown.

Table 4-1 - Projected Wastewater Loadson Central Wastewater System for Retreat at TimberRidge

Wastewater Loads		
# of Units	***Average Daily Flow (ADF) (GPD)***	***Maximum Daily Flow (GPD)***
164	**28,208**	**34,440**

Total Expected Daily Loads of Retreat at TimberRidge – Phase 3, 4 & 6 is 28,208 gallons/day.

4.2 Wastewater Collection and Pumping

All lands to be developed within Phase 3, 4 (not incl. Lot 39-41), & 6 will gravity feed to the southern portion of the site and tie-into the Sterling Ranch collection system. Arroya Investments has contracted with SRMD for the provision of wastewater collection, conveyance, and treatment services. The Sterling Ranch collection system will include a lift station that will pump through a force main that extends along the southern side of Sterling Ranch. From the Southeast corner of Sterling Ranch, the force main extends southerly across Woodmen Road and then easterly to Meridian Road. From this point wastewater is intercepted by Meridian Service Metropolitan District gravity sewer infrastructure.

4.3 Wastewater Treatment

Sterling Ranch Metropolitan District has contracted with Meridian Service Metropolitan District for the provision of wastewater treatment services.

It is expected that MSMD will treat wastewater flows through its participation in the Cherokee wastewater treatment facility. The Cherokee Wastewater Facility is in compliance with their current COC issued by the Colorado Department of Public Health and Environment.

4.4 On-Site Wastewater Treatment Systems

41 single family homes (Phase 1 & 2, Lot 39-41 on Phase 4, and Phase 5) on a minimum lot size of 2.5 acres will be served by individual on-site wastewater treatment systems. The site was evaluated for on-site wastewater treatment systems by Entech Engineering, Inc. in April 2017. Two (2) percolation tests and three (3) tactile test pits were performed across the site. Percolation test and tactile test pits were located in anticipated locations of proposed on-site wastewater treatment systems. The on-site soils are described as having moderate to moderately rapid percolation rates. Due to shallow bedrock and percolation rates less than 60 minutes per inch in some areas, a designed system will likely be necessary depending on site selection for the majority of the lots.

Based on the evaluation, the site is suitable for on-site wastewater treatment systems. Additional testing will be required in other areas of proposed on-site wastewater treatment systems (remaining lots of Phase 2, Lots 39-31 of Phase 4, and Phase 5). Each on-site wastewater treatment system should be evaluated and installed according to El Paso County Guidelines and properly maintained to prevent contamination of surface and subsurface water resources. The Soil, Geology, and Geologic Hazard Report by Entech Engineering, Inc. dated April 12, 2017 is included in **Appendix D**.

Appendix A

Retreat at TimberRidge

PRELIMINARY PLAN

EL PASO COUNTY, COLORADO

LEGAL DESCRIPTION

RETREAT AT TIMBER RIDGE

A PORTION OF SECTION 21, 22, 27 AND 28, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS:
A LINE BETWEEN THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27 AND THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SAID SECTION 27, TOWNSHIP 12 SOUTH, RANGE 65 WEST, MONUMENTED AT THE NORTHERLY END BY A 3-1/4" ALUMINUM CAP STAMED "2006 ESI PLS 10376" AND MONUMENTED AT THE SOUTHERLY END BY A 3-1/4" ALUMINUM CAP STAMPED "2006 ESI PLS 10376" AND IS ASSUMED TO BEAR S00°54'30"E, A DISTANCE OF 3925.63 FEET;

PARCEL 1
COMMENCING AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SECTION 27, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., SAID POINT ALSO BEING THE **POINT OF BEGINNING**;

THENCE S00°54'30"E ON THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 27, A DISTANCE OF 3925.63 FEET TO THE SOUTHEAST CORNER OF THE NORTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 27;

THENCE S87°35'00"W ON THE SOUTH LINE OF SAID NORTHWEST QUARTER OF THE SOUTHWEST QUARTER, A DISTANCE OF 1332.78 FEET TO THE SOUTHWEST CORNER OF SAID NORTHWEST QUARTER OF THE SOUTHWEST QUARTER;

THENCE N00°53'18"W ON THE WEST LINE OF SAID NORTHWEST QUARTER OF THE SOUTHWEST QUARTER, A DISTANCE OF 1316.78 FEET TO THE NORTHWEST CORNER OF SAID NORTHWEST QUARTER OF THE SOUTHWEST QUARTER;

THENCE S89°08'28"W ON THE SOUTH LINE OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 28, A DISTANCE OF 1326.68 FEET TO THE SOUTHWEST CORNER OF SAID SOUTHEAST QUARTER OF THE NORTHEAST QUARTER;

THENCE N00°30'49"W ON THE WEST LINE OF SAID SOUTHEAST QUARTER OF THE NORTHEAST QUARTER, A DISTANCE OF 1270.77 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD AS RECORDED IN BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;

THENCE N21°41'10"E ON SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1450.84 FEET TO THE POINT OF INTERSECTION OF THE SOUTHERLY RIGHT-OF-WAY LINE AS DESCRIBED IN A DEED RECORDED IN BOOK 2678 AT PAGE 431 OF SAID COUNTY RECORDS;

THENCE ON THE SOUTHERLY, EASTERLY AND NORTHERLY RIGHT-OF-WAY LINES OF SAID DEED THE FOLLOWING FOUR COURSES:

1. N89°40'23"E, A DISTANCE OF 761.52 FEET TO A POINT ON THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 28;
2. N00°52'58"W ON SAID EAST LINE, A DISTANCE OF 30.00 FEET TO THE SOUTHEAST CORNER OF SAID SECTION 21;
3. N00°37'14"W ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 22, A DISTANCE OF 30.00 FEET;
4. S89°40'23"W, A DISTANCE OF 736.82 FEET TO THE POINT OF INTERSECTION OF THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN A DEED RECORDED IN BOOK 2678 AT PAGE 431 OF SAID COUNTY RECORDS;

THENCE N21°41'10"E ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 113.82 FEET;

THENCE S68°18'50"E, A DISTANCE OF 145.93 FEET TO A POINT OF CURVE;

THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 560.00 FEET, A CENTRAL ANGLE OF 22°00'47" FOR A LENGTH OF 215.15 FEET TO A POINT OF TANGENT;

THENCE N89°40'23"E ON A LINE THAT IS 40.00 NORTHERLY OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 21, A DISTANCE OF 348.92 FEET;

THENCE N88°38'56"E ON A LINE THAT IS 40.00 NORTHERLY OF AND PARALLEL WITH THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 22, A DISTANCE OF 477.80 FEET TO A POINT ON THE WESTERLY BOUNDARY LINE OF A WARRANTY DEED RECORDED UNDER RECEPTION NO. 217111767 OF SAID RECORDS;

THENCE ALONG THE BOUNDARY OF SAID WARRANTY DEED THE FOLLOWING SEVEN COURSES:

1. N47°35'42"E, A DISTANCE OF 44.33 FEET;
2. N36°59'01"E, A DISTANCE OF 517.38 FEET;
3. N56°32'31"E, A DISTANCE OF 489.24 FEET;
4. N38°17'19"E, A DISTANCE OF 182.67 FEET;
5. N89°41'56"E, A DISTANCE OF 1283.66 FEET;
6. S00°18'04"E, A DISTANCE OF 852.14 FEET TO A POINT ON THE SOUTH LINE OF THE SOUTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 21;
7. S88°38'37"W ON SAID SOUTH LINE, A DISTANCE OF 1300.52 FEET TO THE **POINT OF BEGINNING.**

CONTAINING A CALCULATED AREA OF 9,891,306 SQ. FEET, OR 227.07 ACRES.
TOGETHER WITH:

PARCEL 2

BEGINNING AT THE EAST 1/16TH CORNER OF SAID SECTION 21 AND 28;

THENCE N89°40'23" ON THE NORTH LINE OF THE NORTHEAST QUARTER OF SAID SECTION 28, A DISTANCE OF 499.73 FEET TO A POINT ON THE WESTERLY RIGHT OF WAY LINE OF VOLLMER ROAD AS RECORDED IN BOOK 2678 AT PAGE 30 OF SAID RECORDS;

THENCE S21°41'10"W ON SAID WESTERLY RIGHT OF WAY LINE, A DISTANCE OF 1312.75 FEET TO A POINT ON THE WEST LINE OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SAID SECTION 28;

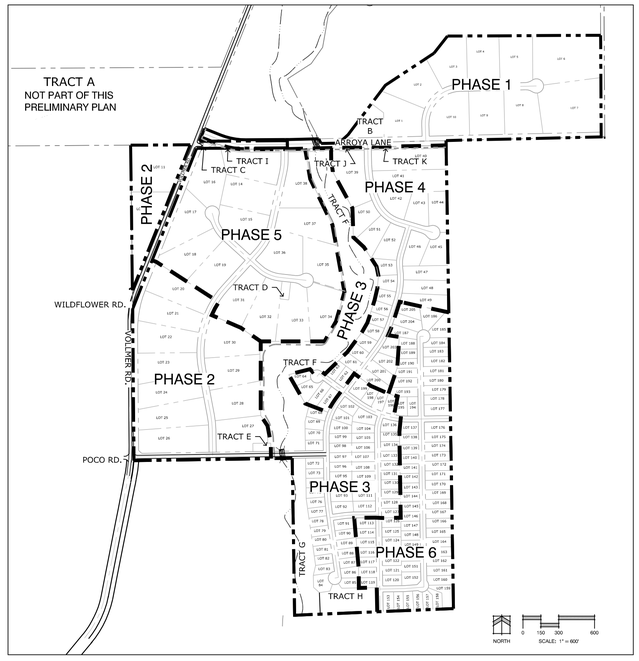
THENCE N00°41'17"W ON SAID WEST LINE, A DISTANCE OF 1217.12 FEET TO THE **POINT OF BEGINNING**.

CONTAINING A CALCULATED AREA OF 304,098 SQUARE FEET, OR 6.98 ACRES.

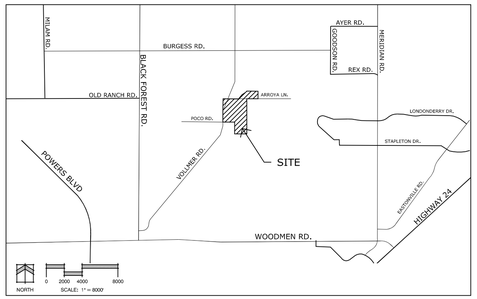
GENERAL NOTES

1. All rural roads will be asphalt with gravel shoulders. All urban streets will be asphalt with type A or C curb & gutter.
2. This property is subject to the findings summary and conclusions of a geologic hazard report prepared by ENTECH dated April 12, 2017 and revised on December 1, 2017. A copy of said report has been submitted with the zone change request for Retreat at TimberRidge PUD. Contact the El Paso County Land use review team, if you would like to review said report.
3. Development Requirements:
   - A. Maximum lot coverage:
     - a. For lots less than 20,000 Sq. Ft. - 45%
     - b. For lots with a minimum lot size of 20,000 Sq. Ft. - 45%
     - c. For lots 2.5 acres and greater including Tract A - 20%
   - B. Maximum building helght: thirty (35) feet.
   - C. Minimum Lot Size: 12,000 Sq. Ft.
   - D. Setback minimums:
     - a. For lots less than 20,000 square feet:
       Front - 25 feet minimum
       Corner Lots - 10 feet for non-garage front
       Side - 7.5 feet minimum
       Rear - 25 feet minimum
     - b. For lots with a minimum lot size of 20,000 square feet:
       Front - 25 feet minimum
       Corner Lots - 15 feet for non-garage front
       Side - 15 feet minimum
       Rear - 35 feet minimum
     - c. For lots 2.5 acres and greater including Tract A:
       Front - 35 feet minimum
       Side - 25 feet minimum
       Rear - 50 feet minimum, except that lots 20 - 26 shall have a rear yard setback of 100 feet minimum
   - E. Accessory buildings must comply with the setbacks established above, except that the rear yard setback may be reduced to twenty (20) feet for any lots that do not abut a public street or the golf course. Accessory structures are governed by architectural covenants regarding building colors and materials to be consistent with the primary structure of the site.
4. All development of lots are subject to the development guidelines and provisions of the approved PUD Resolution File No# _____ and PUD Rec. _____ .
5. Final Plats may contain more than one phase and may not be sequenced as shown on the Phasing Diagram.

PHASE & TRACT MAP



VICINITY MAP



SITE DATA

OWNERS:	Arroya Investments LLC 1283 Kelly Johnson Blvd. Colorado Springs, CO 80920 Jacob Decoto 10620 Vollmer Rd Colorado Springs, CO 80910
APPLICANT:	N.E.S. Inc. 619 N Cascade Ave., Suite 200 Colorado Springs, CO 80903
TAX ID NUMBER:	5227000004; 5228000019; 5227000003; 5227000001; 5200000398; 5200000397; 5222000023; 5200000393
DEVELOPMENT SCHEDULE:	2018
SITE ACREAGE:	234.05 AC
CURRENT ZONING:	RR-5
PROPOSED ZONING:	PUD
CURRENT LAND USE:	Vacant
PROPOSED LAND USE:	Residential: 205 Total Lots, 0.876 DU/AC • 2.5 AC Minimum: 41 Lots • 1 AC Minimum: 11 Lots • 100' x 150' Minimum: 11 Lots • 80' x 150' Minimum: 142 Lots Open Space: 27.58 AC • Open Space (Sand Creek Greenway): 22.34 AC • Landscape & Buffers: 1.17 AC • Detention/Water Quality: 4.07 AC

PHASING PLAN

PHASE	TOTAL COUNT	LOT COUNTS	LOT NUMBERS	MINIMUM LOT SIZE	AVERAGE LOT SIZE
1	10 Lots	10	1-10	2.5 Acres	3.01 Acres
2	13 Lots	13	11-12, 20-30	2.5 Acres	2.73 Acres
3	59 Lots	59	68-112, 127-136, 196-199	80' x 150'	14,326 SF
4	33 Lots	3	39-41	2.5 Acres	2.54 Acres
		11	42-52	1 Acre	1.06 Acres
		9	53-61	100' x 150'	17,618 SF
		10	62-67, 200-203	80' x 150'	19,636 SF
5	15 Lots	15	13-19, 31-38	2.5 Acres	2.56 Acres
6	75 Lots	2	204-205	100' x 150'	22,120 SF
		73	113-126, 137-195	80' x 150'	15,619 SF

TRACT TABLE

TRACT	SIZE	USE	OWNERSHIP	MAINTENANCE
A	Not a part of this preliminary plan			
B	1.296 AC (56,448 SF)	Detention, Water Quality	TimberRidge MetroDistrict	TimberRidge MetroDistrict
C	0.065 AC (2,844 SF)	Signage, Landscape	TimberRidge MetroDistrict	TimberRidge MetroDistrict
D	0.251 AC (10,955 SF)	Detention, Water Quality	TimberRidge MetroDistrict	TimberRidge MetroDistrict
E	0.241 AC (10,500 SF)	Detention, Water Quality	TimberRidge MetroDistrict	TimberRidge MetroDistrict
F	17.762 AC (773,713 SF)	Regional & Local Trails, Existing Drainageway, Open Space	TimberRidge MetroDistrict	TimberRidge MetroDistrict + El Paso County Parks
G	4.580 AC (199,518 SF)	Existing Drainageway, Open Space	TimberRidge MetroDistrict	TimberRidge MetroDistrict
H	2.279 AC (99,280 SF)	Detention, Water Quality, Local Trail	TimberRidge MetroDistrict	TimberRidge MetroDistrict
I	0.374 AC (16,303 SF)	Regional Trails, Landscape	TimberRidge MetroDistrict	TimberRidge MetroDistrict + El Paso County Parks
J	0.366 AC (15,941 SF)	Regional Trails, Landscape	TimberRidge MetroDistrict	TimberRidge MetroDistrict + El Paso County Parks
K	0.360 AC (15,684 SF)	Regional Trails, Landscape	TimberRidge MetroDistrict	TimberRidge MetroDistrict + El Paso County Parks

SHEET INDEX

Land Planning
Landscape Architecture
Urban Design

NES

N.E.S. Inc.
619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

Tel. 719.471.0073
Fax 719.471.0267

www.nescolorado.com

PLANNERS | LANDSCAPE ARCHITECTS

IN ASSOCIATION WITH

Retreat at TimberRidge

Preliminary Plan

EL PASO COUNTY, CO

PROJECT INFO
DATE: 04/11/18
PROJECT MGR: J. MAYNARD
PREPARED BY: K. MARSHALL

SEAL

ISSUE INFO

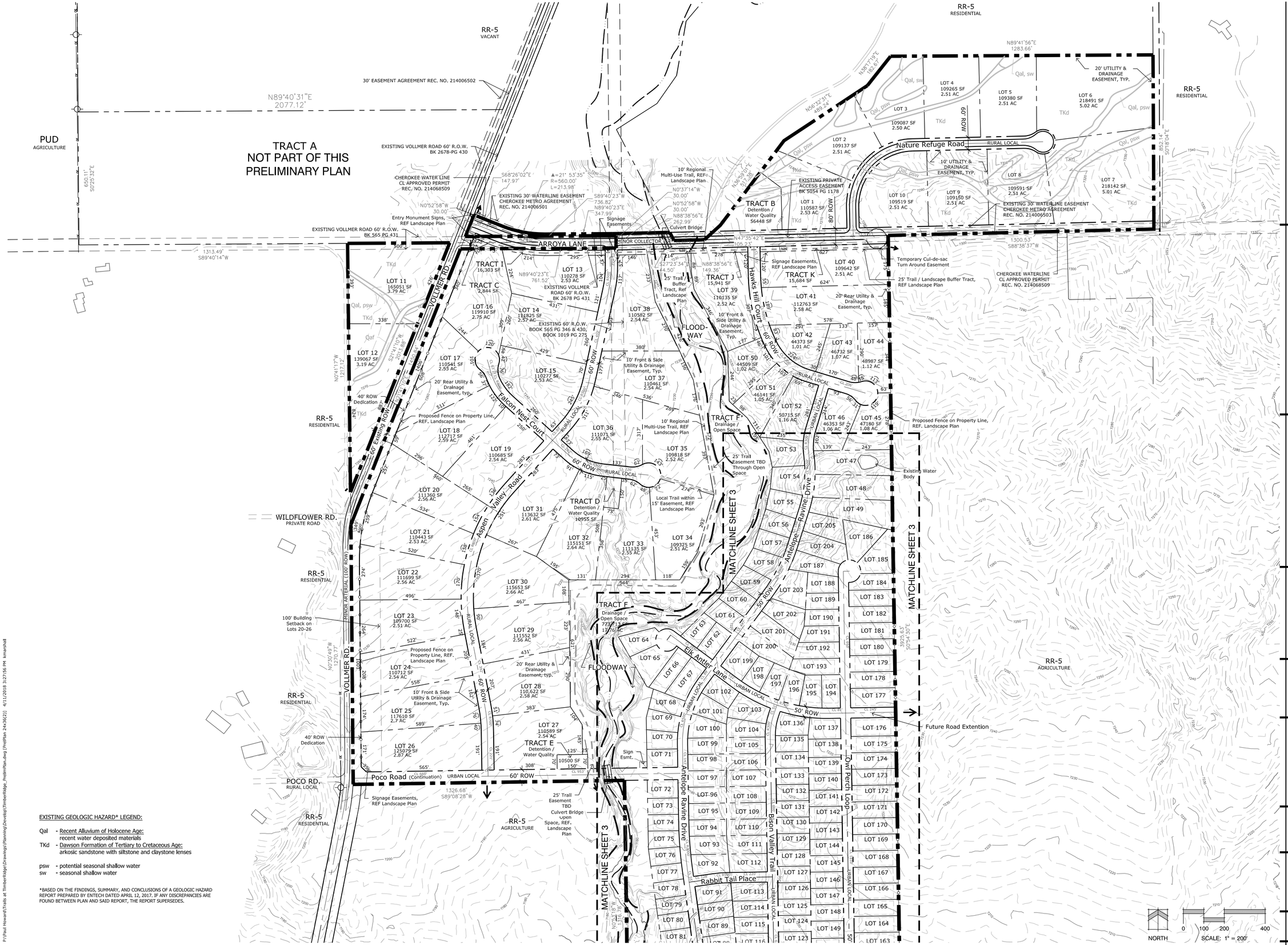
DATE:	BY:	DESCRIPTION:

ISSUE / REVISION

SHEET TITLE
COVER SHEET

SHEET NUMBER
1 OF 3

PLAN FILE #



EXISTING GEOLOGIC HAZARD* LEGEND:

Qal - Recent Alluvium of Holocene Age:
recent water deposited materials

TKd - Dawson Formation of Tertiary to Cretaceous Age:
arkosic sandstone with siltstone and claystone lenses

psw - potential seasonal shallow water
sw - seasonal shallow water

*BASED ON THE FINDINGS, SUMMARY, AND CONCLUSIONS OF A GEOLOGIC HAZARD REPORT PREPARED BY ENTECH DATED APRIL 12, 2017. IF ANY DISCREPANCIES ARE FOUND BETWEEN PLAN AND SAID REPORT, THE REPORT SUPERSEDES.

NORTH

0 100 200 400

SCALE: 1" = 200'

Land Planning
Landscape Architecture
Urban Design

NES

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619 N. Cascade Avenue, Suite 200
Colorado Springs, CO 80903

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Retreat at TimberRidge

Preliminary Plan

EL PASO COUNTY, CO

PROJECT INFO

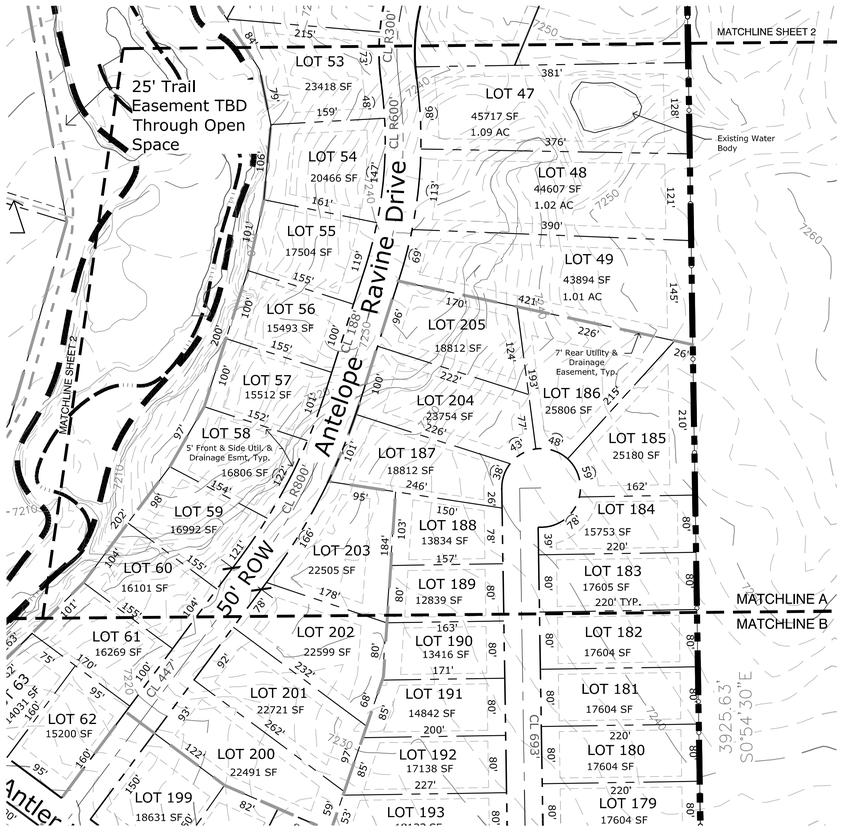
DATE:	04/11/18
PROJECT MGR:	J. MAYNARD
PREPARED BY:	K. MARSHALL

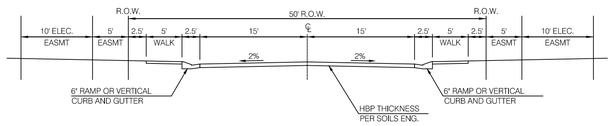
DATE:	BY:	DESCRIPTION:

PRELIMINARY PLAN

SHEET NUMBER

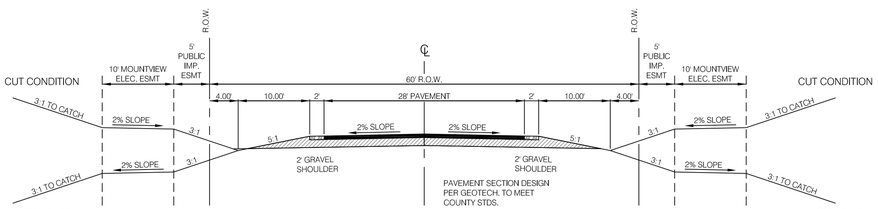
2 OF 3





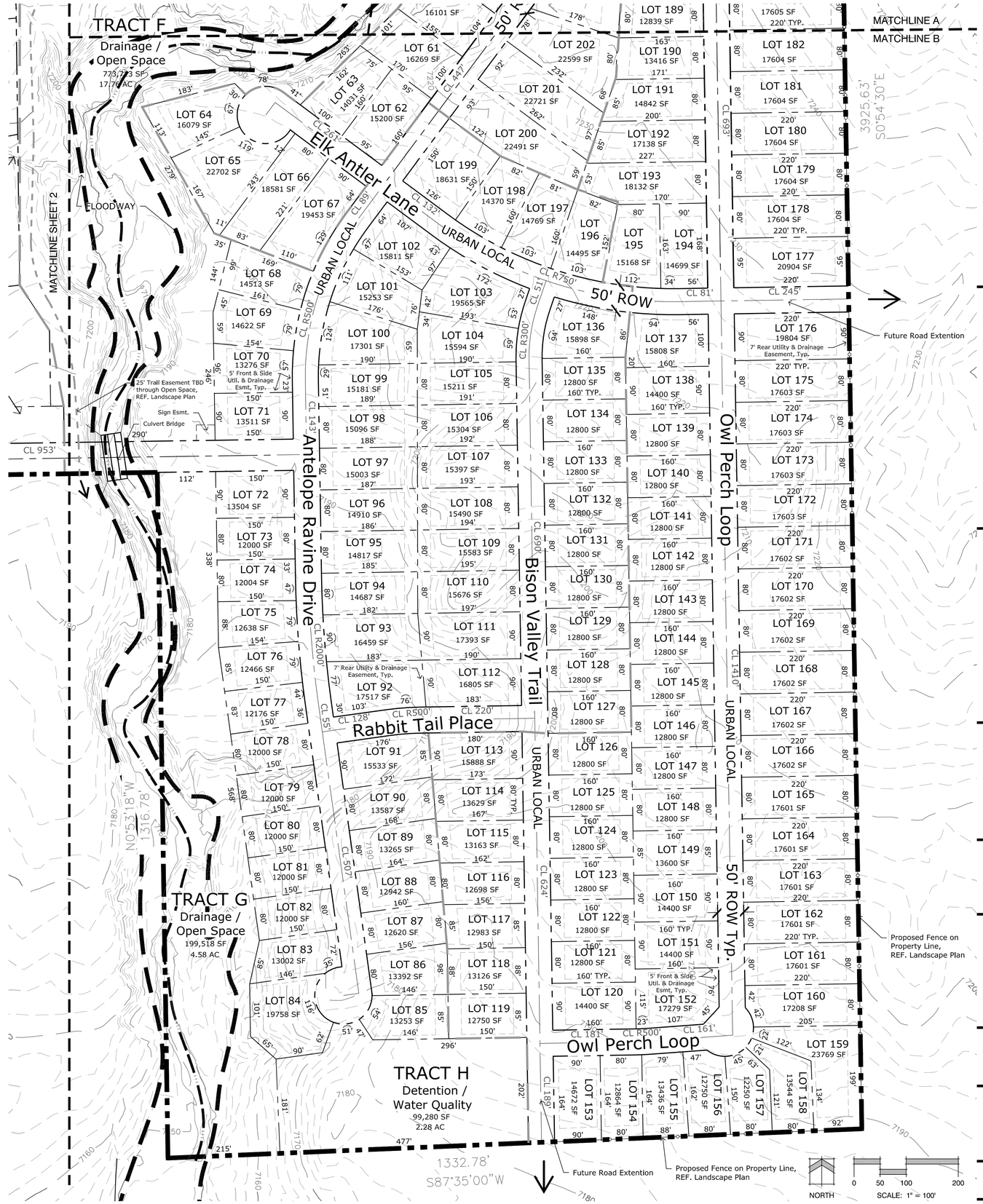
S1 URBAN LOCAL ROAD TYPICAL SECTION - 50' ROW

SCALE: 1" = 1'-0"



S2 RURAL LOCAL ROAD TYPICAL SECTION - 60' ROW

SCALE: 1" = 1'-0"



Land Planning
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Colorado Springs, CO 80903

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Retreat at TimberRidge

Preliminary Plan

EL PASO COUNTY, CO

PROJECT INFO
DATE: 04/11/18
PROJECT MGR: J. MAYNARD
PREPARED BY: K. MARSHALL

SEAL

ISSUE INFO

DATE:	BY:	DESCRIPTION:

ISSUE / REVISION

PRELIMINARY PLAN

SHEET TITLE

SHEET NUMBER 3 OF 3

PLAN FILE #

P:\Paul Howard\Trails at TimberRidge\Drawings\Planning\Develop\TimberRidge_PrelimPlan.dwg (PrelimPlan 24x36(3)) 4/13/2018 9:33:45 AM kmarshall

Appendix B

Appendix B

Update November, 2020

Sterling Ranch Metropolitan District
Comprehensive Water Supply Inventory
Current 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	Saturated Specific Yield
			Acre-Feet	A-F/Year	A-F/Year				
Currently Available On-Site Sterling Water Legal Sources									
Laramie Fox Hills	86-CW-19	NT	53,900	539.00	179.67	KLF-1 - KLF-4	Under 1410 acres	255	15%
	08CW113	NT	40	0.40	0.13		Under 41.44 acres, reduced to 1.44 acres		
Arapahoe	86-CW-18	NT	57500	575.00	191.67	KA-1 - KA-4	Under 1410 acres	240	17%
					371.47				
								57528	
Case Pending Available On-Site Sterling Water Legal Sources (Note 2)									
Laramie Fox Hills	20CW 3059 (Pending)	NT	2780	27.80	9.27		97.54 acres SR Quarry (Note 5)	190	
Arapahoe	20CW 3059 (Pending)	NNT	4320	43.20	14.40	**Augmented via Same Case**	97.54 acres SR Quarry (Note 5)	260.5	
Denver	20CW 3059 (Pending)	NNT	4895	48.95	16.32	**Augmented via Same Case**	97.54 acres SR Quarry (Note 5)	295.2	
Denver	08CW113 Aug 20CW 3059 (Pending)	NNT	72893	728.93	242.98	**Augmented via Pending Case**	Sterling Ranch 1410 acres		
Arapahoe	08CW113 Aug 20CW 3059 (Pending)	NNT	60	0.60	0.20	**Augmented via Pending Case**	Sterling Ranch 41.44 reduced to 1.44 acres		
					283.16				
Currently Available On-Site Retreat Water Legal Sources (Note 1)									
Laramie Fox Hills	17CW3002	NT	6,440				Under 225.97 acres	190	15%
Laramie Fox Hills	17CW3002	NT	0				DeCoto Parcel 36.01 acres (not owned by Retreat)		
LFH (Retained Water by predescer in title)		NT	-612						
LFH (Relinquishment)	18CW3002	NT	-2,796				Augments 18 CW 3002		
			3,032	30.32	10.11				
Arapahoe	17CW3002	NT	**9,796**	97.96	32.65		Under 225.97 acres	255	17%
Legal Supply: Phase 3, Phase 4 (excluding Lots 39-41) and Phase 6			**12,828**	**128.28**	**42.76**				
Augmentation (Dawson NNT)	**18CW3002**	Aug	2,796	27.96	9.32	**29 Single Family Wells**	pumping		
(excluding Lots 11-12),					**9.32**				
Augmentation (Dawson NNT)	16CW3095	Aug	1567.5	15.68	5.23	**10 Single Family Wells (Phase 1)**	Replace actual depletions		
Legal Supply Phase 1					**5.23**				
Currently Available Off-Site Ground Water Legal Sources									
Augmentation (Dawson NNT)	18CW3005	Aug	324.0	3.24	1.08	**2 Single Family Wells (Phase 2 - Lots 11 &12)**	pumping		
2)			**324.0**	**3.2**	**1.1**				
Total Current Available 300-Year Water Supply					**697.39**	**For Sterling Ranch including Retreat Central system**			
Note 1.	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								

Current SFE supported by Existing water rights		***1976***	***Single Family Equivalents under El Paso County 300 year Rule***
	Includes both Retreat and Sterling Ranch		
	Based on established Use Caracteristic 0.353 AF/SFE		

Appendix C

217062313 5/31/2017 10:16 AM
PGS 16 $88.00 DF $0.00
Electronically Recorded Official Records El Paso County CO
Chuck Broerman, Clerk and Recorder
TD1000 N

DISTRICT COURT, WATER DIVISION 2, COLORADO Court Address: 501 North Elizabeth Street, Suite 116 Pueblo, CO 81003	DATE FILED: May 31, 2017 9:37 AM CASE NUMBER: 2017CW3002
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: **ARROYA INVESTMENTS, LLC, JACOB DECOTO, MARVIN ORNES and TERRI WAHLBERG** **IN EL PASO COUNTY**	▲ COURT USE ONLY ▲ Case No.: 17CW3002
FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF REFEREE AND DECREE	

THIS MATTER comes before the Water Referee on the Application filed by Arroya Investments, LLC, Jacob Decoto, Marvin Ornes and Terri Wahlberg, and having reviewed said Application and other pleadings on file, and being fully advised on this matter, the Water Referee makes the following findings and orders:

GENERAL FINDINGS OF FACT

1. The applicants in this case are Arroya Investments, LLC ("Arroya"), Jacob Decoto ("Decoto"), Marvin Ornes ("Ornes") and Terri Wahlberg ("Wahlberg") (collectively, "Applicants"). Applicants are, collectively, the owners of the four separately owned parcels of land totaling approximately 335.59 acres under which the groundwater sought to be adjudicated herein are located, and are likewise the owners of the place of use where the water is anticipated to be put to beneficial use.

2. The Applicants filed this Application with the Water Court for Water Division 2 on January 31, 2017. The Application was referred to the Water Referee by order of the Court dated February 2, 2017.

3. The time for filing statements of opposition to the Application expired on the last day of March, 2017, and a no statements of opposition were timely filed.

4. On February 2, 2017, the Division 2 Water Court ordered that publication occur in the *Daily Transcript* within El Paso County.

5. The Clerk of this Court has caused publication of the Application filed in this matter as provided by statute and the publication costs have been paid. On February 15, 2017, proof of publication in the *Daily Transcript* was filed with the Court. All notices of the Application have been given in the manner required by law.

6. Pursuant to C.R.S. §37-92-302(2), the Office of the State Engineer has filed Determination of Facts for each aquifer with this Court dated March 14, 2017.

7. Pursuant to C.R.S. §37-92-302(4), the office of the Division Engineer for Water Division 2 filed its Consultation Report dated March 29, 2017, with the Court. The Consultation Report has been considered by the Water Referee in the entry of this Ruling.

8. The Water Court has jurisdiction over the subject matter of these proceedings and over all who have standing to appear as parties whether they have appeared or not. The land and water rights involved in this case are not within a designated groundwater basin.

GROUNDWATER RIGHTS

9. The Applicants requested the adjudication and quantification all Denver Basin groundwater in each aquifer underlying the four (4) specifically described parcels of land owned by each of the Applicants, respectively, as described herein. No plan for augmentation for the use of the not-nontributary groundwater was sought or is decreed herein. The Applicants shall construct such wells as necessary for withdrawal of Applicants' full entitlements of water supplies decreed herein. The following findings are made with respect to such underground water rights:

A. Property Description. All wells to all aquifers will be located on the Applicants respective properties. Such Properties are more specifically described as follows:

i. Arroya Parcel. The "Arroya Parcel" is an approximately 226 acre parcel located in the SE1/4 SE1/4 of Section 21, the W1/2 SW1/4 of Section 22, the E1/2 NE1/4 of Section 28, the W1/2 NW1/4 and the NW1/4 SW1/4 of Section 27, all in Township 21 South, Range 65 West of the 6th P.M., El Paso County, Colorado, as more particularly described on attached **Exhibit A**, and depicted on attached **Exhibit E**. The Arroya Parcel is owned by Applicant Arroya Investments, LLC.

ii. West Parcel No. 1. The "West Parcel No. 1" is an approximately 36.01 acre parcel located in the SW1/4 SE1/4 and the SE1/4 SE1/4 of Section 21, and the NE1/4 NE1/4 of Section 27, Township 12 South, Range 65 West of the 6th P.M., El Paso County, Colorado, as more particularly described on attached **Exhibit B**, and depicted on attached **Exhibit E**. The West Parcel No. 1 is owned by Applicant Jacob Decoto.

iii. West Parcel No. 2. The "West Parcel No. 2" is an approximately 36.03 acre parcel located in the SW1/4 SE1/4 and the SE1/4 SE1/4 of Section 21, Township 12 South, Range 65 West of the 6th P.M., El Paso County, Colorado, as more particularly described on attached **Exhibit C**, and depicted on attached **Exhibit E**. The West Parcel No. 2 is owned by Applicant Jacob Decoto.

iv. West Parcel No. 3. The "West Parcel No. 3" is an approximately 37.58 acre parcel located in the NW1/4 SE1/4 and the NE1/4 SE1/4 of Section 21, Township 12 South, Range 65 West of the 6th P.M., El Paso County, Colorado, as more particularly described on attached **Exhibit D**, and depicted on attached **Exhibit E**. The West Parcel No. 3 is owned by Applicants Marvin Ornes and Terri Wahlberg.

B. Existing Wells. There is currently one (1) existing well constructed to the Dawson aquifer on West Parcel No. 2 (Decoto): DWR Permit No. 4554, an exempt domestic well. DWR Permit No. 4554 is an exempt structure; water from the Dawson aquifer sufficient to allow for such continued exempt use has been excluded from the quantification herein. Two additional exempt domestic wells have been permitted since the filing of the application in this matter, DWR Permit No. 304551 on West Parcel No. 1 (Decoto), and DWR Permit No. 304498 on West Parcel No. 3 (Ornes/Wahlberg), and are excluded from quantification herein.

C. Additional Wells. Applicants anticipated additional wells will be constructed on each the Applicants' respective properties. To the extent any additional wells may be constructed to the not-nontributary Dawson and/or Denver aquifer(s), such wells may be constructed only pursuant to a subsequent decree providing an approved plan for augmentation, or as exempt well structures pursuant to C.R.S. §37-92-602.

10. Of the statutorily described Denver Basin aquifers, the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers all exist beneath the Applicants' respective properties. The Dawson and Denver aquifers contain not-nontributary water, while the water of the Arapahoe and Laramie-Fox Hills aquifers underlying the Applicants' respective properties is nontributary. The quantity of water in the Denver Basin aquifers exclusive of artificial recharge underlying each of the Applicants' respective properties as allocated on a pro-rata per acre basis from the amounts described in the State Engineer's Determination of Facts, is as follows:

A. Arroya Parcel (225.97 acres):

Aquifer	Sand Thickness (Feet)	Total Ground Water Storage (Acre Feet)	Annual Average Withdrawal – 100 Years (Acre Feet)
Dawson (NNT)	270	12,202	122
Denver (NNT)	310	11,909	119.1
Arapahoe (NT)	255	9,796	98
Laramie-Fox Hills (NT)	190	6,440	64.4

B. West Parcel No. 1 (Decoto – 36.01 acres):

Aquifer	Sand Thickness (Feet)	Total Ground Water Storage (Acre Feet)	Annual Average Withdrawal – 100 Years (Acre Feet)
Dawson (NNT)	270	1,944.4	16.44[1]
Denver (NNT)	310	1,897.7	18.98
Arapahoe (NT)	255	1,561	15.61
Laramie-Fox Hills (NT)	190	1,026.2	10.26

C. West Parcel No. 2 (Decoto – 36.03 acres):

Aquifer	Sand Thickness (Feet)	Total Ground Water Storage (Acre Feet)	Annual Average Withdrawal – 100 Years (Acre Feet)
Dawson (NNT)	270	1,945.4	16.45[2]
Denver (NNT)	310	1,898.8	18.99
Arapahoe (NT)	255	1,562	15.62
Laramie-Fox Hills (NT)	190	1,026.8	10.27

D. West Parcel No. 3 (Ornes & Wahlberg – 37.58 acres):

Aquifer	Sand Thickness (Feet)	Total Ground Water Storage (Acre Feet)	Annual Average Withdrawal – 100 Years (Acre Feet)
Dawson (NNT)	270	2,029.2	17.29[3]
Denver (NNT)	310	1,980.5	19.80
Arapahoe (NT)	255	1,629	16.29
Laramie-Fox Hills (NT)	190	1,071	10.7

[1] Three (3) annual acre feet of Dawson groundwater has been reserved from quantification herein for permitting of an exempt domestic well on this parcel pursuant to C.R.S. §37-92-602, *et seq.*, recently permitted as DWR Permit No. 304551.

[2] Three (3) annual acre feet of Dawson groundwater has been reserved from quantification herein for continued use of DWR Permit No. 4554 as an exempt domestic well on this parcel pursuant to C.R.S. §37-92-602, et seq.

[3] Three (3) annual acre feet of Dawson groundwater has been reserved from quantification herein for permitting of an exempt domestic well on this parcel pursuant to C.R.S. §37-92-602, et seq., recently permitted as DWR Permit No. 304498.

11. Pursuant to §37-90-137(9)(c.5)(I), C.R.S., the augmentation requirements for wells in the Dawson aquifer require the replacement to the effected stream systems of actual stream depletions on an annual basis, to the extent necessary to prevent injurious effect, based upon actual aquifer conditions. The augmentation requirements for wells to the Denver aquifer are for 4% of pumping. Applicants shall not be entitled to construct a non-exempt well or use water from the not-nontributary Dawson or Denver aquifers except pursuant to an approved augmentation plan in accordance with C.R.S. §37-90-137(9)(c.5).

12. Applicants shall be entitled to withdraw all legally available groundwater in the Denver Basin aquifers underlying Applicants' respective properties. Said amounts can be withdrawn over the 100-year life for the aquifers as set forth in C.R.S. §37-90-137(4), or withdrawn over a longer period of time based upon local governmental regulations or Applicants' water needs. The average annual amounts of ground water available for withdrawal from the underlying Denver Basin aquifers, based upon the 100-year aquifer life is determined and set forth above, based upon the March 14, 2017 Office of the State Engineer Determination of Facts. Such groundwater may be withdrawn from wells located upon the overlying land or contiguous properties with such contiguity to allow such withdrawal, consistent with the Denver Basin Rules as promulgated by the Office of the State Engineer, as may be amended from time to time.

13. Applicants shall be entitled to withdraw an amount of groundwater in excess of the average annual amount decreed herein from the Denver Basin aquifers underlying Applicants' respective properties, so long as the sum of the total withdrawals from wells in the aquifer does not exceed the product of the number of years since the date of issuance of the original well permit or the date of entry of the decree herein, whichever comes first, and the annual volume of water which Applicants are entitled to withdraw from the aquifer underlying Applicants' respective properties.

14. The Applicants shall have the right to use the ground water for beneficial uses on or off the Applicants' respective properties consisting of domestic, commercial, irrigation, stock water, recreation, wildlife, wetlands, fire protection, piscatorial, and for storage and augmentation associated with such uses. The amount of groundwater decreed for such uses upon the Applicants' respective properties is reasonable as such uses are to be made for the long term use and enjoyment of the Applicants' respective properties and are to establish and provide for adequate water reserves. The nontributary groundwater, may be used, reused, and successively used to extinction, both on and off the Applicants' respective properties subject, however, to the relinquishment of the right to consume two percent of such nontributary water withdrawn. Applicants may use such water by immediate application or by storage and subsequent application to the beneficial uses and purposes stated herein. Provided however, as set forth above, Applicants shall only be entitled to construct a non-exempt well or use water from the not-nontributary Dawson and Denver aquifers pursuant to a decreed augmentation plan entered by the Court. Withdrawals of groundwater available from the nontributary aquifers beneath the Applicants' respective properties in the

amounts determined in accordance with the provisions of this decree will not result in material injury to any other vested water rights or to any other owners or users of water.

15. Applicants may construct such wells on their respective properties as necessary for the withdrawal of all entitlements from each aquifer as described above, and such withdrawals may be made through any combination of wells. As to each of Applicants' respective properties, these wells shall be treated as a well field.

CONCLUSIONS OF LAW

16. The application for adjudication of Denver Basin groundwater was filed with the Water Clerk for Water Division 2 pursuant to C.R.S. §§37-92-302(1)(a) and 37-90-137(9)(c).

17. The Applicants' request for adjudication of these water rights is contemplated and authorized by law, and this Court and the Water Referee have exclusive jurisdiction over these proceedings. C.R.S. §§37-92-302(1)(a), 37-92-203, and 37-92-305.

18. Subject to the terms of this decree, the Applicants are entitled to the sole right to withdraw all the legally available water in the Denver Basin aquifers underlying the Applicants' respective properties, and the right to use that water to the exclusion of all others subject to the terms of this decree.

19. The Applicants have complied with C.R.S. §37-90-137(4), and the groundwater is legally available for withdrawal by the requested nontributary well(s), and legally available for withdrawal by the requested not-nontributary well(s) upon the entry of a subsequent decree approving an augmentation plan pursuant to C.R.S. §37-90-137(9)(c.5). Applicants are entitled to a decree from this Court confirming their rights to withdraw groundwater pursuant to C.R.S. §37-90-137(4).

20. The Denver Basin water rights applied for in this case are not conditional water rights, but are vested water rights determined pursuant to C.R.S. §37-90-137(4). No applications for diligence are required. The claims for nontributary and not-nontributary groundwater meet the requirements of Colorado Law.

21. The determination and quantification of the nontributary and not-nontributary groundwater rights in the Denver Basin aquifers as set forth herein is contemplated and authorized by law. C.R.S. §§37-90-137, and 37-92-302 through 37-92-305.

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

22. All of the foregoing Findings of Fact and Conclusions of Law are incorporated herein by reference, and are considered to be a part of this decretal portion as though set forth in full.

23. The Application for Adjudication of Denver Basin Groundwater proposed by the Applicants is approved, subject to the terms of this decree.

24. The Applicants have furnished acceptable proof as to all claims and, therefore, the Application for Adjudication of Groundwater as requested by the Applicants is granted and approved in accordance with the terms and conditions of this decree. Approval of this Application will not result in any material injury to senior vested water rights.

25. The Applicants shall comply with C.R.S. §37-90-137(9)(b), requiring the relinquishment of the right to consume two percent (2%) of the amount of the nontributary groundwater withdrawn. Ninety-eight percent (98%) of the nontributary groundwater withdrawn may therefore be consumed. No plan for augmentation shall be required to provide for such relinquishment.

26. The Court retains jurisdiction over this matter to make adjustments in the allowed average annual amount of withdrawal from the Denver Basin aquifers, either upwards or downwards, to conform to actual local aquifer characteristic, and that the Applicants need not refile, republish, or otherwise amend this application to request such adjustments.

A. At such time as adequate data may be available, Applicant or the State Engineer may invoke the Court's retained jurisdiction as provided in this Paragraph 26 for purposes of making a final determination of water rights as to the quantities of water available and allowed average annual withdrawals from any of the Denver Basin aquifers quantified and adjudicated herein. Any person seeking to invoke the Court's retained jurisdiction for such purpose shall file a verified petition with the Court setting forth with particularity the factual basis for such final determination of Denver Basin water rights under this decree, together with the proposed decretal language to effect the petition. Within four months of the filing of such verified petition, the State Engineer's Office shall utilize such information as available to make a final determination of water rights finding, and shall provide such information to the Court, Applicant, and the petitioning party.

B. If no protest is filed with the Court to such findings by the State Engineer's Office within sixty (60) days, this Court shall incorporate by entry of an Amended Decree such "final determination of water rights", and the provisions of this Paragraph 26 concerning adjustments to the Denver Basin ground water rights based upon local aquifer conditions shall no longer be applicable. In the event of a protest

being timely filed, or should the State Engineer's Office make no timely determination as provided in Paragraph 26.A., above, the "final determination of water rights" sought in the petition may be made by the Water Court after notice to all parties and following a full and fair hearing, including entry of an Amended Decree, if applicable in the Court's reasonable discretion.

27. Pursuant to C.R.S. §37-92-502(5)(a), the Applicants shall install and maintain such water measurement devices and recording devices as are deemed essential by the State Engineer or Division Engineers, and the same shall be installed and operated in accordance with instructions from said entities. Applicants are to install and maintain a totalizing flow meter on all wells, and any additional or replacement wells. Applicants are also to maintain records and provide reports to the State Engineer or Division Engineers as instructed by said entities, on at least an annual basis.

28. The vested water rights and water right structures decreed herein shall be subject to all applicable administrative rules and regulations, as currently in place or as may in the future be promulgated, of the offices of Colorado State and Division Engineers for administration of such water rights, to the extent such rules and regulations are uniformly applicable to other similarly situated water rights and water users.

29. This Ruling of Referee, when entered as a decree of the Water Court, shall be recorded in the real property records of El Paso County, Colorado. Copies of this ruling shall be mailed as provided by statute.

DATED THIS 5th day of May, 2017.

BY THE REFEREE:

Mardell R. DiDomenico, Water Referee
Water Division 2

DECREE

THE COURT FINDS THAT NO PROTEST WAS MADE IN THIS MATTER, THEREFOR THE FORGOING RULING IS CONFIRMED AND APPROVED, AND IS HEREBY MADE THE JUDGMENT AND DECREE OF THIS COURT.

Dated: May 31, 2017.

BY THE COURT:

LARRY C. SCHWARTZ, WATER JUDGE
WATER DIVISION 2

EXHIBIT A

LEGAL DESCRIPTION – ARROYA PARCEL

A PARCEL OF LAND LOCATED IN A PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21 AND A PORTION OF THE SOUTHWEST ONE-QUARTER OF SECTION 22, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A LINE BETWEEN THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27 AND THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SAID SECTION 27, TOWNSHIP 12 SOUTH, RANGE 65 WEST, MONUMENTED AT THE NORTHERLY END BY A 3-1/4" ALUMINUM CAP STAMED "2006 ESI PLS 10376" AND MONUMENTED AT THE SOUTHERLY END BY A 3-1/4" ALUMINUM CAP STAMPED "2006 ESI PLS 10376" AND IS ASSUMED TO BEAR S00°54'30"E, A DISTANCE OF 3925.63 FEET;

COMMENCING AT THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27;
THENCE S88°38'56"W ALONG THE NORTH LINE OF SAID NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4), A DISTANCE OF 1047.88 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE S88°38'56"W CONTINUING ALONG SAID NORTH LINE, A DISTANCE OF 283.03 FEET TO THE NORTHWEST CORNER OF SAID SECTION 27 SAID POINT ALSO BEING A POINT ON THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN BOOK 2678 AT PAGE 431 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;

THENCE ALONG THE EASTERLY AND NORTHERLY RIGHT-OF-WAY LINES OF SAID DEED THE FOLLOWING TWO (2) COURSES:

1. N00°37'14"W SAID LINE ALSO BEING THE WEST LINE OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF SAID SECTION 22, A DISTANCE OF 30.00 FEET;
2. S89°40'23"W, A DISTANCE OF 736.82 FEET TO THE POINT OF INTERSECTION OF THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN BOOK 2678 AT PAGE 430 OF SAID COUNTY RECORDS;

THENCE N21°41'10"E ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1798.07 FEET;
THENCE N59°58'50"E, A DISTANCE OF 694.83 FEET;
THENCE S14°30'58"E, A DISTANCE OF 567.09 FEET;
THENCE N69°36'18"E, A DISTANCE OF 603.87 FEET;
THENCE S30°23'46"E, A DISTANCE OF 264.58 FEET;
THENCE S61°52'38"W, A DISTANCE OF 227.40 FEET;

THENCE S79°15'47"W, A DISTANCE OF 276.17 FEET;
THENCE S89°39'18"W, A DISTANCE OF 356.07 FEET;
THENCE S40°09'47"W, A DISTANCE OF 310.61 FEET;
THENCE S09°56'46"W, A DISTANCE OF 270.03 FEET;
THENCE S35°00'25"W, A DISTANCE OF 167.38 FEET;
THENCE S57°24'01"W, A DISTANCE OF 235.36 FEET;
THENCE S27°23'34"E, A DISTANCE OF 611.29 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 35.08 ACRES OF LAND, MORE OR LESS.

Along With:

A PARCEL OF LAND BEING THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27, THE SOUTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (SW1/4 NW1/4) OF SECTION 27, THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SECTION 27, A PORTION OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 28 AND A PORTION OF THE NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NE1/4 NE1/4) OF SECTION 28, ALL IN TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A LINE BETWEEN THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27 AND THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SAID SECTION 27, TOWNSHIP 12 SOUTH, RANGE 65 WEST, MONUMENTED AT THE NORTHERLY END BY A 3-1/4" ALUMINUM CAP STAMED "2006 ESI PLS 10376" AND MONUMENTED AT THE SOUTHERLY END BY A 3-1/4" ALUMINUM CAP STAMPED "2006 ESI PLS 10376" AND IS ASSUMED TO BEAR S00°54'30"E, A DISTANCE OF 3925.63 FEET;

COMMENCING AT THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27, SAID POINT ALSO BEING THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE S00°54'30"E ALONG THE EAST LINE OF THE WEST ONE-HALF (W1/2) OF SAID SECTION 27, A DISTANCE OF 3925.63 FEET TO THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER NW1/4 SW1/4) OF SAID SECTION 27;
THENCE S87°35'00"W ALONG THE SOUTH LINE OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4), A DISTANCE OF 1332.78 FEET TO THE SOUTHWEST CORNER OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4);
THENCE N00°53'18"W ALONG THE WEST LINE OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4), A DISTANCE OF 1316.78 FEET TO THE NORTHWEST CORNER OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4);
THENCE S89°08'28"W ALONG THE SOUTH LINE OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (SE1/4 NE1/4) OF SECTION 28, A DISTANCE OF 1326.68 FEET TO THE SOUTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (SE1/4 NE1/4);
THENCE N00°30'49"W ALONG THE WEST LINE OF SAID SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (SE1/4 NE1/4), A DISTANCE OF 1270.77 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN

BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;
THENCE N21°41'10"E ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1450.84 FEET TO THE POINT OF INTERSECTION OF THE SOUTHERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN BOOK 2678 AT PAGE 431 OF SAID COUNTY RECORDS;

THENCE ALONG THE SOUTHERLY AND EASTERLY RIGHT-OF-WAY LINES OF SAID DEED THE FOLLOWING TWO (2) COURSES:

1. N89°40'23"E, A DISTANCE OF 761.52 FEET TO A POINT ON THE EAST LINE OF SAID NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NE1/4 NE1/4);
2. N00°52'58"W ALONG SAID EAST LINE, A DISTANCE OF 30.00 FEET TO THE NORTHWEST CORNER OF SAID SECTION 27;

THENCE N88°38'56"E ALONG THE NORTH LINE OF SAID NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4), A DISTANCE OF 1330.91 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 190.89 ACRES OF LAND, MORE OR LESS.

EXHIBIT B

LEGAL DESCRIPTION TRAILS AT TIMBERLINE WEST PARCEL 1:

A PARCEL OF LAND LOCATED IN A PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21 AND A PORTION OF THE NORTHEAST ONE-QUARTER (NE1/4) OF SECTION 28, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE WEST LINE OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 65 WEST IS ASSUMED TO BEAR N00°25'32"W, A DISTANCE OF 2638.53 FEET.

COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER (SE1/4); SAID POINT ALSO BEING THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;
THENCE N00°25'32"W ALONG THE WEST LINE OF SAID SOUTHEAST ONE-QUARTER (SE1/4), A DISTANCE OF 650.11 FEET;
THENCE N89°40'31"E, A DISTANCE OF 5077.12 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD AS DESCRIBED IN THE DOCUMENT RECORDED IN BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;
THENCE S21°41'10"W ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 2013.88 FEET TO A POINT ON THE EAST LINE OF THE NORTHWEST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NW1/4 NE1/4) OF SAID SECTION 28;
THENCE N00°41'17"W ALONG SAID EAST LINE, A DISTANCE OF 1217.12 FEET TO THE SOUTHEAST CORNER OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER (SW1/4 SE1/4) OF SAID SECTION 21;
THENCE S89°40'14"W ALONG THE SOUTH LINE OF SAID SOUTHWEST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER (SW1/4 SE1/4), A DISTANCE OF 1343.49 FEET TO THE POINT OF BEGINNING.

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 38.01 ACRES OF LAND, MORE OR LESS.

EXHIBIT C

LEGAL DESCRIPTION TRAILS AT TIMBERLINE WEST PARCEL 2:

A PARCEL OF LAND LOCATED IN A PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE WEST LINE OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 65 WEST IS ASSUMED TO BEAR N00°25'32"W, A DISTANCE OF 2638.53 FEET;

COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER (SE1/4);
THENCE N00°25'32"W ALONG THE WEST LINE OF SAID SOUTHEAST ONE-QUARTER (SE1/4), A DISTANCE OF 650.01 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;
THENCE N00°25'32"W CONTINUING ALONG SAID WEST LINE, A DISTANCE OF 705.70 FEET;
THENCE N89°48'31"E, A DISTANCE OF 2364.04 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD AS DESCRIBED IN THE DOCUMENT RECORDED IN BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;
THENCE S21°41'10"W ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 762.26 FEET;
THENCE S89°48'31"W, A DISTANCE OF 2077.12 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 36.03 ACRES OF LAND , MORE OR LESS.

EXHIBIT D

LEGAL DESCRIPTION TRAILS AT TIMBERLINE WEST PARCEL 3:

A PARCEL OF LAND LOCATED IN A PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE WEST LINE OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 65 WEST IS ASSUMED TO BEAR N00°25'32"W, A DISTANCE OF 2638.53 FEET;

COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER (SE1/4);
THENCE N00°25'32"W ALONG THE WEST LINE OF SAID SOUTHEAST ONE-QUARTER (SE1/4), A DISTANCE OF 1356.81 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;
THENCE N00°25'32"W CONTINUING ALONG SAID WEST LINE, A DISTANCE OF 656.30 FEET;
THENCE N89°40'31"E, A DISTANCE OF 2590.16 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD AS DESCRIBED IN THE DOCUMENT RECORDED IN BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;

THENCE ALONG SAID WESTERLY RIGHT-OF-WAY LINE THE FOLLOWING TWO (2) COURSES:
1. S00°37'14"E, A DISTANCE OF 98.54 FEET;
2. S21°41'10"W, A DISTANCE OF 691.81 FEET;

THENCE S89°40'31"W, A DISTANCE OF 2364.04 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 37.58 ACRES OF LAND, MORE OR LESS.

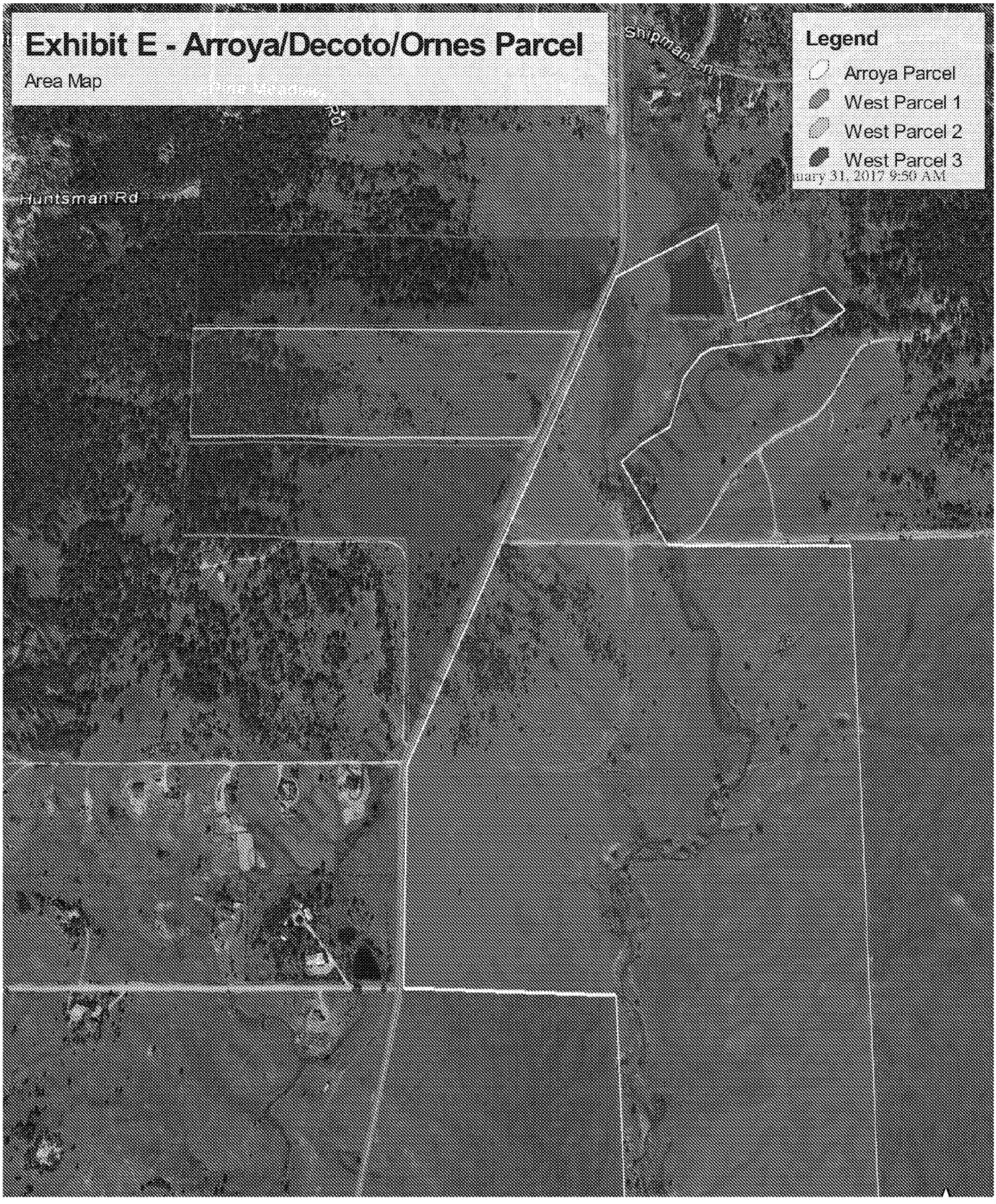


Exhibit E - Arroya/Decoto/Ornes Parcel
Area Map
Legend
Arroya Parcel
West Parcel 1
West Parcel 2
West Parcel 3
Huntsman Rd
Ski Run Blvd
uary 31, 2017 9:50 AM

218092584 8/9/2018 3:54 PM
PGS 12 $68.00 DF $0.00
Electronically Recorded Official Records El Paso County CO
Chuck Broerman, Clerk and Recorder
TD1000 N

DISTRICT COURT, WATER DIVISION 2, CO Court Address: 501 North Elizabeth Street, Suite 116 Pueblo, CO 81003 Phone Number: (719) 404-8832	DATE FILED: August 9, 2018 3:38 PM CASE NUMBER: 2018CW3002
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: **ARROYA INVESTMENTS, LLC** **IN EL PASO COUNTY**	▲ COURT USE ONLY ▲ **Case No.: 18CW3002** (17CW3002)

FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF REFEREE AND DECREE

THIS MATTER comes before the Water Referee on the Application filed by Arroya Investments, LLC, and having reviewed said Application and other pleadings on file, and being fully advised on this matter, the Water Referee makes the following findings and orders:

GENERAL FINDINGS OF FACT

1. The applicant in this case is Arroya Investments, LLC, whose address is 1283 Kelly Johnson Blvd., Colorado Springs, CO 80920 ("Applicant"). Applicant is the owner of the land totaling approximately 72.5 acres (a portion of the larger 225.97-acre Arroya Parcel previously adjudicated in Case No. 17CW3002), on which the structures sought to be adjudicated herein are located, and are the owners of the place of use where the water will be put to beneficial use.

2. The Applicant filed this Application with the Water Court for Water Division 2 on January 9, 2018. The Application was referred to the Water Referee in Division 2 on or about January 18, 2018.

3. The time for filing statements of opposition to the Application expired on the last day of March 2018. No Statements of Opposition were timely filed.

4. On January 18, 2018, the Water Court, Division 2 ordered that publication occur in the *Daily Transcript* within El Paso County.

5. The Clerk of this Court has caused publication of the Application filed in this matter as provided by statute and the publication costs have been paid. On February 15, 2018, proof of publication in the *Daily Transcript* was filed with Water

Court Division 2. All notices of the Application have been given in the manner required by law.

6. Pursuant to C.R.S. §37-92-302(4), the office of the Division Engineer for Water Division 2 has filed its Consultation Report dated May 2, 2018, with the Court, and a Response to the Consultation Report was filed by the Applicant on June 26, 2018. Both the Consultation Report and Response have been considered by the Water Referee in the entry of this Ruling.

7. The Water Court has jurisdiction over the subject matter of these proceedings and over all who have standing to appear as parties whether they have appeared or not. The land and water rights involved in this case are not within a designated groundwater basin.

8. The Applicant, consistent with the decree entered in Case No. 17CW3002, seeks to utilize ground water rights granted therein for the construction of Timber Ridge Wells Nos. 1 through 29 to the Dawson aquifer, and additional or replacement wells associated therewith, for withdrawal of Applicant's full entitlements of supply under the plan for augmentation sought herein.

9. The land overlying the groundwater subject to the adjudication in this case is owned by the Applicant and was previously quantified in Case No. 17CW3002, which concerned a 225.97 acre parcel of land located in El Paso County, Colorado ("Arroya Parcel"). The land relevant to this decree consists of an approximately 72.5 acre portion of the larger Arroya Parcel as described in Case No. 17CW3002, located in a portion of the SE¼ of Section 21 and a portion of the SW¼ of Section 22, Township 12 South, Range 65 West of the 6th P.M., El Paso County, Colorado, as more particularly described on the attached **Exhibit A**, and depicted on the attached **Exhibit B** map ("Subject Property"). Applicant intends to subdivide the property into up to twenty-nine (29) lots of approximately 2.5 acres each. All groundwater adjudicated herein shall be withdrawn from the overlying land.

10. Timber Ridge Wells Nos. 1 through 29: Each of the Timber Ridge Wells Nos. 1 through 29 are to be constructed to the not-nontributary Dawson aquifer pursuant to the Plan for Augmentation decreed herein to provide domestic water supplies to a single family residence to be located upon the subdivided Subject Property. Upon entry of this decree and submittal by the Applicant of a complete well permit application and filing fee, the State Engineer shall issue a revised permit for Timber Ridge Wells Nos. 1 through 29 pursuant to C.R.S. §37-90-137(4), consistent with and references the Plan for Augmentation decreed herein.

PLAN FOR AUGMENTATION

11. The structures to be augmented are Timber Ridge Wells Nos. 1 through 29 in the not-nontributary Dawson aquifer underlying the Applicant's Property, along with any additional or replacement wells associated therewith.

12. Pursuant to C.R.S. §37-90-137(9)(c.5), the augmentation obligation for Timber Ridge Wells Nos. 1 through 29, and any additional or replacement wells constructed to the Dawson aquifer requires the replacement of actual stream depletions to the extent necessary to prevent any injurious effect. The water rights to be used for augmentation during pumping are the septic return flows of the not-nontributary Timber Ridge Wells Nos. 1 through 29, to be pumped as set forth in this plan for augmentation. The water rights to be used for augmentation after pumping are a reserved portion of Applicant's nontributary water rights in the Laramie-Fox Hills aquifers. Applicant shall provide for the augmentation of stream depletions caused by pumping the Timber Ridge Wells Nos. 1 through 29 as approved herein. Water use criteria as follows:

A. Use: The Timber Ridge Wells Nos. 1 through 29 may each pump up to 0.32 acre feet of water per year, for a maximum total of 9.32 acre feet being withdrawn from the Dawson aquifer annually. Households will utilize up to 0.26 acre feet of water per year per residence, with the additional pumping available for landscape irrigation, the watering of horses or equivalent livestock, and other beneficial uses decreed in 17CW3002 at each residence. The foregoing figures assume the use of 29 septic systems, with resulting return flows from each. Should Applicant subdivide Applicant's property into fewer than 29 lots, both depletions and return flows for the replacement of the same will be correspondingly reduced, though pumping for uses other than household use may be increased provided at all times septic return flows shall replace the maximum depletions resulting from pumping.

B. Depletions: Applicant has determined that maximum stream depletions over the 300-year pumping period will amount to approximately fifty-six percent (56%) of pumping. Maximum annual depletions for total residential pumping from all wells is therefore 5.22 acre feet in year 300. Should Applicant's pumping be less than the 0.32 acre feet per lot described herein, or should fewer lots be developed, resulting depletions and required replacements will be correspondingly reduced.

C. Augmentation of Depletions During Pumping Life of Wells: Depletions during pumping will be effectively replaced by residential return flows from non-evaporative septic systems. The annual consumptive use for non-evaporative septic systems is 10% per year per residence. At a conservatively estimated household use rate of 0.18 acre feet per residence per year (rather than the full 0.26 acre feet annually), a total of 5.22 acre feet is replaced to the stream system per year, utilizing non-evaporative septic systems, assuming all 29 wells are utilized. With maximum depletions from the pumping of 29 wells at 0.18 acre feet, and anticipated replacement of 5.22 acre feet annually, during pumping, stream depletions will be adequately augmented.

D. Augmentation of Post Pumping Depletions: This plan for augmentation shall have a pumping period of a minimum of 300 years. For the replacement of any injurious post-pumping depletions which may be associated with the use of the Timber Ridge Wells Nos. 1 through 29, Applicant will reserve up to 2,796

acre feet of water from the nontributary Laramie Fox Hills aquifer, less actual stream depletions replaced during the plan pumping period as necessary to replace any injurious post pumping depletions. Applicant also reserves the right to substitute other legally available augmentation sources for such post pumping depletions upon further approval of the Court under its retained jurisdiction. Even though this reservation is made, under the Court's retained jurisdiction, Applicant reserves the right in the future to prove that post pumping depletions will be noninjurious. The reserved nontributary Laramie-Fox Hills groundwater will be used to replace any injurious post-pumping depletions. Upon entry of a decree in this case, the Applicant will be entitled to apply for and receive a new well permit for the Timber Ridge Wells Nos. 1 through 29 for the uses in accordance with this Application and otherwise in compliance with C.R.S. §37-90-137.

13. This decree, upon recording, shall constitute a covenant running with Applicant's Property, benefitting and burdening said land, and requiring construction of well(s) to the nontributary Laramie-Fox Hills aquifer and pumping of water to replace any injurious post-pumping depletions under this decree. Subject to the requirements of this decree, in order to determine the amount and timing of post-pumping replacement obligations, if any, under this augmentation plan, Applicant or its successors shall use information commonly used by the Colorado Division of Water Resources for augmentation plans of this type at the time. Pursuant to this covenant, the water from the nontributary Laramie-Fox Hills aquifer reserved herein may not be severed in ownership from the overlying subject property. This covenant shall be for the benefit of, and enforceable by, third parties owning vested water rights who would be materially injured by the failure to provide for the replacement of post-pumping depletions under the decree, and shall be specifically enforceable by such third parties against the owner of the Applicant's Property.

14. Applicant or its successors shall be required to initiate pumping from the Laramie-Fox Hills aquifer for the replacement of post-pumping depletions when either: (i) the absolute total amount of water available from the Dawson aquifer allowed to be withdrawn under the plan for augmentation decreed herein has been pumped; (ii) the Applicant or its successors in interest have acknowledged in writing that all withdrawals for beneficial use through the Timber Ridge Wells Nos. 1 through 29 have permanently ceased, (iii) a period of 10 consecutive years where either no withdrawals of groundwater has occurred, or (iv) accounting shows that return flows from the use of the water being withdrawn is insufficient to replace depletions caused by the withdrawals that already occurred.

15. Accounting and responsibility for post-pumping depletions in the amount set forth herein shall continue for the shortest of the following periods: (i) the period provided by statute; (ii) the period specified by any subsequent change in statute; (iii) the period required by the Court under its retained jurisdiction; (iv) the period determined by the State Engineer; or (v) the period as established by Colorado Supreme Court final decisions. Should Applicant's obligation hereunder to account for and replace such post-pumping stream depletions be abrogated for any reason, then

the Laramie-Fox Hills aquifer groundwater reserved for such a purpose shall be free from the reservation herein and such groundwater may be used or conveyed by its owner without restriction for any post-pumping depletions.

16. The term of this augmentation plan is for a minimum of 300 years, however, the length of the plan for a particular well or wells may be extended beyond such time provided the total plan pumping allocated to such well or wells is not exceeded. Should the actual operation of this augmentation plan depart from the planned diversions described herein such that annual diversions are increased or the duration of the plan is extended, the Applicant must prepare and submit a revised model of stream depletions caused by the actual pumping schedule. This analysis must utilize depletion modeling acceptable to the State Engineer, and to this Court, and must represent the water use under the plan for the entire term of the plan to date. The analysis must show that return flows have equaled or exceeded actual stream depletions throughout the pumping period and that reserved nontributary water remains sufficient to replace post-pumping depletions.

17. Consideration has been given to the depletions from Applicant's use and proposed uses of water, in quantity, time and location, together with the amount and timing of augmentation water which will be provided by the Applicant, and the existence, if any, injury to any owner of or person entitled to use water under a vested water right.

18. It is determined that the timing, quantity and location of replacement water under the protective terms in this decree are sufficient to protect the vested rights of other water users and eliminate material injury thereto. The replacement water shall be of a quantity and quality so as to meet the requirements for which the water of senior appropriators has normally been used, and provided of such quality, such replacement water shall be accepted by the senior appropriators for substitution for water derived by the exercise of the Timber Ridge Wells Nos. 1 through 29. As a result of the operation of this plan for augmentation, the depletions from the Timber Ridge Wells Nos. 1 through 29 and any additional or replacement wells associated therewith will not result in material injury to the vested water rights of others.

CONCLUSIONS OF LAW

19. The Applicant's request for adjudication of the plan for augmentation decreed herein is contemplated and authorized by law, and this Court and the Water Referee have exclusive jurisdiction over these proceedings. C.R.S. §§37-92-302(1)(a), 37-92-203, and 37-92-305.

20. Subject to the terms of the 17CW3002 decree, the Applicant is entitled to the sole right to withdraw all the legally available water in the Denver Basin aquifers underlying the Applicant's Property, and the right to use that water to the exclusion of all others subject to the terms of said 17CW3002 decree.

21. The Applicant's request for approval of a plan for augmentation is contemplated and authorized by law. If administered in accordance with this decree, this plan for augmentation will permit the uninterrupted diversions from the Timber Ridge Wells Nos. 1 through 29 without adversely affecting any other vested water rights in the Arkansas River or its tributaries and when curtailment would otherwise be required to meet a valid senior call for water. C.R.S. §§37-92-305(3),(5), and (8).

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

22. All of the foregoing Findings of Fact and Conclusions of Law are incorporated herein by reference, and are considered to be a part of this decretal portion as though set forth in full.

23. The Application for Adjudication of Denver Basin Groundwater and for Approval of Plan for Augmentation proposed by the Applicant is approved, subject to the terms of this decree.

24. The Applicant has furnished acceptable proof as to all claims and, therefore, the Application for Adjudication of Groundwater and Plan for Augmentation, as requested by the Applicant, is granted and approved in accordance with the terms and conditions of this decree. Approval of this Application will not result in any material injury to senior vested water rights.

25. The Applicant shall comply with C.R.S. §37-90-137(9)(b), requiring the relinquishment of the right to consume two percent (2%) of the amount of the nontributary groundwater withdrawn. Ninety-eight percent (98%) of the nontributary groundwater withdrawn may therefore be consumed. No plan for augmentation shall be required to provide for such relinquishment.

26. The State Engineer, the Division Engineer, and/or the Water Commissioner shall not curtail the diversion and use of water covered by the Timber Ridge Wells Nos. 1 through 29 so long as the return flows from the annual diversions associated with the Timber Ridge Wells Nos. 1 through 29 accrue to the stream system pursuant to the conditions contained herein. To the extent that Applicant or one of its successors or assigns is ever unable to provide the replacement water required, then the Timber Ridge Wells Nos. 1 through 29 shall not be entitled to operate under the protection of this plan, and shall be subject to administration and curtailment in accordance with the laws, rules, and regulation of the State of Colorado. Pursuant to C.R.S. §37-92-305(8), the State Engineer shall curtail all out-of-priority diversions which are not so replaced as to prevent injury to vested water rights. In order for this plan for augmentation to operate, return flows from the one or both of the septic systems discussed herein, as appropriate, shall at all times during pumping be in an amount sufficient to replace the amount of stream depletions.

27. Pursuant to C.R.S. §37-92-304(6), the Court shall retain continuing jurisdiction over the plan for augmentation decreed herein for reconsideration of the question of whether the provisions of this decree are necessary and/or sufficient to prevent injury to vested water rights of others, as pertains to the use of Denver Basin groundwater supplies adjudicated herein, including for augmentation purposes.

28. Except as otherwise specifically provided in Paragraph 28, above, pursuant to the provisions of C.R.S. §37-92-304(6), this plan for augmentation decreed herein shall be subject to the reconsideration of this Court on the question of material injury to vested water rights of others, for a period of five (5) years, except as otherwise provided herein. Any person, within such period, may petition the Court to invoke its retained jurisdiction. Any person seeking to invoke the Court's retained jurisdiction shall file a verified petition with the Court setting forth with particularity the factual basis for requesting that the Court reconsider material injury to petitioner's vested water rights associated with the operation of this decree, together with proposed decretal language to effect the petition. The party filing the petition shall have the burden of proof of going forward to establish a prima facie case based on the facts alleged in the petition. If the Court finds those facts are established, Applicant shall thereupon have the burden of proof to show: (i) that the petitioner is not materially injured, or (ii) that any modification sought by the petitioner is not required to avoid material injury to the petitioner, or (iii) that any term or condition proposed by Applicant in response to the petition does avoid material injury to the petitioner. The Division of Water Resources as a petitioner shall be entitled to assert material injury to the vested water rights of others. If no such petition is filed within such period and the retained jurisdiction period is not extended by the Court in accordance with the revisions of the statute, this matter shall become final under its own terms.

29. Pursuant to C.R.S. §37-92-502(5)(a), the Applicant shall install and maintain such water measurement devices and recording devices as are deemed essential by the State Engineer or Division Engineers, and the same shall be installed and operated in accordance with instructions from said entities. Applicant is to install and maintain a totalizing flow meters on all Timber Ridge Wells or any additional or replacement wells associated therewith. Applicant is also to maintain records and provide reports to the State Engineer or Division Engineers as instructed by said entities, on at least an annual basis.

30. The vested water rights, water right structures, and plan for augmentation decreed herein shall be subject to all applicable administrative rules and regulations, as currently in place or as may in the future be promulgated, of the offices of Colorado State and Division Engineers for administration of such water rights, to the extent such rules and regulations are uniformly applicable to other similarly situated water rights and water users.

31. This Ruling of Referee, when entered as a decree of the Water Court, shall be recorded in the real property records of El Paso County, Colorado. Copies of this ruling shall be mailed as provided by statute.

DATED THIS 18th day of July, 2018.

BY THE REFEREE:

Mardell R. DiDomenico, Water Referee
Water Division 2

DECREE

THE COURT FINDS THAT NO PROTEST WAS MADE IN THIS MATTER, THEREFOR THE FORGOING RULING IS CONFIRMED AND APPROVED, AND IS HEREBY MADE THE JUDGMENT AND DECREE OF THIS COURT.

Dated: August 9th, 2018.

BY THE COURT:

LARRY C. SCHWARTZ, WATER JUDGE
WATER DIVISION 2

EXHIBIT A

LEGAL DESCRIPTION – ARROYA PARCEL

A PARCEL OF LAND LOCATED IN A PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21 AND A PORTION OF THE SOUTHWEST ONE-QUARTER OF SECTION 22, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A LINE BETWEEN THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27 AND THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SAID SECTION 27, TOWNSHIP 12 SOUTH, RANGE 65 WEST, MONUMENTED AT THE NORTHERLY END BY A 3-1/4" ALUMINUM CAP STAMED "2006 ESI PLS 10376" AND MONUMENTED AT THE SOUTHERLY END BY A 3-1/4" ALUMINUM CAP STAMPED "2006 ESI PLS 10376" AND IS ASSUMED TO BEAR S00°54'30"E, A DISTANCE OF 3925.63 FEET;

COMMENCING AT THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27;
THENCE S88°38'56"W ALONG THE NORTH LINE OF SAID NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4), A DISTANCE OF 1047.88 FEET TO THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE S88°38'56"W CONTINUING ALONG SAID NORTH LINE, A DISTANCE OF 283.03 FEET TO THE NORTHWEST CORNER OF SAID SECTION 27 SAID POINT ALSO BEING A POINT ON THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN BOOK 2678 AT PAGE 431 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;

THENCE ALONG THE EASTERLY AND NORTHERLY RIGHT-OF-WAY LINES OF SAID DEED THE FOLLOWING TWO (2) COURSES:

1. N00°37'14"W SAID LINE ALSO BEING THE WEST LINE OF THE SOUTHWEST ONE-QUARTER (SW1/4) OF SAID SECTION 22, A DISTANCE OF 30.00 FEET;
2. S89°40'23"W, A DISTANCE OF 736.82 FEET TO THE POINT OF INTERSECTION OF THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN BOOK 2678 AT PAGE 430 OF SAID COUNTY RECORDS;

THENCE N21°41'10"E ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1798.07 FEET;
THENCE N59°58'50"E, A DISTANCE OF 694.83 FEET;
THENCE S14°30'58"E, A DISTANCE OF 567.09 FEET;
THENCE N69°36'18"E, A DISTANCE OF 603.87 FEET;
THENCE S30°23'46"E, A DISTANCE OF 264.58 FEET;
THENCE S61°52'38"W, A DISTANCE OF 227.40 FEET;

THENCE S79°15'47"W, A DISTANCE OF 276.17 FEET;
THENCE S89°39'18"W, A DISTANCE OF 356.07 FEET;
THENCE S40°09'47"W, A DISTANCE OF 310.61 FEET;
THENCE S09°56'46"W, A DISTANCE OF 270.03 FEET;
THENCE S35°00'25"W, A DISTANCE OF 167.38 FEET;
THENCE S57°24'01"W, A DISTANCE OF 235.36 FEET;
THENCE S27°23'34"E, A DISTANCE OF 611.29 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 35.08 ACRES OF LAND, MORE OR LESS.

Along With:

A PARCEL OF LAND BEING THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27, THE SOUTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (SW1/4 NW1/4) OF SECTION 27, THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SECTION 27, A PORTION OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SECTION 28 AND A PORTION OF THE NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NE1/4 NE1/4) OF SECTION 28, ALL IN TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: A LINE BETWEEN THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27 AND THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4) OF SAID SECTION 27, TOWNSHIP 12 SOUTH, RANGE 65 WEST, MONUMENTED AT THE NORTHERLY END BY A 3-1/4" ALUMINUM CAP STAMED "2006 ESI PLS 10376" AND MONUMENTED AT THE SOUTHERLY END BY A 3-1/4" ALUMINUM CAP STAMPED "2006 ESI PLS 10376" AND IS ASSUMED TO BEAR S00°54'30"E, A DISTANCE OF 3925.63 FEET;

COMMENCING AT THE NORTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4) OF SECTION 27, SAID POINT ALSO BEING THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;

THENCE S00°54'30"E ALONG THE EAST LINE OF THE WEST ONE-HALF (W1/2) OF SAID SECTION 27, A DISTANCE OF 3925.63 FEET TO THE SOUTHEAST CORNER OF THE NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER NW1/4 SW1/4) OF SAID SECTION 27;
THENCE S87°35'00"W ALONG THE SOUTH LINE OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4), A DISTANCE OF 1332.78 FEET TO THE SOUTHWEST CORNER OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4);
THENCE N00°53'18"W ALONG THE WEST LINE OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4), A DISTANCE OF 1316.78 FEET TO THE NORTHWEST CORNER OF SAID NORTHWEST ONE-QUARTER OF THE SOUTHWEST ONE-QUARTER (NW1/4 SW1/4);
THENCE S89°08'28"W ALONG THE SOUTH LINE OF THE SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (SE1/4 NE1/4) OF SECTION 28, A DISTANCE OF 1326.68 FEET TO THE SOUTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (SE1/4 NE1/4);
THENCE N00°30'49"W ALONG THE WEST LINE OF SAID SOUTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (SE1/4 NE1/4), A DISTANCE OF 1270.77 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN

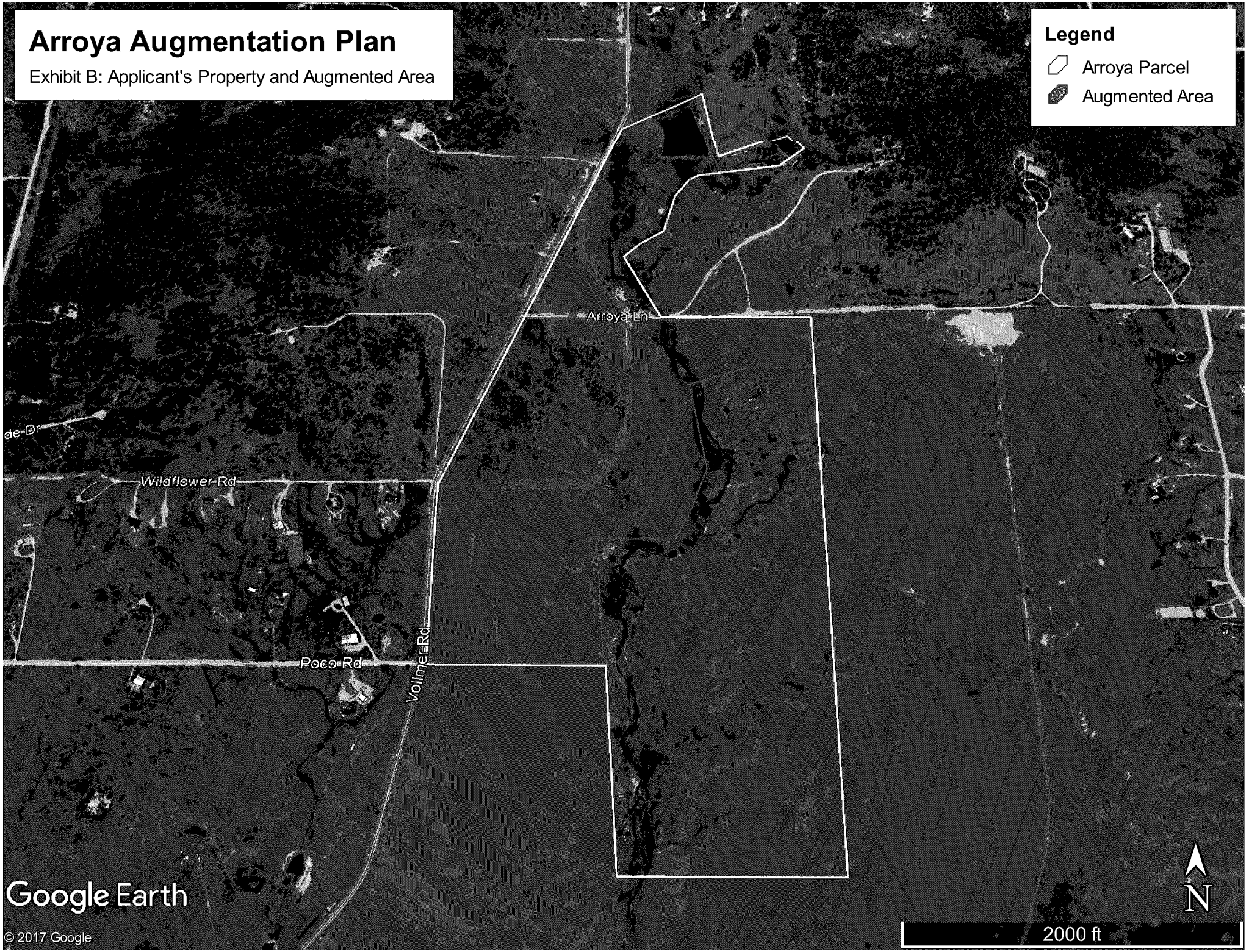
BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;
THENCE N21°41'10"E ALONG SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1450.84 FEET TO THE POINT OF INTERSECTION OF THE SOUTHERLY RIGHT-OF-WAY LINE AS DESCRIBED IN THE DEED, AS RECORDED IN BOOK 2678 AT PAGE 431 OF SAID COUNTY RECORDS;

THENCE ALONG THE SOUTHERLY AND EASTERLY RIGHT-OF-WAY LINES OF SAID DEED THE FOLLOWING TWO (2) COURSES:

1. N89°40'23"E, A DISTANCE OF 761.52 FEET TO A POINT ON THE EAST LINE OF SAID NORTHEAST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NE1/4 NE1/4);
2. N00°52'58"W ALONG SAID EAST LINE, A DISTANCE OF 30.00 FEET TO THE NORTHWEST CORNER OF SAID SECTION 27;

THENCE N88°38'56"E ALONG THE NORTH LINE OF SAID NORTHWEST ONE-QUARTER OF THE NORTHWEST ONE-QUARTER (NW1/4 NW1/4), A DISTANCE OF 1330.91 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 190.89 ACRES OF LAND, MORE OR LESS.


Arroya Augmentation Plan
Exhibit B: Applicant's Property and Augmented Area
Legend
Arroya Parcel
Augmented Area
Arroya Ln
Wildflower Rd
Poco Rd
Vollmer Rd
Google Earth
© 2017 Google
N
2000 ft

218092597 8/9/2018 4:06 PM
PGS 10 $58.00 DF $0.00
Electronically Recorded Official Records El Paso County CO
Chuck Broerman, Clerk and Recorder
TD1000 N

DISTRICT COURT, WATER DIVISION 2, CO Court Address: 501 North Elizabeth Street, Suite 116 Pueblo, CO 81003 Phone Number: (719) 404-8832	DATE FILED: August 9, 2018 3:35 PM CASE NUMBER: 2018CW3005
CONCERNING THE APPLICATION FOR WATER RIGHTS OF: **JAKE DECOTO** **IN EL PASO COUNTY**	▲ COURT USE ONLY ▲ **Case No.: 18CW3005** (17CW3002)

FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF REFEREE AND DECREE

THIS MATTER comes before the Water Referee on the Application filed by Jake Decoto, and having reviewed said Application and other pleadings on file, and being fully advised on this matter, the Water Referee makes the following findings and orders:

GENERAL FINDINGS OF FACT

1. The applicant in this case is Jake Decoto, whose address is 10620 Vollmer Road, Colorado Springs, CO 80908 ("Applicant"). Applicant is the owner of the land totaling approximately 36.01 acres described as "West Parcel 1" in previously adjudicated in Case No. 17CW3002, on which the structures sought to be adjudicated herein are located, and is the owner of the place of use where the water will be put to beneficial use.

2. The Applicant filed this Application with the Water Court for Water Division 2 on January 31, 2018. The Application was referred to the Water Referee in Division 2 on or about January 31, 2018.

3. The time for filing statements of opposition to the Application expired on the last day of March 2018. No Statements of Opposition were timely filed.

4. On January 31, 2018, the Water Court, Division 2 ordered that publication occur in the *Daily Transcript* within El Paso County.

5. The Clerk of this Court has caused publication of the Application filed in this matter as provided by statute and the publication costs have been paid. On February 15, 2018, proof of publication in the *Daily Transcript* was filed with Water Court Division 2. All notices of the Application have been given in the manner required by law.

6. Pursuant to C.R.S. §37-92-302(4), the office of the Division Engineer for Water Division 2 has filed its Consultation Report dated May 2, 2018, with the Court, and a Response to the Consultation Report was filed by the Applicant on June 27, 2018. Both the Consultation Report and Response have been considered by the Water Referee in the entry of this Ruling.

7. The Water Court has jurisdiction over the subject matter of these proceedings and over all who have standing to appear as parties whether they have appeared or not. The land and water rights involved in this case are not within a designated groundwater basin.

8. The Applicant, consistent with the decree entered in Case No. 17CW3002, seeks to utilize ground water rights granted therein for the construction of Decoto Wells Nos. 1 through 3 to the Dawson aquifer, and additional or replacement wells associated therewith, for withdrawal of Applicant's full entitlements of supply under the plan for augmentation sought herein.

9. The land overlying the groundwater subject to the adjudication in this case is owned by the Applicant and was previously quantified in Case No. 17CW3002. The land relevant to this decree consists of an approximately 36.01 acre portion identified as "West Parcel 1" in Case No. 17CW3002, located in a portion of the SE 1/4 of Section 21 and a portion of the NE 1/4 of Section 28, Township 12 South, Range 65 West of the 6th P.M., El Paso County, Colorado, as more particularly described on the attached **Exhibit A**, and depicted on the attached **Exhibit B** map ("Subject Property"). Applicant intends to subdivide the property into up to three (3) parcels, two of approximately 3.5 acres in size (Tracts R-11 and R-12) and one of approximately 29 acres (Tract A) as depicted on **Exhibit B**, on Applicant's Property, utilizing individual wells and septic systems on all said lots. All groundwater adjudicated herein shall be withdrawn from the overlying land.

10. Decoto Wells Nos. 1 through 3: Each of the Decoto Wells Nos. 1 through 3 are to be constructed to the not-nontributary Dawson aquifer pursuant to the Plan for Augmentation decreed herein to provide domestic water supplies to a single family residence to be located upon the subdivided Subject Property. Upon entry of this decree and submittal by the Applicant of a complete well permit application and filing fee, the State Engineer shall issue a revised permit for Decoto Wells Nos. 1 through 3 pursuant to C.R.S. §37-90-137(4), consistent with and references the Plan for Augmentation decreed herein.

PLAN FOR AUGMENTATION

11. The structures to be augmented are Decoto Wells Nos. 1 through 3 in the not-nontributary Dawson aquifer underlying the Applicant's Property, along with any additional or replacement wells associated therewith.

12. Pursuant to C.R.S. §37-90-137(9)(c.5), the augmentation obligation for Decoto Wells Nos. 1 through 3, and any additional or replacement wells constructed to the Dawson aquifer requires the replacement of actual stream depletions to the extent necessary to prevent any injurious effect. The water rights to be used for augmentation during pumping are the septic return flows of the not-nontributary Decoto Wells Nos. 1 through 3, to be pumped as set forth in this plan for augmentation. The water rights to be used for augmentation after pumping are a reserved portion of Applicant's nontributary water rights in the Laramie-Fox Hills aquifers. Applicant shall provide for the augmentation of stream depletions caused by pumping the Decoto Wells Nos. 1 through 3 as approved herein. Water use criteria as follows:

A. Use: The Decoto Wells Nos. 2 and 3 may each pump up to 0.32 acre feet of water per year, and Decoto Well No. 1 may pump up to 0.58 acre feet of water per year (unless a maximum depletion percentage of less than 44% during the pumping life of the wells is adequately evidenced), for a maximum total of 1.22 acre feet being withdrawn from the Dawson aquifer annually. Households will utilize up to 0.26 acre feet of water per year per residence, with the additional pumping available for landscape irrigation, the watering of horses or equivalent livestock, and other beneficial uses decreed in 17CW3002 at each residence. The foregoing figures assume the use of 3 septic systems, with resulting return flows from each. Should Applicant subdivide Applicant's property into fewer than 3 lots, both depletions and return flows for the replacement of the same will be correspondingly reduced, though pumping for uses other than household use may be increased provided at all times septic return flows shall replace the maximum depletions resulting from pumping.

B. Depletions: Applicant has determined that maximum stream depletions over the 300-year pumping period will amount to approximately forty-four percent (44%) of pumping. Maximum annual depletions for total residential pumping from all wells is therefore 0.54 acre feet in year 300. Should Applicant's pumping be less than a combined total of 1.22 acre feet described herein, or should fewer lots be developed, resulting depletions and required replacements will be correspondingly reduced.

C. Augmentation of Depletions During Pumping Life of Wells: Depletions during pumping will be effectively replaced by residential return flows from non-evaporative septic systems. The annual consumptive use for non-evaporative septic systems is 10% per year per residence. At a conservatively estimated household use rate of 0.20 acre feet per residence per year (rather than the full 0.26 acre feet annually), a total of 0.54 acre feet is replaced to the stream system per year (0.18 acre feet per lot), utilizing non-evaporative septic systems, assuming all 3 wells are utilized. With maximum depletions from the pumping of 3 wells at 0.18 acre feet, and anticipated replacement of 0.54 acre feet annually, during pumping, stream depletions will be adequately augmented.

D. Augmentation of Post Pumping Depletions: This plan for augmentation shall have a pumping period of a minimum of 300 years. For the

replacement of any injurious post-pumping depletions which may be associated with the use of the Decoto Wells Nos. 1 through 3, Applicant will reserve up to 366 acre feet of water from the nontributary Laramie Fox Hills aquifer, less actual stream depletions replaced during the plan pumping period, as necessary to replace any injurious post pumping depletions. Applicant also reserves the right to substitute other legally available augmentation sources for such post pumping depletions upon further approval of the Court under its retained jurisdiction. Even though this reservation is made, under the Court's retained jurisdiction, Applicant reserves the right in the future to prove that post pumping depletions will be noninjurious. The reserved nontributary Laramie-Fox Hills groundwater will be used to replace any injurious post-pumping depletions. Upon entry of a decree in this case, the Applicant will be entitled to apply for and receive a new well permit for the Decoto Wells Nos. 1 through 3 for the uses in accordance with this Application and otherwise in compliance with C.R.S. §37-90-137.

13. This decree, upon recording, shall constitute a covenant running with Applicant's Property, benefitting and burdening said land, and requiring construction of well(s) to the nontributary Laramie-Fox Hills aquifer and pumping of water to replace any injurious post-pumping depletions under this decree. Subject to the requirements of this decree, in order to determine the amount and timing of post-pumping replacement obligations, if any, under this augmentation plan, Applicant or its successors shall use information commonly used by the Colorado Division of Water Resources for augmentation plans of this type at the time. Pursuant to this covenant, the water from the nontributary Laramie-Fox Hills aquifer reserved herein may not be severed in ownership from the overlying subject property. This covenant shall be for the benefit of, and enforceable by, third parties owning vested water rights who would be materially injured by the failure to provide for the replacement of post-pumping depletions under the decree, and shall be specifically enforceable by such third parties against the owner of the Applicant's Property.

14. Applicant or its successors shall be required to initiate pumping from the Laramie-Fox Hills aquifer for the replacement of post-pumping depletions when either: (i) the absolute total amount of water available from the Dawson aquifer allowed to be withdrawn under the plan for augmentation decreed herein has been pumped; (ii) the Applicant or its successors in interest have acknowledged in writing that all withdrawals for beneficial use through the Decoto Wells Nos. 1 through 3 have permanently ceased, (iii) a period of 10 consecutive years where either no withdrawals of groundwater has occurred, or (iv) accounting shows that return flows from the use of the water being withdrawn is insufficient to replace depletions caused by the withdrawals that already occurred.

15. Accounting and responsibility for post-pumping depletions in the amount set forth herein shall continue for the shortest of the following periods: (i) the period provided by statute; (ii) the period specified by any subsequent change in statute; (iii) the period required by the Court under its retained jurisdiction; (iv) the period determined by the State Engineer; or (v) the period as established by Colorado Supreme Court final decisions. Should Applicant's obligation hereunder to account for

and replace such post-pumping stream depletions be abrogated for any reason, then the Laramie-Fox Hills aquifer groundwater reserved for such a purpose shall be free from the reservation herein and such groundwater may be used or conveyed by its owner without restriction for any post-pumping depletions.

16. The term of this augmentation plan is for a minimum of 300 years, however, the length of the plan for a particular well or wells may be extended beyond such time provided the total plan pumping allocated to such well or wells is not exceeded. Should the actual operation of this augmentation plan depart from the planned diversions described herein such that annual diversions are increased or the duration of the plan is extended, the Applicant must prepare and submit a revised model of stream depletions caused by the actual pumping schedule. This analysis must utilize depletion modeling acceptable to the State Engineer, and to this Court, and must represent the water use under the plan for the entire term of the plan to date. The analysis must show that return flows have equaled or exceeded actual stream depletions throughout the pumping period and that reserved nontributary water remains sufficient to replace post-pumping depletions.

17. Consideration has been given to the depletions from Applicant's use and proposed uses of water, in quantity, time and location, together with the amount and timing of augmentation water which will be provided by the Applicant, and the existence, if any, injury to any owner of or person entitled to use water under a vested water right.

18. It is determined that the timing, quantity and location of replacement water under the protective terms in this decree are sufficient to protect the vested rights of other water users and eliminate material injury thereto. The replacement water shall be of a quantity and quality so as to meet the requirements for which the water of senior appropriators has normally been used, and provided of such quality, such replacement water shall be accepted by the senior appropriators for substitution for water derived by the exercise of the Decoto Wells Nos. 1 through 3. As a result of the operation of this plan for augmentation, the depletions from the Decoto Wells Nos. 1 through 3 and any additional or replacement wells associated therewith will not result in material injury to the vested water rights of others.

CONCLUSIONS OF LAW

19. The Applicant's request for adjudication of the plan for augmentation decreed herein is contemplated and authorized by law, and this Court and the Water Referee have exclusive jurisdiction over these proceedings. C.R.S. §§37-92-302(1)(a), 37-92-203, and 37-92-305.

20. Subject to the terms of the 17CW3002 decree, the Applicant is entitled to the sole right to withdraw all the legally available water in the Denver Basin aquifers underlying the Applicant's Property, and the right to use that water to the exclusion of all others subject to the terms of said 17CW3002 decree.

21. The Applicant's request for approval of a plan for augmentation is contemplated and authorized by law. If administered in accordance with this decree, this plan for augmentation will permit the uninterrupted diversions from the Decoto Wells Nos. 1 through 3 without adversely affecting any other vested water rights in the Arkansas River or its tributaries and when curtailment would otherwise be required to meet a valid senior call for water. C.R.S. §§37-92-305(3),(5), and (8).

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

22. All of the foregoing Findings of Fact and Conclusions of Law are incorporated herein by reference, and are considered to be a part of this decretal portion as though set forth in full.

23. The Application for Adjudication of Denver Basin Groundwater and for Approval of Plan for Augmentation proposed by the Applicant is approved, subject to the terms of this decree.

24. The Applicant has furnished acceptable proof as to all claims and, therefore, the Application for Adjudication of Groundwater and Plan for Augmentation, as requested by the Applicant, is granted and approved in accordance with the terms and conditions of this decree. Approval of this Application will not result in any material injury to senior vested water rights.

25. The Applicant shall comply with C.R.S. §37-90-137(9)(b), requiring the relinquishment of the right to consume two percent (2%) of the amount of the nontributary groundwater withdrawn. Ninety-eight percent (98%) of the nontributary groundwater withdrawn may therefore be consumed. No plan for augmentation shall be required to provide for such relinquishment.

26. The State Engineer, the Division Engineer, and/or the Water Commissioner shall not curtail the diversion and use of water covered by the Decoto Wells Nos. 1 through 3 so long as the return flows from the annual diversions associated with the Decoto Wells Nos. 1 through 3 accrue to the stream system pursuant to the conditions contained herein. To the extent that Applicant or one of its successors or assigns is ever unable to provide the replacement water required, then the Decoto Wells Nos. 1 through 3 shall not be entitled to operate under the protection of this plan, and shall be subject to administration and curtailment in accordance with the laws, rules, and regulation of the State of Colorado. Pursuant to C.R.S. §37-92-305(8), the State Engineer shall curtail all out-of-priority diversions which are not so replaced as to prevent injury to vested water rights. In order for this plan for augmentation to operate, return flows from the one or both of the septic systems discussed herein, as appropriate, shall at all times during pumping be in an amount sufficient to replace the amount of stream depletions.

27. Pursuant to C.R.S. §37-92-304(6), the Court shall retain continuing jurisdiction over the plan for augmentation decreed herein for reconsideration of the question of whether the provisions of this decree are necessary and/or sufficient to prevent injury to vested water rights of others, as pertains to the use of Denver Basin groundwater supplies adjudicated herein, including for augmentation purposes.

28. Except as otherwise specifically provided in Paragraph 28, above, pursuant to the provisions of C.R.S. §37-92-304(6), this plan for augmentation decreed herein shall be subject to the reconsideration of this Court on the question of material injury to vested water rights of others, for a period of five (5) years, except as otherwise provided herein. Any person, within such period, may petition the Court to invoke its retained jurisdiction. Any person seeking to invoke the Court's retained jurisdiction shall file a verified petition with the Court setting forth with particularity the factual basis for requesting that the Court reconsider material injury to petitioner's vested water rights associated with the operation of this decree, together with proposed decretal language to effect the petition. The party filing the petition shall have the burden of proof of going forward to establish a prima facie case based on the facts alleged in the petition. If the Court finds those facts are established, Applicant shall thereupon have the burden of proof to show: (i) that the petitioner is not materially injured, or (ii) that any modification sought by the petitioner is not required to avoid material injury to the petitioner, or (iii) that any term or condition proposed by Applicant in response to the petition does avoid material injury to the petitioner. The Division of Water Resources as a petitioner shall be entitled to assert material injury to the vested water rights of others. If no such petition is filed within such period and the retained jurisdiction period is not extended by the Court in accordance with the revisions of the statute, this matter shall become final under its own terms.

29. Pursuant to C.R.S. §37-92-502(5)(a), the Applicant shall install and maintain such water measurement devices and recording devices as are deemed essential by the State Engineer or Division Engineers, and the same shall be installed and operated in accordance with instructions from said entities. Applicant is to install and maintain a totalizing flow meters on all Decoto Wells or any additional or replacement wells associated therewith. Applicant is also to maintain records and provide reports to the State Engineer or Division Engineers as instructed by said entities, on at least an annual basis.

30. The vested water rights, water right structures, and plan for augmentation decreed herein shall be subject to all applicable administrative rules and regulations, as currently in place or as may in the future be promulgated, of the offices of Colorado State and Division Engineers for administration of such water rights, to the extent such rules and regulations are uniformly applicable to other similarly situated water rights and water users.

31. This Ruling of Referee, when entered as a decree of the Water Court, shall be recorded in the real property records of El Paso County, Colorado. Copies of this ruling shall be mailed as provided by statute.

DATED THIS 18th day of July, 2018.

BY THE REFEREE:

Mardell DiDomenico, Water Referee
Water Division 2

DECREE

THE COURT FINDS THAT NO PROTEST WAS MADE IN THIS MATTER, THEREFOR THE FORGOING RULING IS CONFIRMED AND APPROVED, AND IS HEREBY MADE THE JUDGMENT AND DECREE OF THIS COURT.

Dated: August 9th, 2018.

BY THE COURT:

LARRY C. SCHWARTZ, WATER JUDGE
WATER DIVISION 2

EXHIBIT A

LEGAL DESCRIPTION:

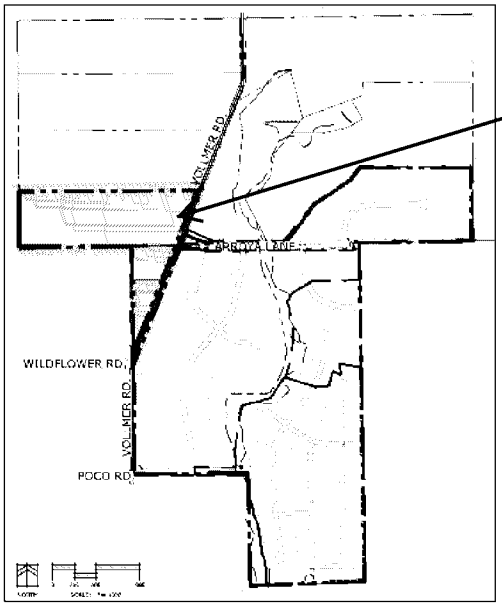
A PARCEL OF LAND LOCATED IN A PORTION OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21 AND A PORTION OF THE NORTHEAST ONE-QUARTER (NE1/4) OF SECTION 28, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

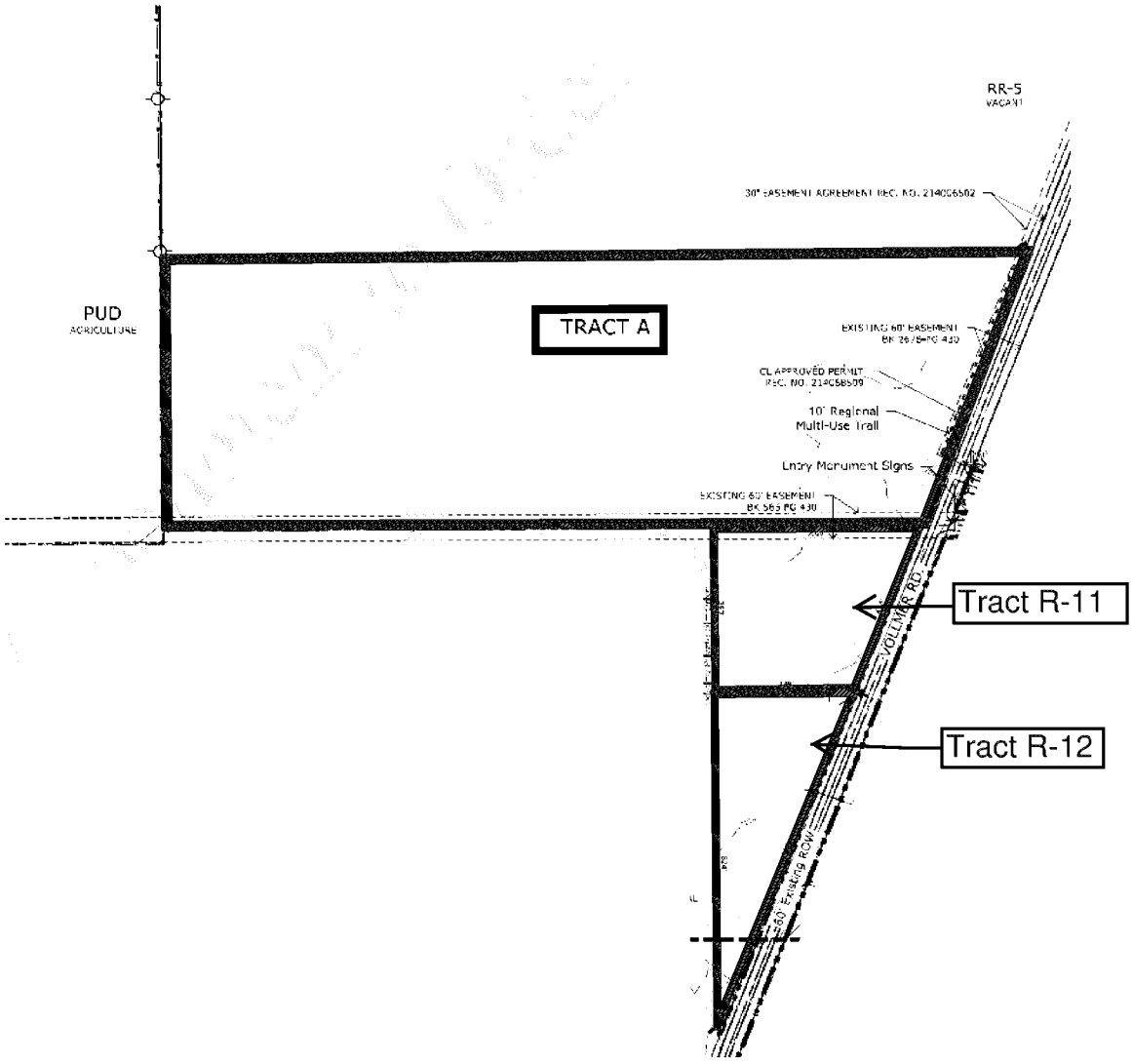
BASIS OF BEARINGS: THE WEST LINE OF THE SOUTHEAST ONE-QUARTER (SE1/4) OF SECTION 21, TOWNSHIP 12 SOUTH, RANGE 65 WEST IS ASSUMED TO BEAR N00°25'32"W, A DISTANCE OF 2638.53 FEET;

COMMENCING AT THE SOUTHWEST CORNER OF SAID SOUTHEAST ONE-QUARTER (SE1/4) SAID POINT ALSO BEING THE POINT OF BEGINNING OF THE PARCEL OF LAND HEREIN DESCRIBED;
THENCE N00°25'32"W ALONG THE WEST LINE OF SAID SOUTHEAST ONE-QUARTER (SE1/4), A DISTANCE OF 650.11 FEET;
THENCE N89°40'31"E, A DISTANCE OF 2077.12 FEET TO A POINT ON THE WESTERLY RIGHT-OF-WAY LINE OF VOLLMER ROAD AS DESCRIBED IN THE DOCUMENT RECORDED IN BOOK 2678 AT PAGE 430 OF THE RECORDS OF THE EL PASO COUNTY CLERK AND RECORDER;
THENCE S21°41'10"W ALONG SAID WESTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 2013.98 FEET TO A POINT ON THE EAST LINE OF THE NORTHWEST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER (NW1/4 NE1/4) OF SAID SECTION 28;
THENCE N00°41'17"W ALONG SAID EAST LINE, A DISTANCE OF 1217.12 FEET TO THE SOUTHEAST CORNER OF THE SOUTHWEST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER (SW1/4 SE1/4) OF SAID SECTION 21;
THENCE S89°40'14"W ALONG THE SOUTH LINE OF SAID SOUTHWEST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER (SW1/4 SE1/4), A DISTANCE OF 1313.49 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND CONTAINS A CALCULATED AREA OF 38.01 ACRES OF LAND, MORE OR LESS.

EXHIBIT B - MAP





Appendix D

ENTECH
ENGINEERING, INC.

505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599
FAX (719) 531-5238

SOIL, GEOLOGY, AND GEOLOGIC HAZARD
THE RETREAT AT TIMBER RIDGE
2.5+ ACRE LOTS
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, COLORADO

Prepared for

Arroya Investments
P.O. Box 50223
Colorado Springs, Colorado 80949

Attn: Peter Martz

April 12, 2017

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Logan L. Langford
Geologist

LLL/rm

Encl.

Entech Job No. 170209
AAprojects/2017/170209 countysoil/geo/wastewater

Reviewed by:

Joseph C. Goode, P.E.
President

STATE OF COLORADO LICENSED
JOSEPH COLLIN GOODE JR
23725
4.12.17
PROFESSIONAL ENGINEER

TABLE OF CONTENTS

1.0 SUMMARY

Project Location

The project lies in portions of the SW¼ of Section 22 and the NE¼ of Section 28, Township 12 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 3 miles northeast of Colorado Springs, Colorado.

Project Description

Total acreage involved in the project is approximately forty-two acres. The proposed site development consists of twelve single-family residential lots. Ten lots are located north of Arroya Lane, and two lots are located west of Vollmer Road just south of Arroya Lane. The development will utilize individual water wells and on-site wastewater treatment systems.

Scope of Report

This report presents the results of our geologic evaluation and treatment of engineering geologic hazard study.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development. Areas were encountered where the geologic conditions will impose some constraints on development and land use. These include areas of shallow bedrock, expansive soils, artificial fill, seasonal shallow groundwater and potentially seasonally shallow groundwater areas. Based on the proposed development plan, it appears that these areas will have some impact on the development. These conditions will be discussed in greater detail in the report.

In general, it is our opinion that the development can be achieved if the observed geologic conditions on site are either avoided or properly mitigated. All recommendations are subject to the limitations discussed in the report.

2.0 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site is located in portions of the SW¼ of Section 22 and the NE¼ of Section 28, Township 15 South, Range 65 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 3 miles northeast of Colorado Springs, Colorado, at Vollmer Road and Arroya Lane. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site is generally gradually to moderately sloping to the southeast and southwest towards Sand Creek. The drainages on site flow in southerly and direction through the central portion of the site. Water was not observed in the drainages on-site at the time of this investigation. The site boundaries are indicated on the USGS Map, Figure 2. Previous land uses have included grazing and pasture land. The site contains primarily field grasses, weeds, cacti, and yuccas, and ponderosa pine trees. Site photographs, taken March 9 and 28, 2017, are included in Appendix A.

Total acreage involved in the proposed development is approximately forty-two acres. Twelve single-family rural residential lots are proposed. The proposed lots will be approximately 2.5+ acres. The area will be serviced individual water wells and on-site wastewater treatment systems. The proposed Preliminary Concept Plan and the proposed Development Plan is presented in Figures 3 and 4.

3.0 SCOPE OF THE REPORT

The scope of the report will include the following:

- A general geologic analysis utilizing published geologic data. Detailed site-specific mapping will be conducted to obtain general information in respect to major geographic and geologic features, geologic descriptions and their effects on the development of the property.

- The site will be evaluated for on-site wastewater treatment systems in accordance with El Paso Land Development Code.

4.0 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS) survey was also reviewed to evaluate the site. The position of mappable units within the subject property are shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements and air photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech Engineering, Inc. on March 9 and 28, 2017.

Two Test Borings were performed for the percolation test profile holes, and three test pits were excavated across the site to determine general soil and bedrock characteristics. The locations of the profile holes and test pits are indicated on the Development Plan/Test Boring Location Map, Figure 4. The Test Boring and Test Pit Logs are presented in Appendix B. Results of this testing will be discussed later in this report.

Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Laboratory tests included grain-size analysis ASTM D-422, Atterberg Limits ASTM D-4318, volume change testing using FHA Swell Testing and Swell/Consolidation test. Results of the laboratory testing are included in Appendix C. A Summary of Laboratory Test Results is presented in Table 1.

5.0 SOIL, GEOLOGY AND ENGINEERING GEOLOGY

5.1 General Geology

Physiographically, the site lies in the western portion of the Great Plains Physiographic Province. Approximately 12 miles to the west is a major structural feature known as the Rampart Range Fault. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southeastern edge of a large structural feature known as the Denver Basin. Bedrock in the area tends to be

very gently dipping in a northeasterly direction (Reference 1). The rocks in the area of the site are sedimentary in nature and typically Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Formation. Overlying this formation are unconsolidated deposits of man-made, and alluvial soils of Quaternary Age. The alluvial soils were deposited by water on site and as stream deposits along the drainages on-site. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3) has mapped three soil types on the site (Figure 5). In general, the soils classify as gravelly loamy sand and coarse sandy loam. The soils are described as follows:

Type	Description
40	Kettle Gravelly Loamy Sand, 3 to 8% slopes
41	Kettle Gravelly Loamy Sand, 8 to 40% slopes
71	Pring Coarse Sandy Loam, 3 to 8% slopes

Complete descriptions of each soil type are presented in Appendix D. The soils have generally been described to have moderate to moderately rapid permeabilities. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The majority of the soils have been described to have slight to moderate erosion hazards.

5.3 Site Stratigraphy

The Falcon NW Quadrangle Geology Map showing the site is presented in Figure 6 (Reference 4). The Geology Map prepared for the site is presented in Figure 7. Three mappable units were identified on this site which are described as follows:

Qaf **Artificial Fill of Holocene Age:** These are recent deposits of man-made fill. They are associated with the erosion berm located on the two lots west of Vollmer Road.

Qal **Recent alluvium of Holocene Age:** These are recent deposits that have been deposited along the drainages on-site.

Tkd **Dawson Formation of Tertiary to Cretaceous Age:** The Dawson Formation typically consist of arkosic sandstone with interbedded fine-grained sandstone, siltstone and claystone. Overlying this formation is a variable layer of residual soil. The residual soils were derived from the in-situ weathering of the bedrock materials on-site. These soils consisted of silty to clayey sands and sandy clays.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Falcon NW Quadrangle* distributed by the Colorado Geological Survey in 2003 (Reference 4), the *Geologic Map of the Colorado Springs-Castle Rock Area*, distributed by the US Geological Survey in 1979 (Reference 5), and the *Geologic Map of the Denver 1^0 x 2^0 Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 6). The Test Borings and Profile Holes were also used in evaluating the site and are included in Appendix B. The Geology Map prepared for the site is presented in Figure 7.

5.4 Soil Conditions

The soils encountered in the Test Borings can be grouped into three general soil types. The soils were classified using the Unified Soil Classification System (USCS). The test pit soils were classified using the USDA Textural Soil Classification.

Soil Type 1 clayey to very clayey sand and silty to slightly silty sand (SC, SM, SM-SW), encountered in both of Test Borings and all of the test pits at the existing ground surface and extending to depths ranging from 1 foot to 14 feet bgs. These soils were encountered at loose to dense states and at moist conditions. The majority of the soils were encountered and medium dense states. Samples tested had 11 to 34 percent passing the No. 200 Sieve.

Soil Type 2 silty sandstone and clayey to very clayey sandstone (SM, SC), encountered in both of Test Borings and all of the Test Pits at depths ranging from 1 foot to 14 feet bgs and extending to the termination of the test borings (15 feet). The sandstone was encountered at dense to very dense states and at moist conditions. Samples tested had 48 percent passing the No. 200 Sieve. Swell/Consolidation Testing on a sample of the very clayey sandstone resulted in a swell of 0.2 percent, which is in the low expansion range.

Soil Type 3 sandy claystone and siltstone (CL, MH), encountered in Test Pit Nos. 2 and 3 at depths ranging from 5 to 6.5 feet and extended to the termination test pit (8 feet). The claystone and siltstone were encountered at hard consistencies and at moist conditions. Samples tested had 60 to 77 percent passing the No. 200 Sieve. FHA Swell Testing resulted in an expansion pressure of 1280 psf, which is in the moderate expansion range.

The Test Boring and Test Pit Logs are presented in Appendix B. Laboratory Test Results are presented in Appendix C. A Summary of Laboratory Test Results is presented in Table 1.

5.5 Groundwater

Groundwater was not encountered in the test borings, which were drilled to 15 feet. Signs of seasonally occurring groundwater were observed in Test Pit Nos. 2 and 3 at depths of 5 to 6 feet. Areas of water, seasonal shallow groundwater water, and potential seasonal shallow groundwater have been mapped along the drainages on-site. These areas are discussed in the following section. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors not readily apparent at this time.

It should be noted that in the sandy materials on site, some groundwater conditions might be encountered due to the variability in the soil profile. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock. Builders and planners should be cognizant of the potential for the occurrence of such subsurface water features during construction on-site and deal with each individual problem as necessary at the time of construction.

6.0 ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

As mentioned previously, detailed mapping has been performed on this site to produce an Engineering Geology Map Figure 7. This map shows the location of various geologic conditions of which the developers should be cognizant during the planning, design and construction

stages of the project. These hazards and the recommended mitigation techniques are as follows:

Artificial Fill

These are recent man-made fill deposits associated with the erosion berm located across the two lots west of Vollmer Road.

Mitigation: The erosion berms can either be avoided or penetrated by foundations. The fill on this site is considered uncontrolled for construction purposes. Any uncontrolled fill encountered beneath foundations will require removal and recompaction at a minimum of 95% of its maximum Modified Procter Dry Density, ASTM D-1557.

Collapsible Soils

The majority of the soils encountered on-site do not exhibit collapsible characteristics, however, areas of loose soils were encountered in the test borings drilled on site. Should loose or collapsible soils be encountered beneath foundations, recompaction and moisture conditioning of the upper 2 feet of soil at 95% of its maximum Modified Proctor Dry Density ASTM D-1557 will be required. Exterior flatwork and parking areas may also experience movement. Proofrolling and recompaction of soft areas should be performed during site work.

Expansive Soils

Expansive soils were encountered in the test borings drilled on site. These occurrences are typically sporadic; therefore, none have been indicated on the maps. These clays, claystones and siltstones, if encountered beneath foundations, can cause differential movement in the structure foundation. These occurrences should be identified and dealt with on an individual basis.

Mitigation Should expansive soils be encountered beneath the foundation, mitigation will be necessary. Mitigation of expansive soils will require special foundation design. Overexcavation and replacement with non-expansive soils at a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557 is a suitable mitigation, which is common in the area. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement has been successful in minimizing slab movements. The use of structural floors should be considered for basement construction on highly expansive clays. Final recommendations should be determined after additional investigation of each building site.

Groundwater and Floodplain Areas

Areas within the drainages on-site have been identified as areas of seasonally high groundwater areas. Water was not flowing in the any of the drainages at the time of this investigation. The site is not mapped within floodplain zones according to the FEMA Map No. 08041CO764F, Figure 8 (Reference 7). These areas are discussed as follows:

Seasonal Shallow Groundwater Area

In these areas, we would anticipate periodic high subsurface moisture conditions and frost heave potential on a seasonal basis. Additional, highly organic soils could be encountered in these areas. These areas lie within defined drainages and it is anticipated they will be avoided by development. Any structures in or adjacent to these areas should follow the mitigation discussed below.

Mitigation: Foundations must have a minimum 30-inch depth for frost protection. In areas where high subsurface moisture conditions are anticipated periodically, subsurface perimeter drains are recommended to help prevent the intrusion of water into areas below grade. Typical drain details are presented in Figure 9. Any grading in these areas should be done to direct surface flow around construction to avoid areas of ponded water. Structures should not block drainages. All organic material should be completely removed prior to any fill placement. Finished floor levels must be located a minimum of one foot above floodplain levels.

Potentially Seasonal Shallow Groundwater Area

In these areas, we would anticipate the potential for periodically high subsurface moisture conditions, frost heave potential and highly organic soils. The majority of these areas lie within defined drainages which can likely be avoided by the proposed development. The same mitigation recommendations for the seasonal shallow groundwater areas apply to the potentially seasonal shallow groundwater areas.

6.1 Relevance of Geologic Conditions to Land Use Planning

As mentioned earlier in this report, we understand that the development will be single family residential. It is our opinion that the existing geologic and engineering geologic conditions will impose some constraints on the proposed development and construction. The most significant problems affecting development will be those associated with the drainages on site that can be

properly mitigated. Other hazards on site may be satisfactorily mitigated through proper engineering design and construction practices.

The upper materials are typically at loose to dense states. The granular soils encountered in the upper soil profiles of the test borings and test pits should provide good support for foundations. Loose soils if encountered at foundation depth will require mitigation. Foundations anticipated for the site are standard spread footings possibly in conjunction with overexcavation in areas of expansive soils or loose soils. Excavation is anticipated to be moderate with rubber tired equipment for the site sand materials, and will require track mounted equipment for the dense sandstone, and hard claystone and siltstone. Expansive layers may also be encountered in the soil and bedrock on this site. Areas of expansive soils encountered on site are sporadic; therefore, none have been indicated on the maps. Expansive soils, if encountered, will require special foundation design and/or overexcavation. These soils will not prohibit development.

In summary, development of the site can be achieved if the items mentioned above are mitigated. These items can be mitigated through proper design and construction or through avoidance. Investigation on each lot is recommended prior to construction.

7.0 ECONOMIC MINERAL RESOURCES

Some of the sandy materials on-site could be considered a low-grade sand resource. According to the *El Paso County Aggregate Resource Evaluation Map* (Reference 8), the area is not mapped with any aggregate deposits. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties* distributed by the Colorado Geological Survey (Reference 9), areas of the site are not mapped with any resources. According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 10), the area of the site has been mapped as "Fair" for industrial minerals. However, considering the silty nature of much of these materials and abundance of similar materials through the region and the close proximity to developed land, they would be considered to have little significance as an economic resource.

According to *the Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands* (Reference 10), the site is mapped within the Denver Basin Coal Region.

However, the area of the site has been mapped as "Poor" for coal resources. No active or inactive mines have been mapped in the area of the site. No metallic mineral resources have been mapped on-site (Reference 10).

The site has been mapped as "Fair" for oil and gas resources (Reference 10). No oil or gas fields have been discovered in the area of the site. The sedimentary rocks in the area may lack the geologic structure for trapping oil or gas; therefore, it may not be considered a significant resource. Hydraulic fracturing is a new method that is being used to extract oil and gas from rocks. It utilizes pressurized fluid to extract oil and gas from rocks that would not normally be productive. The area of the site has not been explored to determine if the rocks underlying the site would be commercially viable utilizing hydraulic fracturing. The practice of hydraulic fracturing has come under review due to concerns about environmental impacts, health and safety.

8.0 ON-SITE WASTEWATER TREATMENT

The site was evaluated for on-site wastewater treatment systems for the proposed lots in accordance with El Paso Land Development Code. Two (2) percolation tests and three (3) tactile test pits were performed across the stie. Percolation test and tactile test pits were located in anticipated locations of proposed on-site wastewater treatment system (OWTS) for the development. The approximate locations of the profile holes and test pits are indicated on Figure 4 and 7, and on the Septic Suitability Map, Figure 10. The locations were chosen to determine a general understanding of the soil and bedrock conditions across the site. The results of the percolation tests and test pits are presented in Table 2. The specific test results are presented in Appendix E of this report.

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3) has been mapped with three soil descriptions. The Soil Survey Map (Reference 2) is presented in Figure 5, and the Soil Survey Descriptions are presented in Appendix D. The soils are described as having moderate to moderately rapid percolation rates.

The percolation rates varied from 44 (PH-2) to 133 (PH-1) minutes per inch. The percolation rate for PH-1 is not suitable for conventional OWTS, the rate for PH-2 is suitable for a conventional OWTS. Percolation rates slower than 60 minutes per inch will require designed

systems. Shallow bedrock was also encountered in the profile holes and test pits, and will also required a designed system. Additional drilling may identify areas where faster rates are encountered that are suitable for conventional systems.

Standard penetration testing, ASTM D-1586, was performed in each profile hole to evaluate the density of the soil and the presence of bedrock. Bedrock was encountered in The Profile Holes at 3 to 14 feet. Designed systems are required in areas of shallow bedrock.

Soils encountered in the tactile test pits consisted of sandy loam to gravelly sandy loam, gravelly loamy sand, and gravelly sandy clay loam with underlying clayey to silty sandstone, sandy claystone and sandy siltstone. The limiting layers encountered in the test pits are the sandy clay loam, silty to clayey sandstone, sandy claystone and sandy siltstone, which corresponds to an LTAR values of 0.15 to 0.20 gallons per day per square foot. The bedrock was encountered at 1 to 5 feet in the test pits. The conditions encountered in the test pits will require a designed system. Signs of seasonal shallow groundwater were observed at depths ranging from 5 to 6 feet in Test Pit Nos. 2 and 3.

Absorption fields must be maintained a minimum of 4 feet above groundwater or bedrock. Groundwater was not encountered in the profile holes which was drilled to 15 feet, however; signs of seasonally shallow groundwater were observed in Test Pit Nos. 2 and 3 at depths ranging from 5 to 6 feet. Shallow bedrock was encountered in the profile holes and test pits at depths ranging from 1 to 14 feet.

In summary, it is our opinion the site is suitable for individual on-site wastewater treatment systems (OWTS) and that contamination of surface and subsurface water resources should not occur provided the OWTS sites are evaluated and installed according to El Paso County Guidelines and properly maintained. Based on the testing performed as part of this investigation and the type of project designed systems will likely be required for the majority of the lots. A Septic Suitability Map is presented in Figure 10. Absorption fields must be located a minimum of 100 feet from any well, including those on adjacent properties. Absorption fields must also be located a minimum of 50 feet from any ponded areas and 25 feet from dry gulches. It should be noted that additional testing will be required for the individual lots prior to construction.

9.0 EROSION CONTROL

The soil types observed on the site are mildly to highly susceptible to wind erosion, and moderately to highly susceptible to water erosion. A minor wind erosion and dust problem may be created for a short time during and immediately after construction. Should the problem be considered severe enough during this time, watering of the cut areas or the use of chemical palliative may be required to control dust. However, once construction has been completed and vegetation re-established, the potential for wind erosion should be considerably reduced.

With regard to water erosion, loosely compacted soils will be the most susceptible to water erosion, residually weathered soils become increasingly less susceptible to water erosion. For the typical soils observed on-site, allowable velocities or unvegetated and unlined earth channels would be on the order of 3 to 4 feet/second, depending upon the sediment load carried by the water. Permissible velocities may be increased through the use of vegetation to something on the order of 4 to 7 feet/second, depending upon the type of vegetation established. Should the anticipated velocities exceed these values, some form of channel lining material may be required to reduce erosion potential. These might consist of some of the synthetic channel lining materials on the market or conventional riprap. In cases where ditch-lining materials are still insufficient to control erosion, small check dams or sediment traps may be required. The check dams will serve to reduce flow velocities, as well as provide small traps for containing sediment. The determination of the amount, location and placement of ditch linings, check dams and of the special erosion control features should be performed by or in conjunction with the drainage engineer who is more familiar with the flow quantities and velocities.

Cut and fill slope areas will be subjected primarily to sheetwash and rill erosion. Unchecked rill erosion can eventually lead to concentrated flows of water and gully erosion. The best means to combat this type of erosion is, where possible, the adequate re-vegetation of cut and fill slopes. Cut and fill slopes having gradients more than three (3) horizontal to one (1) vertical become increasingly more difficult to revegetate successfully. Therefore, recommendations pertaining to the vegetation of the cut and fill slopes may require input from a qualified landscape architect and/or the Soil Conservation Service.

10.0 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some constraints on development and construction of the site. The majority of these conditions can be mitigated through proper engineering design and construction practices. The proposed development and use is consistent with anticipated geologic and engineering geologic conditions.

It should be pointed out that because of the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in the body of this report. Individual investigations for building sites will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report. Reporting such discrepancies to Entech Engineering, Inc. soon after they are discovered would be greatly appreciated and could possibly help avoid construction and development problems.

This report has been prepared for Arroya Investments. for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

We trust that this report has provided you with all the information that you required. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

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TABLES

TABLE 1

SUMMARY OF LABORATORY TEST RESULTS

CLIENT ARROYA INVESTMENTS
PROJECT THE RETREAT AT TIMBER RIDGE
JOB NO. 170209

SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	SULFATE (WT %)	FHA SWELL (PSF)	SWELL/ CONSOL (%)	UNIFIED CLASSIFICATION	SOIL DESCRIPTION
1	1	2-3			34.3						SC	SAND, CLAYEY
1	2	2-3			11.2						SM-SW	SAND, SLIGHTLY SILTY
1	TP-3	4-5			16.4						SM	SAND, CLAYEY
2	1	5	14.9	108.3	47.6					0.2	SC	SANDSTONE, VERY CLAYEY
3	TP-2	5-6			76.6				1280		CL	CLAYSTONE, SANDY
3	TP-3	6-8			60.6						CL	CLAYSTONE, VERY SANDY

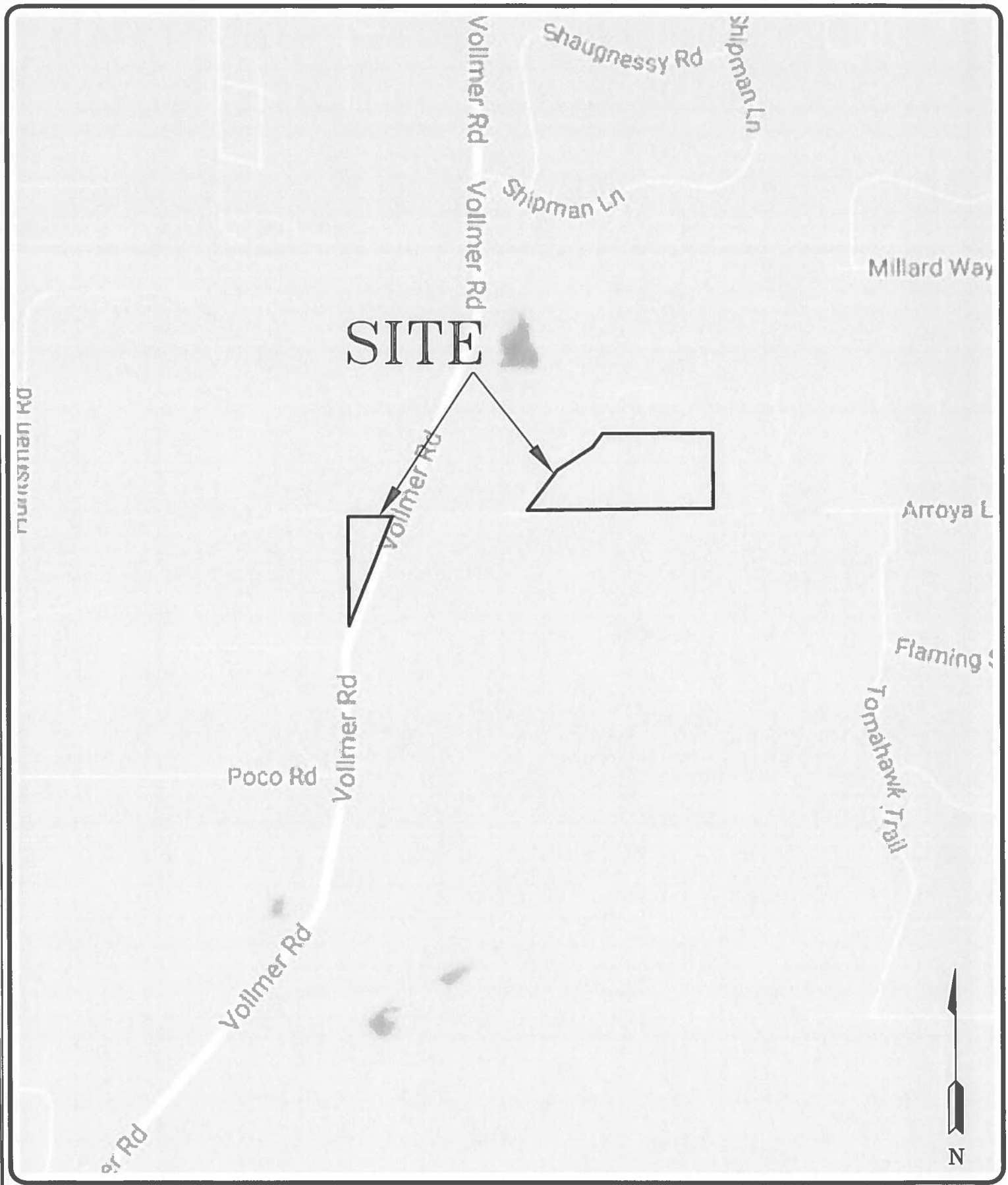
Table 2: Summary of Percolation Test and Tactile Test Pit Results

Percolation Test No.	Percolation Rate (min/in)	Depth to Bedrock (ft.)	Depth to Groundwater (ft.)
1	133*	N/A	N/A
2	44	N/A	N/A

Test Pit No.	USDA Soil Type Limiting Layer	LTAR Value	Depth to Bedrock (ft.)	Depth to Groundwater (ft.)
1	4*	0.20	1	N/A
2	4A*	0.15	3.5	N/A
3	4A*	0.15	5	N/A

*- Conditions that will require an engineered OWTS

FIGURES



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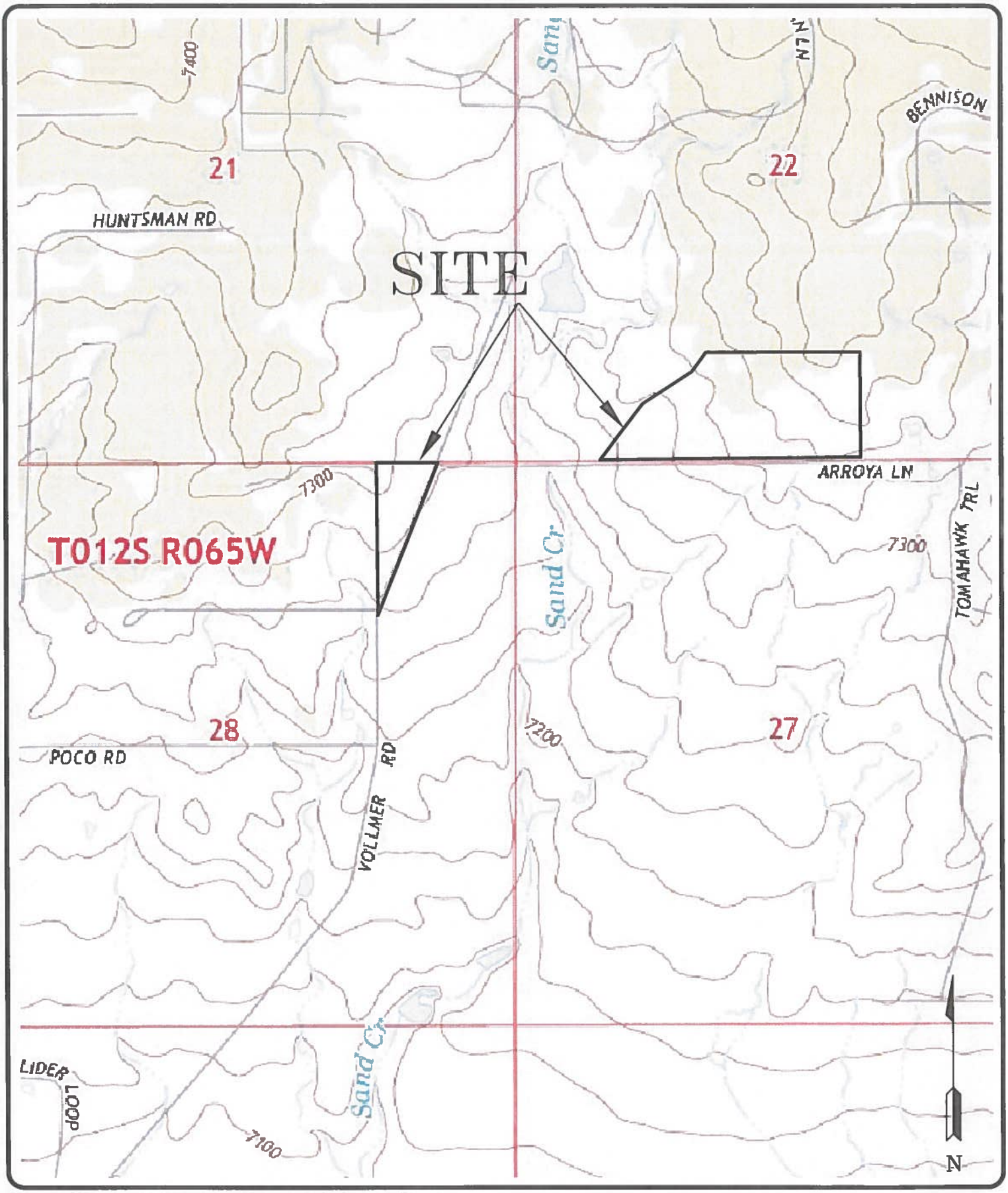
VICINITY MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

DRAWN:	DATE:	CHECKED:	DATE:
LLL	3/31/17		

JOB NO.: 170209

FIG NO.: 1



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USGS MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

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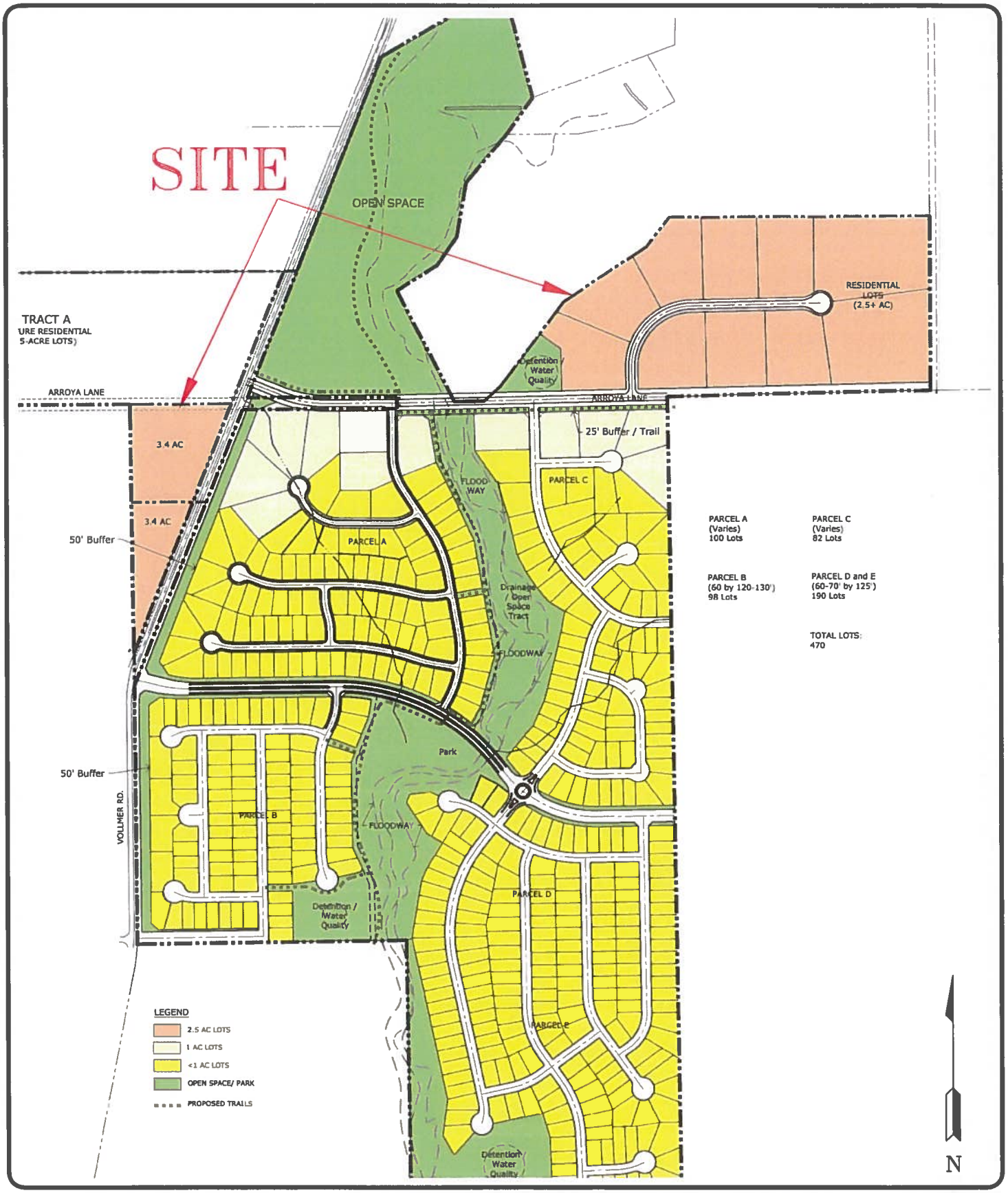
JOB NO.: 170209

FIG NO.: 2



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PRELIMINARY CONCEPT PLAN
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

DRAWN:	DATE:	CHECKED:	DATE:
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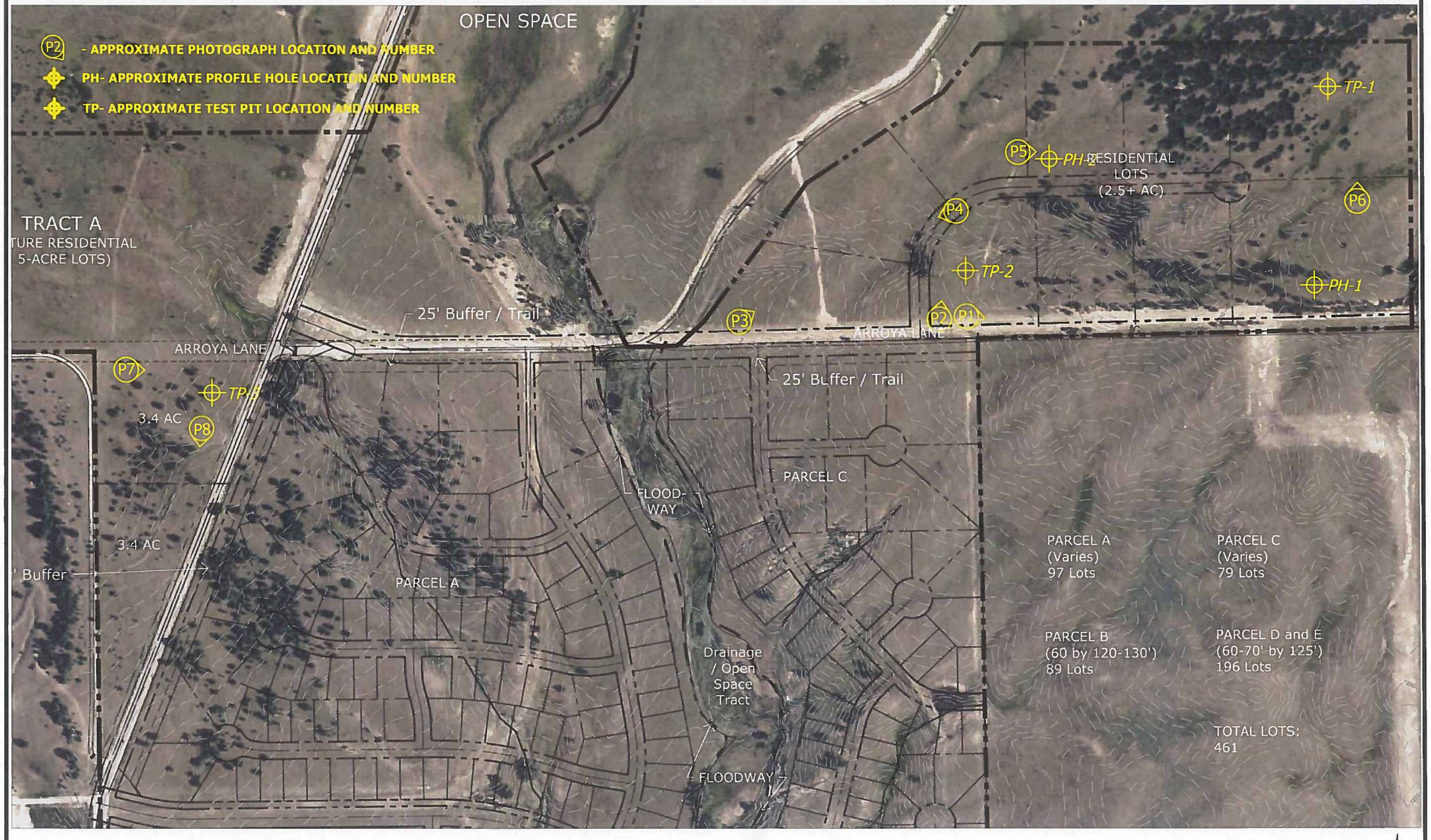
JOB NO.: 170209

FIG NO.: 3



REVISION	BY

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SITE PLAN/TEST BORING AND TEST PIT LOCATION MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

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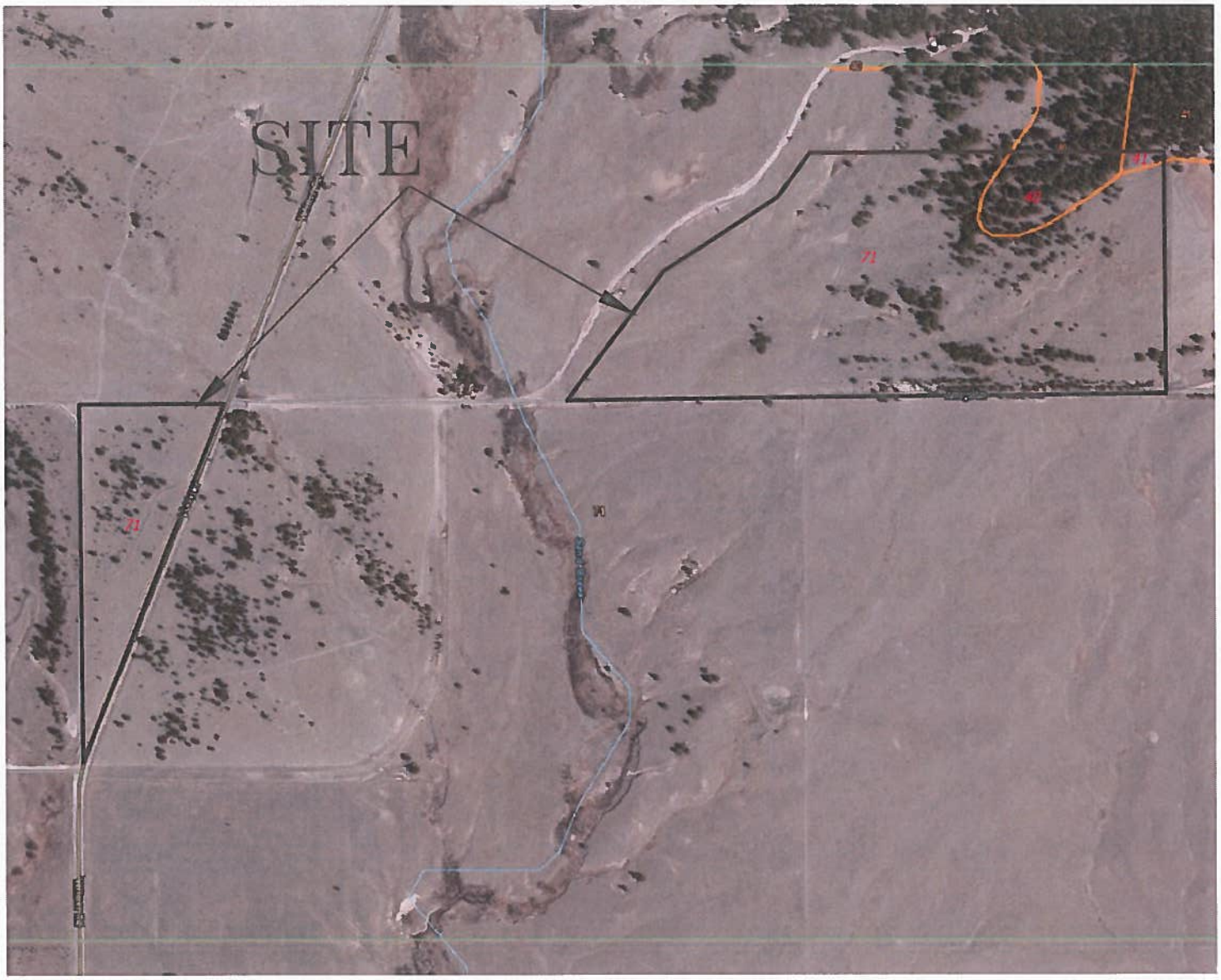
DATE	4/3/17
SCALE	AS SHOWN
JOB NO.	170209
FIGURE No.	4



N

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SOIL SURVEY MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

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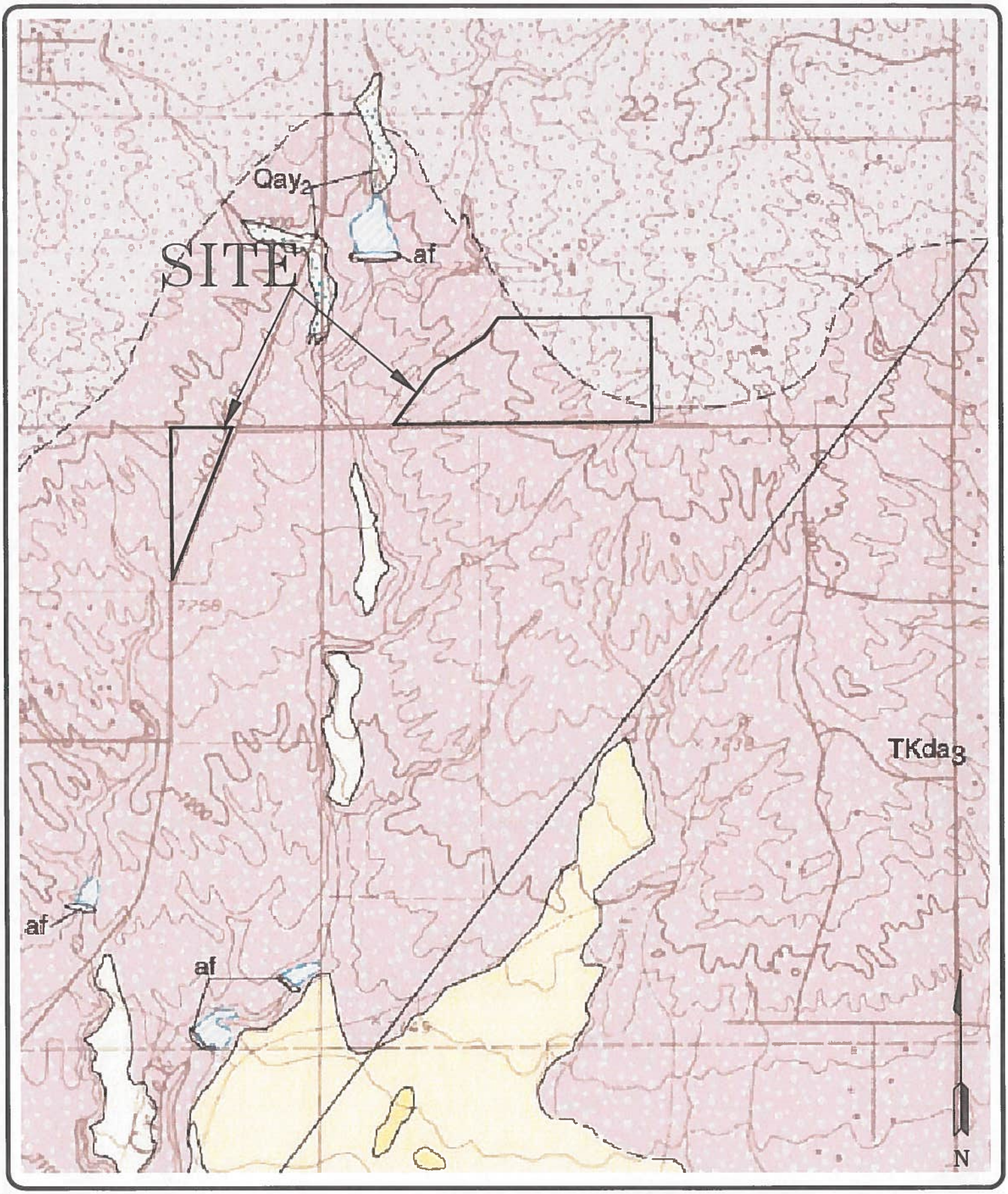
LLL	3/31/17		

JOB NO.: 170209

FIG NO.: 5



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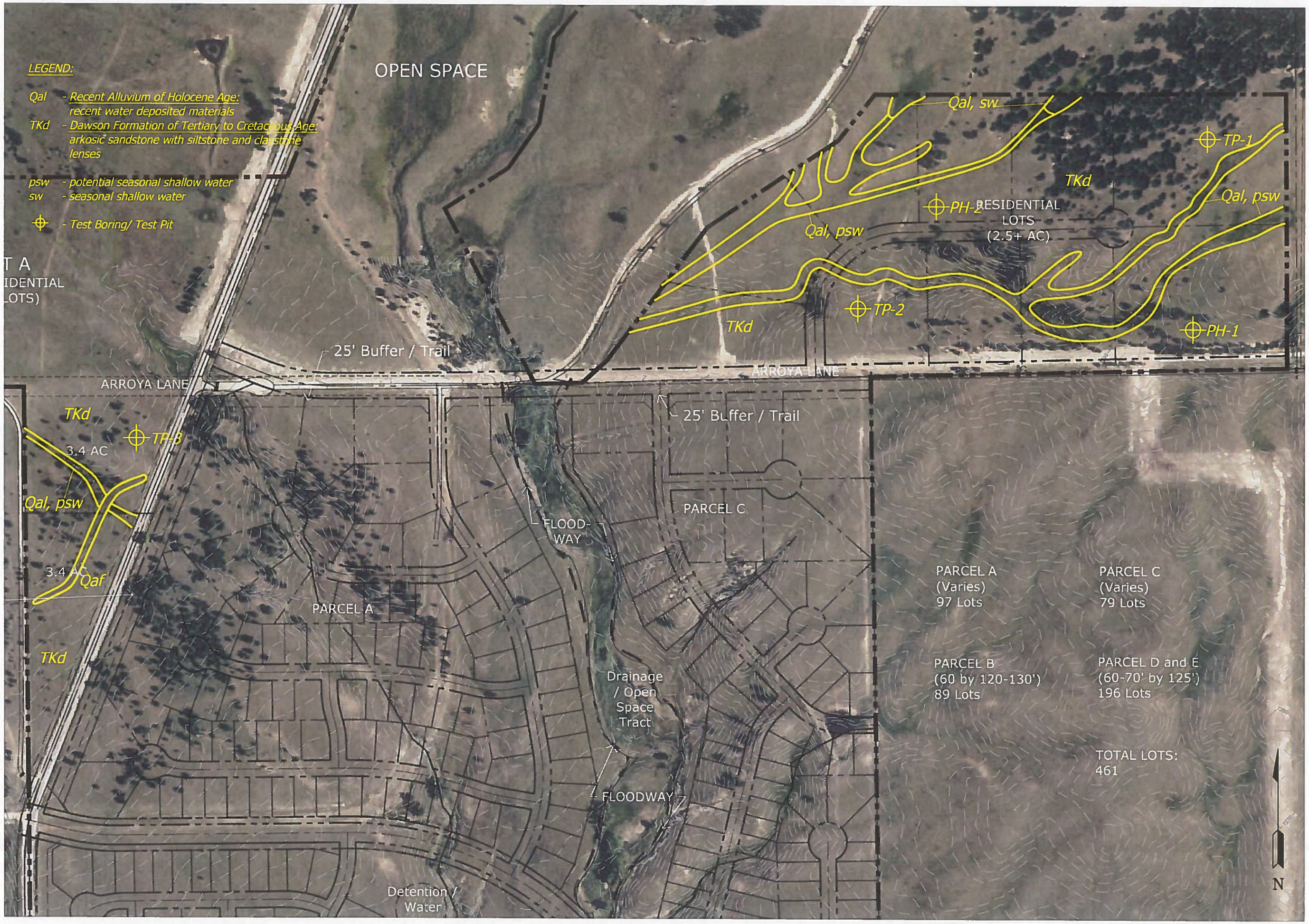
FALCON NW QUADRANGLE GEOLOGY MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

DRAWN:	DATE:	CHECKED:	DATE:
LLL	3/31/17		

JOB NO.: 170209

FIG NO.: 6



REVISION	BY

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505 ELKTON DRIVE
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GEOLOGY MAP/ENGINEERING GEOLOGY
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

DRAWN	LLL
CHECKED	
DATE	4/3/17
SCALE	AS SHOWN
JOB NO.	170209
FIGURE No.	7

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetic Vertical Datum of 1929

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 4276000 M — 1000-meter Universal Transverse Mercator grid tick values, zone 4
- 600000 FT — 5000-foot grid tick values: Hawaii State Plane coordinate system, zone 3 (FIPSZONE 5103), Transverse Mercator projection
- DX5510 X — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M 2 — Coastal Mile marker

MAP REPOSITORY

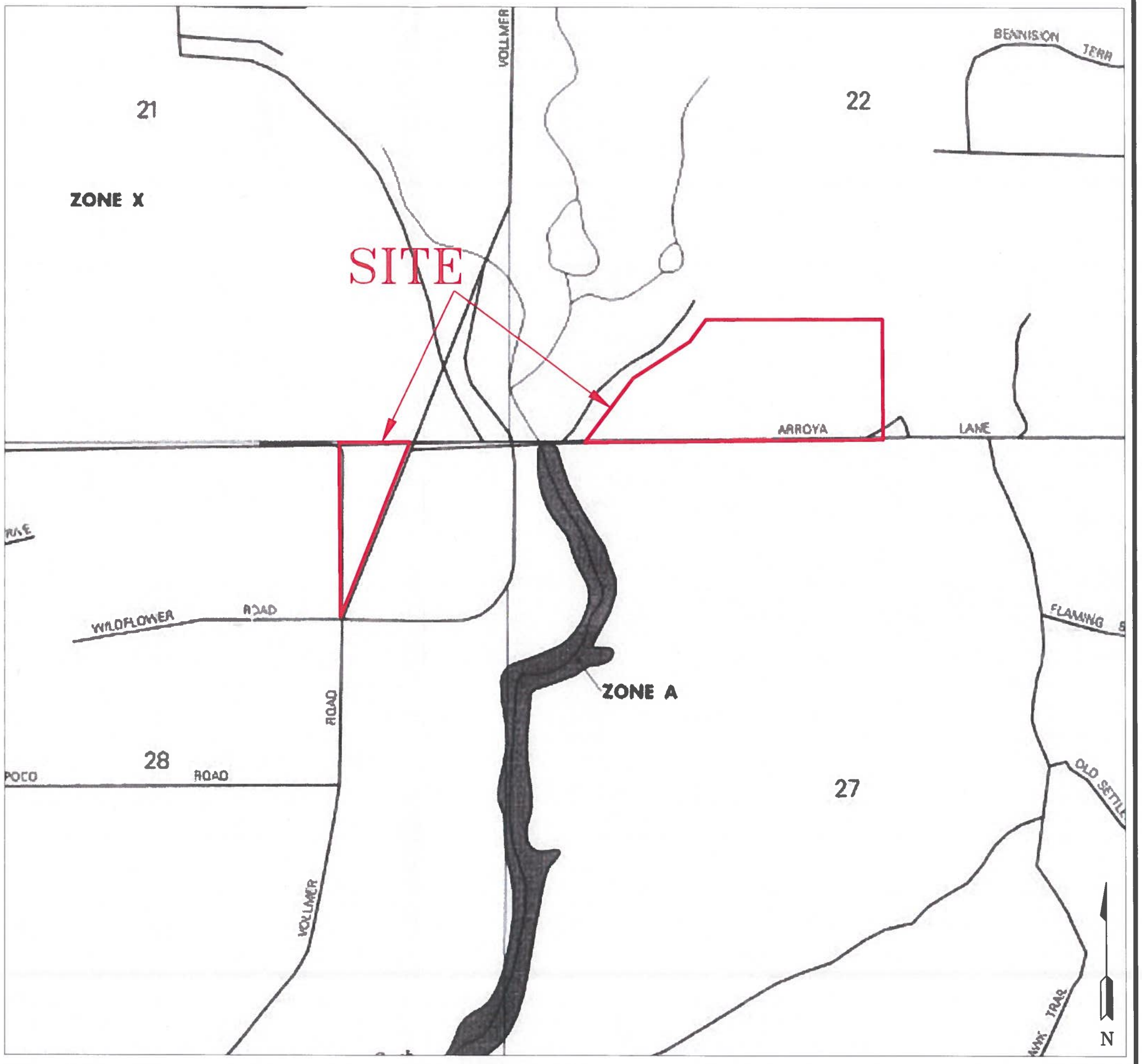
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

November 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

September 30, 2004 – to change Special Flood Hazard Areas, to update map format, to reflect revised shoreline and to incorporate previously issued Letters of Map Revision.



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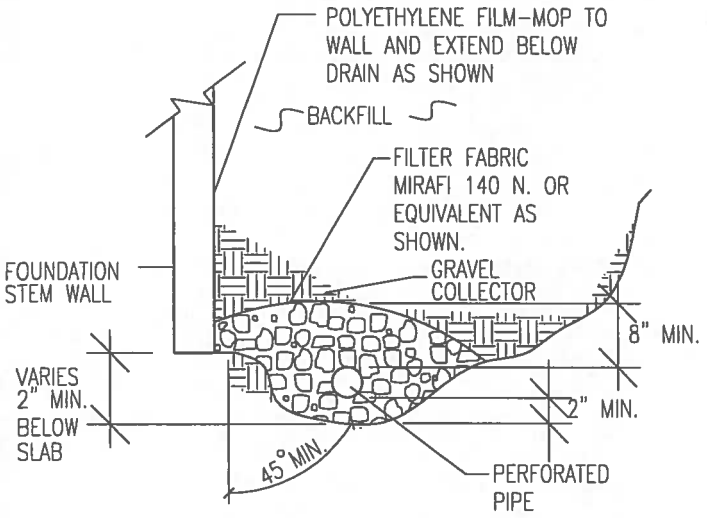
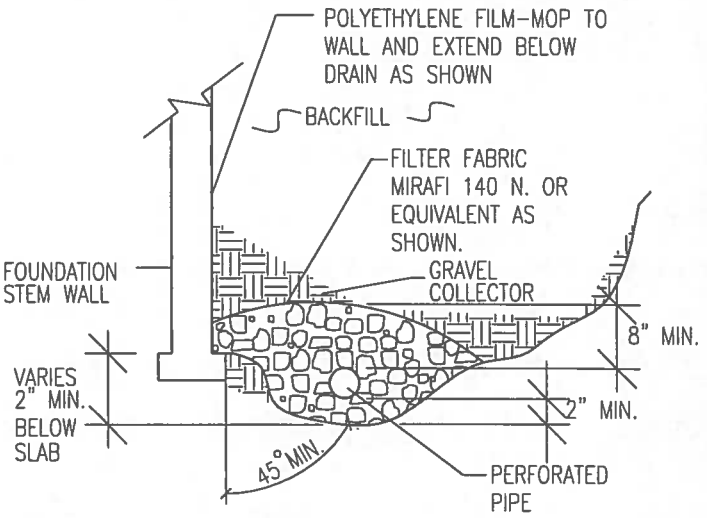
FLOODPLAIN MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

DRAWN	J.J.L.
CHECKED	
DATE	3/31/17
SCALE	AS SHOWN
JOB NO.	170209
FIGURE No.	8





NOTES:

–GRAVEL SIZE IS RELATED TO DIAMETER OF PIPE PERFORATIONS–85% GRAVEL GREATER THAN 2x PERFORATION DIAMETER.

–PIPE DIAMETER DEPENDS UPON EXPECTED SEEPAGE. 4–INCH DIAMETER IS MOST OFTEN USED.

–ALL PIPE SHALL BE PERFORATED PLASTIC. THE DISCHARGE PORTION OF THE PIPE SHOULD BE NON–PERFORATED PIPE.

–FLEXIBLE PIPE MAY BE USED UP TO 8 FEET IN DEPTH, IF SUCH PIPE IS DESIGNED TO WITHSTAND THE PRESSURES. RIGID PLASTIC PIPE WOULD OTHERWISE BE REQUIRED.

–MINIMUM GRADE FOR DRAIN PIPE TO BE 1% OR 3 INCHES OF FALL IN 25 FEET.

–DRAIN TO BE PROVIDED WITH A FREE GRAVITY OUTFALL, IF POSSIBLE. A SUMP AND PUMP MAY BE USED IF GRAVITY OUT FALL IS NOT AVAILABLE.

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PERIMETER DRAIN DETAIL

DRAWN:	DATE:	DESIGNED:	CHECKED:
		DS	LLL

JOB NO.: 170209

FIG NO.: 9

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SEPTIC SUITABILITY MAP
THE RETREAT AT TIMBER RIDGE
VOLLMER ROAD AND ARROYA LANE
EL PASO COUNTY, CO.
FOR: ARROYA INVESTMENTS

DRAWN	LLL
CHECKED	
DATE	4/3/17
SCALE	AS SHOWN
JOB NO.	170209
FIGURE No.	10

APPENDIX A: Site Photographs

1

Looking east from the southern portion of the site.

March 9, 2017

2

Looking north from the southern portion of the site.

March 9, 2017

Job No. 170209

3

Looking northeast from the southwestern portion of the site on the north side of Arroya Lane.

March 9, 2017

4

Looking west central portion of the site.

March 9, 2017

Job No. 170209

5

Looking east from the area of Profile Hole No. 2.

March 9, 2017

6

Looking north from the southeast portion of the site.

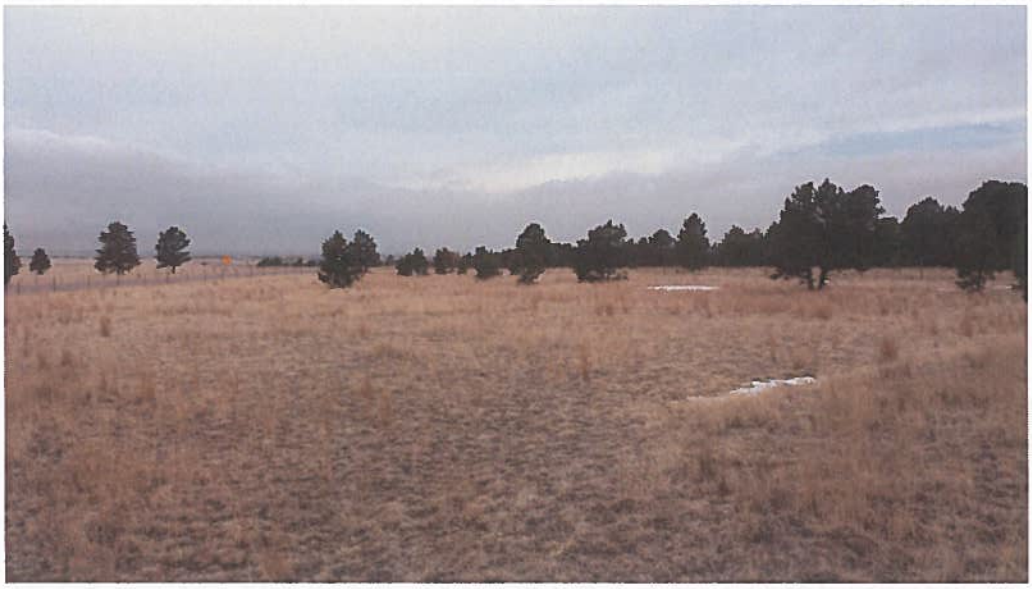
March 28, 2017

Job No. 170209

7

Looking east from the northwestern portion of the western lots towards Arroya Lane.

March 28, 2017



8

Looking south from the central portion of the western lots along Vollmer Road.

March 28, 2017

Job No. 170209

APPENDIX B: Test Boring Logs from the Profile Holes and Test Pit Logs

PROFILE HOLE NO. 1
DATE DRILLED 2/16/2017
Job # 170209

REMARKS

DRY TO 14.5', 2/17/17

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			30	13.0	
			50/11"	13.1	
			50/7"	13.4	
			50/7"	9.2	

SAND, CLAYEY, FINE GRAINED, GREEN BROWN, DENSE, MOIST

SANDSTONE, VERY CLAYEY TO CLAYEY, FINE TO COARSE GRAINED, GREEN BROWN, VERY DENSE, MOIST

PROFILE HOLE NO. 2
DATE DRILLED 2/16/2017
CLIENT ARROYA INVESTMENTS
LOCATION THE RETREAT AT TIMBER RIDGE

REMARKS

DRY TO 14', 2/17/17

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			19	2.3	
			7	7.4	
			6	5.5	
			50	12.5	

SAND, SLIGHTLY SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE TO LOOSE, MOIST

SANDSTONE, CLAYEY, FINE GRAINED, TAN, VERY DENSE, MOIST

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COLORADO SPRINGS, COLORADO 80907

PROFILE HOLE LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: B-1

TEST PIT NO. 1
DATE EXCAVATED 2/15/2017
Job # 170209

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil, sandy loam, brown	1			gr	w	2A
weathered to formational silty sandstone, fine to coarse grained, reddish-tan	2			ma		4
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					

TEST PIT NO. 2
DATE EXCAVATED 2/15/2017
CLIENT ARROYA INVESTMENTS
LOCATION VOLLMER ROAD & ARROYA LANE

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil, sandy loam, brown	1			gr	w	2a
gravelly loamy sand, fine to coarse grained, tan	2			sg		1
	3					
weathered silty sandstone, fine to coarse grained, reddish-tan	4			ma		4
	5					
sandy claystone, olive-gray	6			ma		4A
	7					
	8					
	9					
	10					

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l

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TEST PIT LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: B-2

TEST PIT NO. 3
DATE EXCAVATED 3/28/2016
Job # 170209

TEST PIT NO.
DATE EXCAVATED
CLIENT ARROYA INVESTMENTS
LOCATION VOLLMER ROAD & ARROYA LANE

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil, sandy loam, brown	1			gr	w	2A
gravelly loamy sand, fine to coarse grained, tan	2			sg		1
	3					
	4					
sandy clay loam, very fine to coarse grained, tan-gray	5			ma		3A
weathered clayey sandstone, very fine to coarse grained, tan-gray	6			ma		4A
	7					
siltstone, very fine to fine grained, tan to reddish-tan	8			ma		4A
	9					
	10					

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
	1					
	2					
	3					
	4					
	5					
	6					
	7					
	8					
	9					
	10					

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

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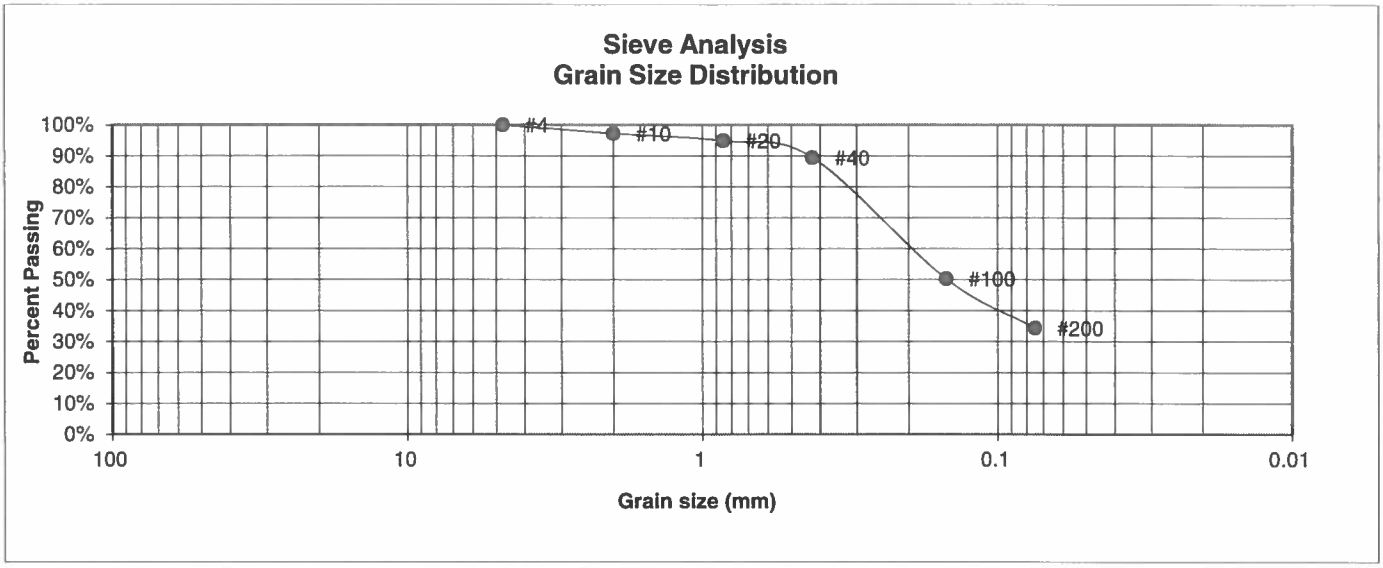
TEST PIT LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: B-3

APPENDIX C: Laboratory Test Results

BORING NO.	1	UNIFIED CLASSIFICATION	SC	TEST BY	BL
DEPTH(ft)	2-3	AASHTO CLASSIFICATION		JOB NO.	170209
CLIENT	ARROYA INVESTMENTS				
PROJECT	THE RETREAT AT TIMBER RIDGE				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	97.2%
20	94.9%
40	89.5%
100	50.3%
200	34.3%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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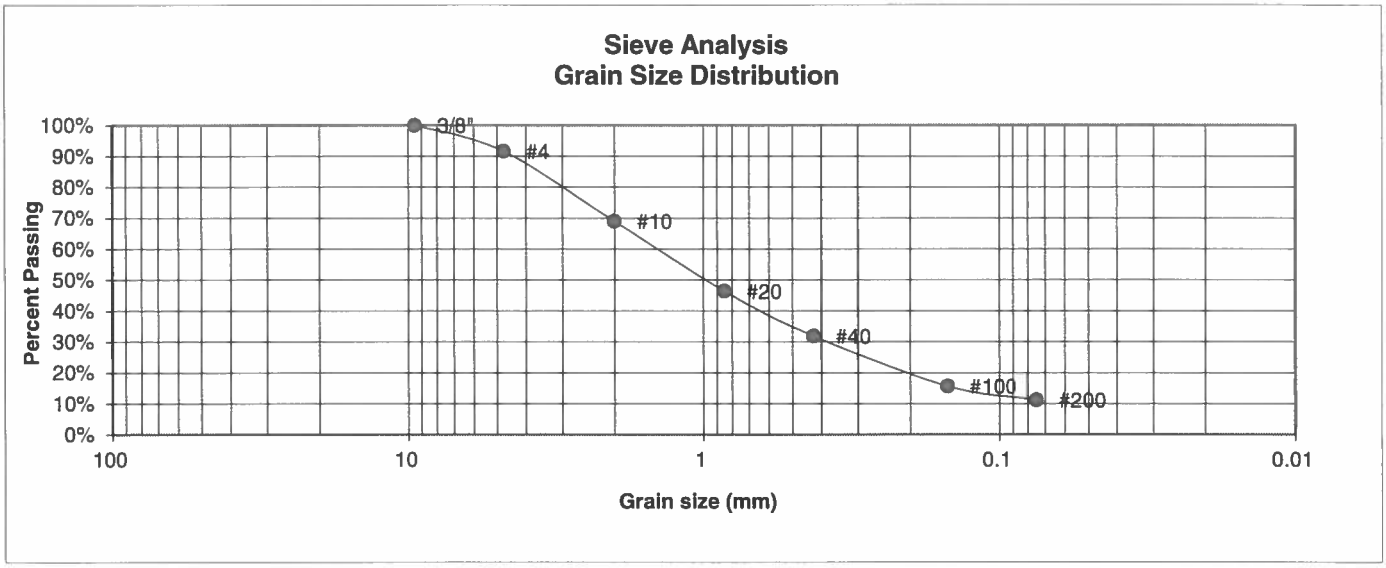
505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: C-1

BORING NO.	2	UNIFIED CLASSIFICATION	SM-SW	TEST BY	BL
DEPTH(ft)	2-3	AASHTO CLASSIFICATION		JOB NO.	170209
CLIENT	ARROYA INVESTMENTS				
PROJECT	THE RETREAT AT TIMBER RIDGE				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	91.6%
10	69.0%
20	46.4%
40	31.9%
100	15.7%
200	11.2%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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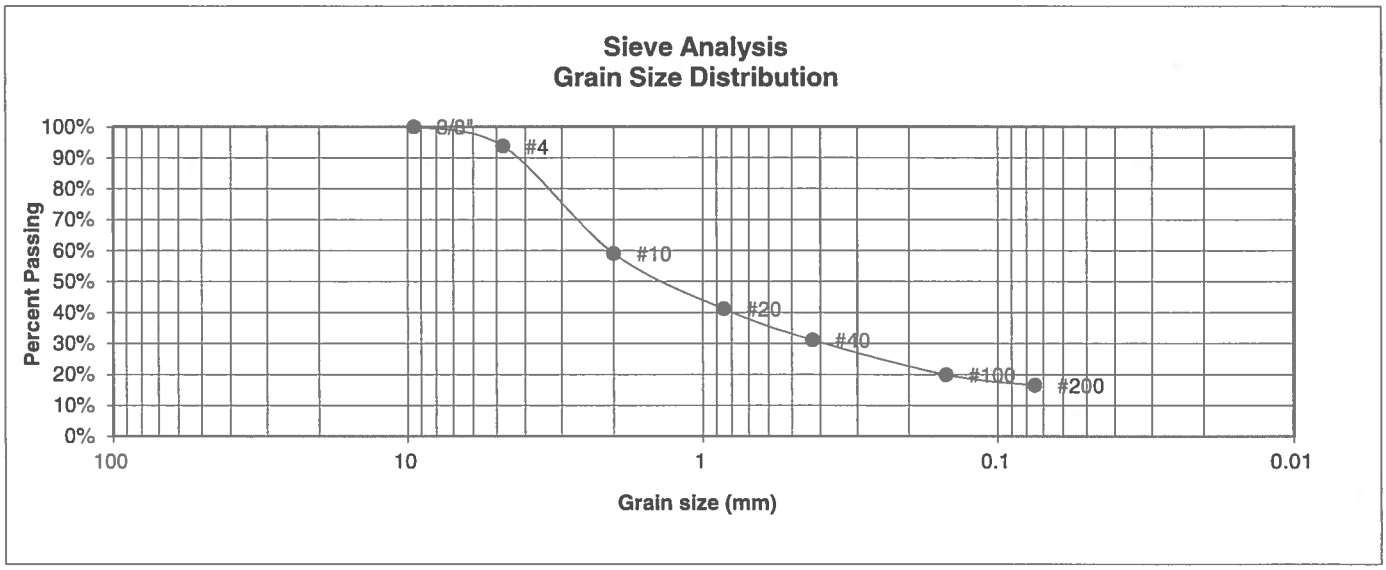
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: L-2

BORING NO.	TP-3	UNIFIED CLASSIFICATION	SM	TEST BY	BL
DEPTH(ft)	4-5	AASHTO CLASSIFICATION		JOB NO.	170209
CLIENT	ARROYA INVESTMENTS				
PROJECT	THE RETREAT AT TIMBER RIDGE				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	93.7%
10	59.1%
20	41.1%
40	31.1%
100	19.9%
200	16.4%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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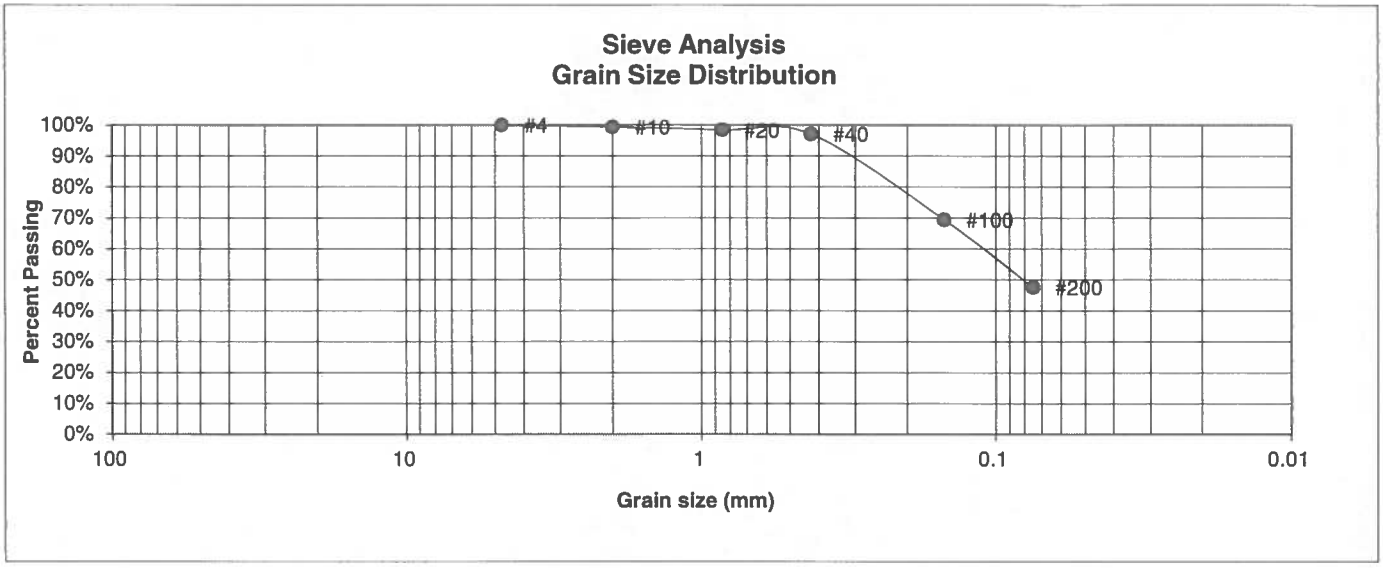
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: C-3

BORING NO.	1	UNIFIED CLASSIFICATION	SC	TEST BY	BL
DEPTH(ft)	5	AASHTO CLASSIFICATION		JOB NO.	170209
CLIENT	ARROYA INVESTMENTS				
PROJECT	THE RETREAT AT TIMBER RIDGE				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.4%
20	98.4%
40	97.1%
100	69.4%
200	47.6%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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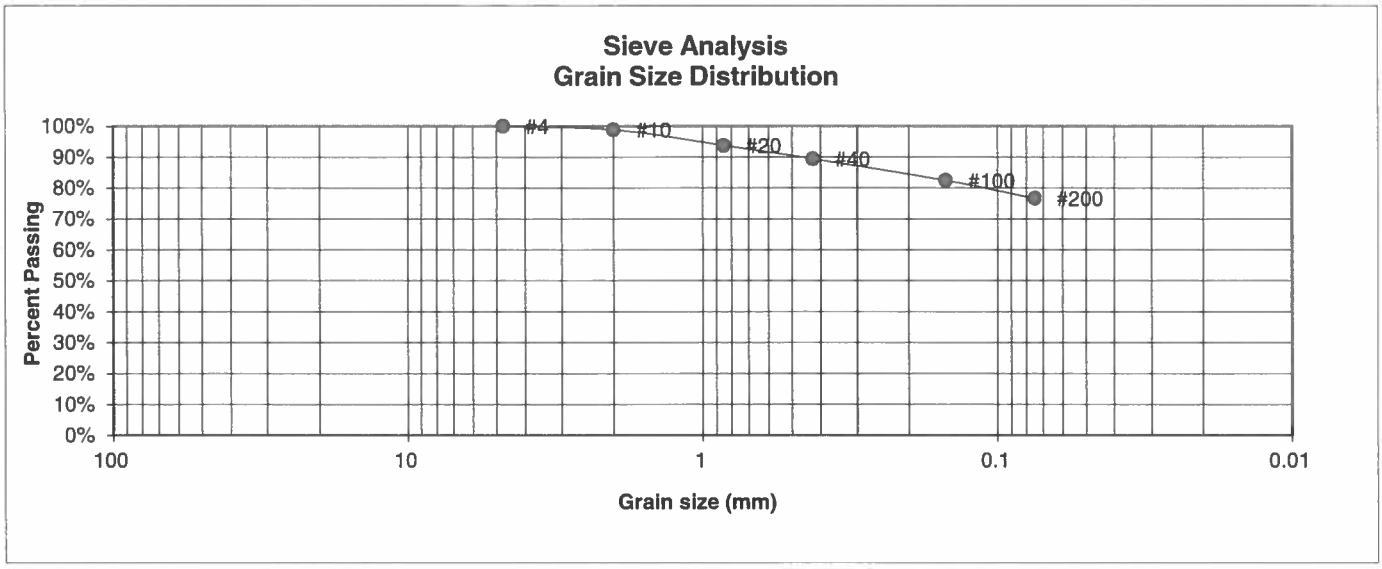
COLORADO SPRINGS, COLORADO 80907

LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: C-4

BORING NO.	TP-2	UNIFIED CLASSIFICATION	CL	TEST BY	BL
DEPTH(ft)	5-6	AASHTO CLASSIFICATION		JOB NO.	170209
CLIENT	ARROYA INVESTMENTS				
PROJECT	THE RETREAT AT TIMBER RIDGE				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.9%
20	93.8%
40	89.4%
100	82.4%
200	76.6%

Atterberg Limits	
Plastic Limit	
Liquid Limit	
Plastic Index	
Swell	
Moisture at start	11.5%
Moisture at finish	20.8%
Moisture increase	9.4%
Initial dry density (pcf)	103
Swell (psf)	1280

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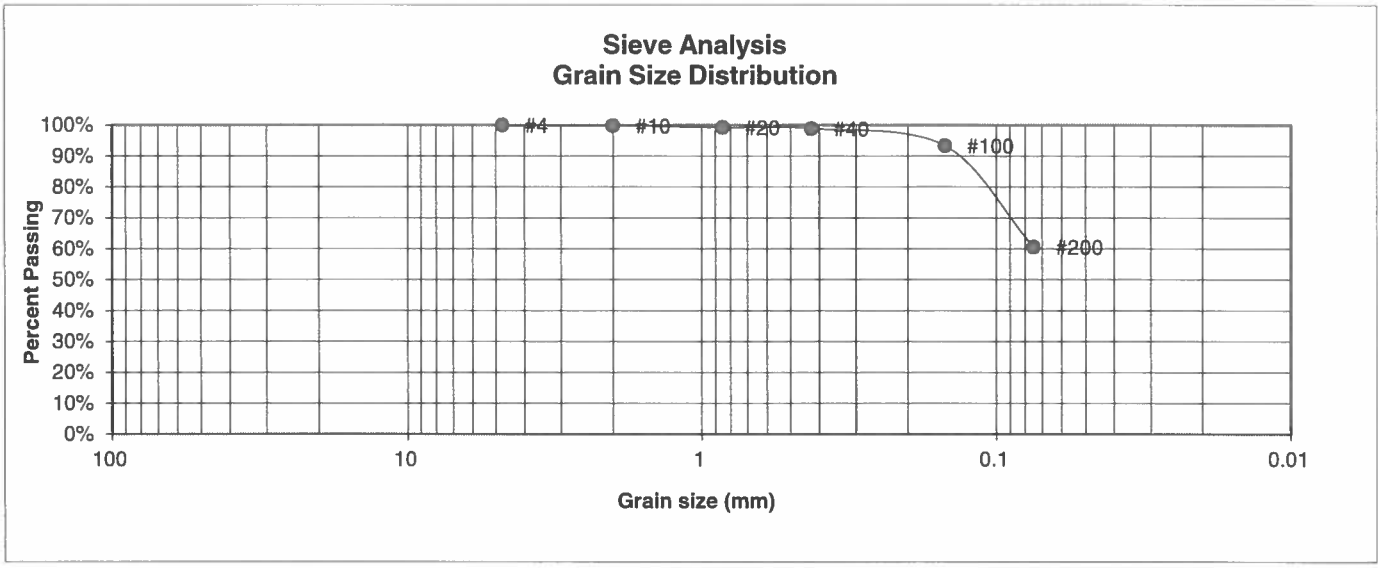
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: C-5

BORING NO.	TP-3	UNIFIED CLASSIFICATION	CL	TEST BY	BL
DEPTH(ft)	6-8	AASHTO CLASSIFICATION		JOB NO.	170209
CLIENT	ARROYA INVESTMENTS				
PROJECT	THE RETREAT AT TIMBER RIDGE				



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.8%
20	99.3%
40	98.9%
100	93.3%
200	60.6%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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LABORATORY TEST RESULTS

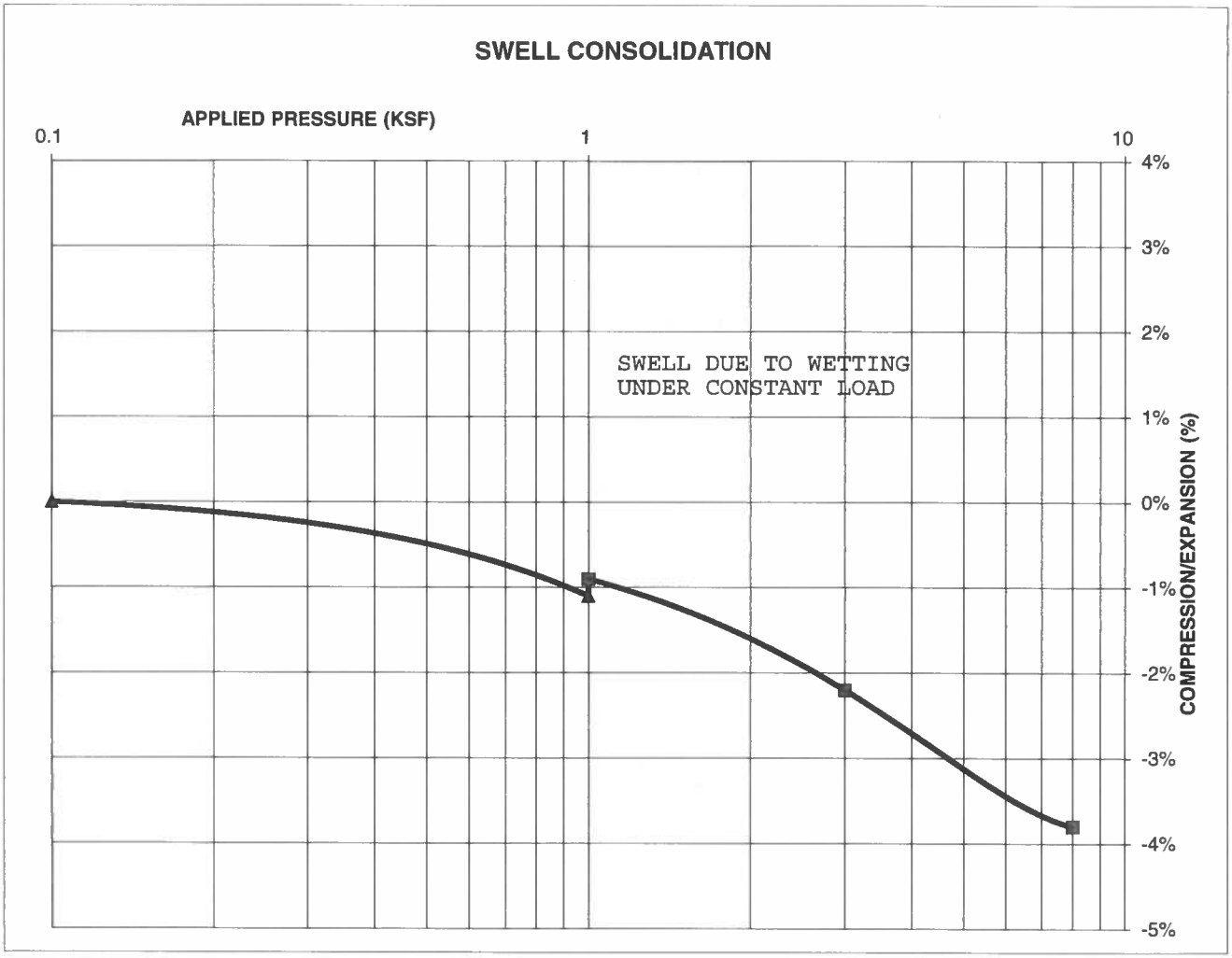
DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: L-6

CONSOLIDATION TEST RESULTS

SAMPLE FROM:	1	DEPTH(ft)	5
DESCRIPTION	SAND, VERY CLAYEY		
NATURAL UNIT DRY WEIGHT (PCF)			108
NATURAL MOISTURE CONTENT			14.9%
SWELL/CONSOLIDATION (%)			0.2%

JOB NO. 170209
CLIENT ARROYA INVESTMENTS
PROJECT THE RETREAT AT TIMBER RIDGE



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COLORADO SPRINGS, COLORADO 80907

SWELL CONSOLIDATION
TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209

FIG NO.: C-7

APPENDIX D: Soil Survey Descriptions

El Paso County Area, Colorado

40—Kettle gravelly loamy sand, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 368g
Elevation: 7,000 to 7,700 feet
Farmland classification: Not prime farmland

Map Unit Composition

Kettle and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kettle

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium derived from arkose

Typical profile

E - 0 to 16 inches: gravelly loamy sand
Bt - 16 to 40 inches: gravelly sandy loam
C - 40 to 60 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant
Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 14, Sep 23, 2016

El Paso County Area, Colorado

41—Kettle gravelly loamy sand, 8 to 40 percent slopes

Map Unit Setting

National map unit symbol: 368h
Elevation: 7,000 to 7,700 feet
Farmland classification: Not prime farmland

Map Unit Composition

Kettle and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kettle

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy alluvium derived from arkose

Typical profile

E - 0 to 16 inches: gravelly loamy sand
Bt - 16 to 40 inches: gravelly sandy loam
C - 40 to 60 inches: extremely gravelly loamy sand

Properties and qualities

Slope: 8 to 40 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant
Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 14, Sep 23, 2016

El Paso County Area, Colorado

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pring

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 14, Sep 23, 2016

APPENDIX E: Percolation Test Results

Client: Arroya Investments
Job Number: 170209
Test Location: The Retreat at Timber Ridge

PERCOLATION HOLES - #1

Date Holes Prepared: 2/16/2017
Date Hole Completed: 2/17/2017

Hole No. 1
Depth: 34"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/8
2	10	0
3	10	1/8

Perc Rate (min./in.): 80

Hole No. 2
Depth: 36"

Trial	Time (min.)	Water Level Change (in.)
1	10	0
2	10	0
3	10	1/8

Perc Rate (min./in.): 80

Hole No. 3
Depth: 34"

Trial	Time (min.)	Water Level Change (in.)
1	10	0
2	10	0
3	10	0

Perc Rate (min./in.): 240

Average Perc Rate (min./in.) 133

PROFILE HOLE

Date Profile Hole Completed: 2/16/2017

Depth	Visual Classification	Remarks
0-3'	Sand, clayey, fine grained, green brown	
3-15'	Sandstone, very clayey, fine grained, green brown	Sandstone Bedrock at 3' No Groundwater

30 Blows / ft. @ 2'
50 Blows / 11" @ 4'
50 Blows / 7" @ 9'

LTAR = 0.1 gallons per square foot per day.

Remarks:
* - Due to slow percolation rate and shallow bedrock, a designed system or additional drilling is recommended

GPS Coordinates: 38° 59' 03.3" N, 104° 39' 17.6" W

Observer: Graham Espenlaub
By:

ENTECH
ENGINEERING, INC.
505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

PERCOLATION TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: E-1

Client: Arroya Investments
Job Number: 170209
Test Location: The Retreat at Timber Ridge

PERCOLATION HOLES - #2

Date Holes Prepared: 2/16/2017
Date Hole Completed: 2/17/2017

Hole No. 1
Depth: 36"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/8
2	10	0
3	10	1/8

Perc Rate (min./in.): 80

Hole No. 2
Depth: 36"

Trial	Time (min.)	Water Level Change (in.)
1	10	1/8
2	10	3/8
3	10	3/8

Perc Rate (min./in.): 27

Hole No. 3
Depth: 31"

Trial	Time (min.)	Water Level Change (in.)
1	10	7/8
2	10	5/8
3	10	3/8

Perc Rate (min./in.): 27

Average Perc Rate (min./in.) 44

PROFILE HOLE

Date Profile Hole Completed: 2/16/2017

Depth	Visual Classification	Remarks
0-14'	Sand, slightly silty, fine to coarse grained, tan	
14-15'	Sandstone, clayey, fine to coarse grained, brown	Sandstone Bedrock at 14' No Groundwater

19 Blows / ft. @ 2'
7 Blows / ft. @ 4'
6 Blows / ft. @ 9'

LTAR = 0.35 gallons per square foot per day.
Soil Treatment Area (Soil Type 3) = 2.7 square feet per gallon.

Remarks:

GPS Coordinates: 38° 59' 07.0" , 104° 39' 29.2" W

Observer: Graham Espenlaub
By:

ENTECH
ENGINEERING, INC.
505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

PERCOLATION TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	3/31/17

JOB NO.: 170209
FIG NO.: E-2

ENTECH
ENGINEERING, INC.
505 ELKTON DRIVE
COLORADO SPRINGS, CO 80907
PHONE (719) 531-5599
FAX (719) 531-5238

July 11, 2017

Arroya Investments
P.O. Box 50223
Colorado Springs, Colorado 80949

Attn: Peter Martz

Re: Final Submittal – Response Letter
The Retreat at Timber Ridge – 2.5+ Acre Lots
Colorado Springs, Colorado

Dear Mr. Martz:

As requested, we have submitted a Soils, Geology, Geologic Hazards, and Wastewater Study report for the above referenced site. This letter is in response to the Colorado Geological Survey Review Letter dated June 12, 2017, File No. PUD173; El Paso County, CO; CGS Unique No. EP-17-0048.

- Entech Engineering, Inc. April 12, 2017. Soils, Geology and Geologic Hazard Study, The Retreat at Timber Ridge – 2.5+ Acre Lots, Vollmer Road and Arroya Lane, El Paso County, CO, Entech Job No. 170209.

We have reviewed the Colorado Geological Survey response to the study and agree with their comments and recommendations. Additional recommendations regarding mitigation across the site provided in the report by Entech should be followed.

We trust this has provided you with the information you required. If you have any questions or need additional information, please do not hesitate to contact us.

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Logan L. Langford
Geologist

Joseph C. Goode, Jr., P.E.
President

COLORADO LICENSED
JOSEPH COLLIN GOODE JR
23725
7.11.17
PROFESSIONAL ENGINEER

LLL

Encl.

Entech Job Nos. 170209
AA projects\2017\170209 response ltr

Appendix E

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#: 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:	Do Samples Need to be Composited BY THE LAB? ☐	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 used.

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

3/6/17
170217005-01
1/ 1

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: SP Water	PWSID: Co. 0121724
Contact Name: Mark Valle	Contact Name: Jim Morley	System Name: LFH-1
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Crescent St	Address: NE 1/4 NW 1/4 S27 T12S R65W 6th PM
City CS State CO Zip 80903	City Colo Spgs State CO Zip 80903	City Colo Spgs State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvalle@jdshydro.com	Email: jmorley2870@aol.com	Compliance Samples: Yes [X] No [ ] Please report on state forms
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170217005

ARF

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																				Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC/DOC (Circle)	SUVA, UV 254 (Circle)	Metals	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
	7:31	#1	3			X																							
	7:42	#2	3				X																						
	9:30	#3	2								X																		
	9:54	#4	1																					X					
	9:53	#5	1															X	X	X		X							
	10:16	#6	2																								X		
	9:22	#7	2																				X						
	8:46	#8	2							X																			
	9:54	#9	2		X																								
	8:52	#10	1										X																

Instructions:

C/S Info: Fedex

Delivered Via:

C/S Charge [ ]

Seals Present Yes [ ] No [X] Headspace Yes [ ] No [ ]

Temp. 2 °C /Ice Y

Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/16/17 12:15pm		2/17/17 0800				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS HYDRO	Company Name: SR WATER	PWSID: CO-0121724
Contact Name: MARK VOLLE	Contact Name: JIM MORLEY	System Name: LFH-1
Address: 545 E. PIKES PEAK AVE SUITE 300	Address: 20 BOULDER CRESCENT ST	Address: NE¼ NW¼ S27 T12S R65W 6th PM
City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: EL PASO
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No
Sampler Name: STEPH SCHWENKE	PO No.:	Send Forms to State: Yes No ☒

please report results on state forms

CAL Task No. 170217005

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	~~Fluoride~~ Drinking Water TDS	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	1,4 Dioxane	Gross Alpha/Beta	Radium 226	Radium 228	~~Radon~~ Cyanide	Uranium
2/16	8:37	#11	3																								X	X		
	9:30	#12	3																						X					
	9:01	#13	2																											
	9:43	#14	1																										X	
2/16	8:40	#15	1																							X				
	8:44	#16	1					X																						
	9:00	#17	1																			X									
	5:42	#18	1												X															
	9:19	#19	3						X																					

Instructions: (34) + 504 Blank

VOA

C/S Info: Delivered Via: fedex

C/S Charge ☐

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Temp. 2 °C/Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/16/17 12:15pm	[signature]	2/17/17 0800				

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	Phone #:	Contact Person: Customer Service Phone: 303-659-2313
Comments:	Do Samples Need to be Composited BY THE LAB? ☐	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	2/22/17	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	2/22/17	170217005-01A	Selenium	7782-49-2	EPA 200.8	0.05	0.001	**BDL**
2/17/17	2/24/17	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

3/6/17
170217005-01A
1/ 1

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: SP Water	PWSID: CO- 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: LFH-1
Address: 545 E. Pikes Peak Ave Suite 200	Address: 20 Boulder Crescent St	Address: NE 1/4 NW 1/4 S27 T12S R65W 6TH PM
City CS State CO Zip 80903	City Colo Spgs State CO Zip 80903	City Colo Spgs State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ] Please report on state forms
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170217005

ARF

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																					Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC/DOC (Circle)	SUVA, UV 254 (Circle)	Metals	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
	7:31	#1	3			X																								
	7:[illegible]	#2	3				X																							
	9:30	#3	2								X																			
	3:54	#4	1																					X						
	12:53	#5	1															X	X	X		X								
	1:56	#6	2																									X		
	9:22	#7	2																				X							
	8:46	#8	2							X																				
	9:54	#9	2		X																									
	8:52	#10	1										X																	

Instructions:

C/S Info: fedex

Delivered Via:

C/S Charge [X]

Seals Present Yes [ ] No [X] Headspace Yes [ ] No [ ]

Temp. 2 °C /Ice Y

Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/16/17 12:15pm	[signature]	2/17/17 0800				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS HYDRO	Company Name: SR WATER	PWSID: CO-0121724
Contact Name: MARK VOLLE	Contact Name: JIM MORLEY	System Name: LFH-1
Address: 545 E. PIKES PEAK AVE SUITE 300	Address: 20 BOULDER CRESCENT ST	Address: NE¼ NW¼ S27 T12S R65W 6TH PM
City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: EL PASO
Email: mvolle@jdshydro.com	Email: jmorley@3870@aol.com	Compliance Samples: Yes ☒ No
Sampler Name: STEPH SCHWENKE	PO No.:	Send Forms to State: Yes No ☒ please report results on state forms

CAL Task No. 170217005

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	~~Fluoride~~ Drinking Water TDS	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	1,4 Dioxane	Gross Alpha/Beta	Radium 226	Radium 228	~~Radon~~ Cyanide	Uranium
2/16	8:37	#11	3																								X	X		
	9:30	#12	3																						X					
	9:31	#13	2																											
	9:43	#14	1																										X	
2/16	8:40	#15	1																							X				
	8:44	#16	1					X																						
	9:00	#17	1																	X										
	5:42	#18	1											X																
	9:19	#19	3						X																					

Instructions: (34) + 504 Blank

VOA

C/S Info:

Delivered Via: fedex

C/S Charge ☐

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Temp. 2 °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/16/17 12:15pm	[signature]	2/17/17 0800				

Hazen Research, Inc.
4601 Indiana Street
Golden, CO 80403 USA
Tel: (303) 279-4501
Fax: (303) 278-1528

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 / Customer Sample ID			B16917-001 170217005-01 - Lfh-1 - PWSID: CO0121724 - LFH-1 sampled on 02/16/17 @ 0906 by Stephanie Schwenke					
Parameter	Units	Code	Result	Precision* +/-	Detection Limit	Method	Analysis Date / Time	Analyst
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) = Susspended (R) = Total Residual
(PD) = Potentially Dissolved < = Less Than

Colorado Department of Public Health and Environment

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

Revision 6/13/2014

RAD

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: Lfh-1		Laboratory Name: Hazen Research, Inc.	
Contact Person:	Phone #:	Contact Person: Jessica Axen	Phone #: 303-279-4501
Comments:	Do Samples Need to be Composited BY THE LAB? ☐	Comments:	

Section III (Supplied or Completed by Public Water System)

Sample Date: 02/16/2017	Collector: Stephanie Schwenke	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
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

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

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: Picocuries per Liter
MCL: Maximum Contaminant Level

FED EX

Drinking Water Chain of Custody

Colorado Analytical Laboratories, Inc.

Brighton Lab
240 South Main Street
Brighton, CO 80601

Lakewood Lab
12860 W. Cedar Dr, Suite 101
Lakewood CO 80228

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

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: Colorado Analytical Contact Name: Stuart Nielson	Company Name: Same As Report To Contact Name: ___	PWSID: CO0121724 System Name: Lfh-1
Address: 240 S. Main St. City: Brighton State: CO Zip: 80601	Address: ___ City: State: Zip:	System Address: Ne 1/4 Nw 1/4 527 T125 R65w 6th Pm City: Colorado Spgs State: CO Zip: 80908
Phone:303-659-2313 Fax:303-659-2315	Phone: Fax:	County: El Paso
Email: stuartnielson@coloradolab.com	Email:	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

Task Number

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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	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
02/16/17	0906	170217005-01 LFH-1	6		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐
	L FROM BOTTLES				☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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(Column groups: Total Coliform P/A through SUVA — PHASE I, II, V Drinking Water Analyses (check analysis); Gross Alpha/Beta through Uranium — Subcontract Analyses)

Instructions: Please print on state forms but do not submit to CDPHE. Thanks!

1.8

C/S Info: To: Hazen

Delivered Via: FedEx SD C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

REC'D PRES @ HAZEN

Temp. °C /Ice Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
J Adams	2/17/16 1100					[signature]	02/17/2017 1430

Colorado Analytical LABORATORIES, INC.

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 CaCO3	SM 2320-B	0.1	2/20/17	VDB
Calcium as CaCO3	6.3 mg/L	SM 3111-B	0.1	2/24/17	MBN
Carbonate	4.0 mg/L as CaCO3	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 CaCO3	SM 2320-B	0.1	2/20/17	VDB
Total Dissolved Solids	458 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's = Most Probable Number Index/ 100 ml's
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: SP Water	PWSID: Co-0121724
Contact Name: Mark Valle	Contact Name: Jim Morley	System Name: LFH-1
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Crescent St	Address: NE 1/4 NW 1/4 S27 T12S R65W 6th PM
City CS State CO Zip 80903	City ColoSpgs State CO Zip 80903	City ColoSpgs State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvalle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ] Please report on state forms
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170217005

ARF

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																				Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC/DOC (Circle)	SUVA, UV 254 (Circle)	Metals	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
	7:31	#1	3			X																							
	7:46	#2	3				X																						
	9:30	#3	3								X																		
	8:54	#4	1																					X					
	12:53	#5	1															X	X	X		X							
	12:46	#6	2																									X	
	9:22	#7	2																				X						
	8:46	#8	2							X																			
	9:54	#9	2		X																								
	8:52	#10	1										X																

Instructions:

C/S Info: fedex

Delivered Via:

C/S Charge [X]

Temp. 2 °C /Ice Y

Seals Present Yes [ ] No [X] Headspace Yes [ ] No [ ]

Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/16/17 12:15pm		2/17/17 0800				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS HYDRO	Company Name: SR WATER	PWSID: CO-0121724
Contact Name: MARK VOLLE	Contact Name: JIM MORLEY	System Name: LFH-1
Address: 545 E. PIKES PEAK AVE SUITE 300	Address: 20 BOULDER CRESCENT ST	Address: NE¼ NW¼ S27 T12S R65W 6TH PM
City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: EL PASO
Email: mvolle@jdshydro.com	Email: jmorley4@3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: STEPH SCHWENKE	PO No.:	Send Forms to State: Yes ☐ No ☒

please report results on state forms

CAL Task No. 170217005

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	~~Fluoride~~ Drinking Water TDS	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	1,4 Dioxane	Gross Alpha/Beta	Radium 226	Radium 228	~~Radon~~ Cyanide	Uranium
2/16	8:37	#11	3																								X	X		
	9:30	#12	3																						X					
	9:01	#13	2																											
	9:43	#14	1																										X	
2/16	8:40	#15	1																							X				
	8:44	#16	1					X																						
	9:00	#17	1																			X								
	9:42	#18	1												X															
	9:19	#19	3						X																					

Instructions: (34) + 504 Blank

VOA

C/S Info:
Delivered Via: fedex
C/S Charge ☐

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐
Temp. 2 °C/Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/16/17 12:15pm	MMetzer	2/17/17 0800				

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:		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)
2/16/17	tephanie Schwenk			☐	2/17/17	2/17/17	170217005-01	Nitrate Nitrogen	EPA 300.0	10	0.1	BDL
2/16/17	tephanie Schwenk			☐	2/17/17	2/17/17	170217005-01	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

3/6/17
170217005-01
1/ 1

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: SP Water	PWSID: CO-0121724
Contact Name: Mark Valle	Contact Name: Jim Morley	System Name: LFH-1
Address: 545 E. Pikes Peak Ave Suite 200	Address: 20 Boulder Crescent St	Address: NE 1/4 NW 1/4 S27 T12S R65W 6th PM
City CS State CO Zip 80903	City ColoSpgs State CO Zip 80903	City ColoSpgs State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvalle@jdshydro.com	Email: jmorley2870@aol.com	Compliance Samples: Yes [X] No [ ]
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

Please report on state forms

CAL Task No. 170217005

ARF

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																				Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC/DOC (Circle)	SUVA, UV 254 (Circle)	Metals	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
	7:31	#1	3			X																							
	7:40	#2	3				X																						
	9:30	#3	1								X																		
	3:54	#4	1																					X					
	2:53	#5	1															X	X	X		X							
	1:06	#6	2																								X		
	9:22	#7	2																				X						
	8:46	#8	2							X																			
	9:54	#9	2		X																								
	8:52	#10	1										X																

Instructions:

C/S Info: fedex

Seals Present Yes [ ] No [X] Headspace Yes [ ] No [ ]

Delivered Via:

C/S Charge [X]

Temp. 2 °C /Ice Y

Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/16/17 12:15pm		2/17/17 0800				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS HYDRO	Company Name: SR WATER	PWSID: CO-0121724
Contact Name: MARK VOLLE	Contact Name: JIM MORLEY	System Name: LFH-1
Address: 545 E. PIKES PEAK AVE SUITE 300	Address: 20 BOULDER CRESCENT ST	Address: NE¼ NW¼ S27 T12S R65W 6TH PM
City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: EL PASO
Email: mvolle@jdshydro.com	Email: jmorley80903870@aol.com	Compliance Samples: Yes X No
Sampler Name: STEPH SCHWENKE	PO No.:	Send Forms to State: Yes No X

Please report results on state forms

CAL Task No. 170217005

ARF

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																				Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	~~Fluoride~~ Drinking Water TDS	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	1,4 Dioxane	Gross Alpha/Beta	Radium 226	Radium 228	~~Radon~~ Cyanide	Uranium
2/16	8:31	#11	3																					X		X	X		
	9:50	#12	3																					X					
	9:36	#13	2																										
	9:43	#14	1																								X		
2/16	8:40	#15	1																						X				
	8:44	#16	1					X																					
	9:00	#17	1																X										
	5:42	#18	1											X															
	9:19	#19	3						X																				

Instructions: (34 + 504 Blank) VOA

C/S Info: Fedex

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No X Headspace Yes ☐ No ☐

Temp. 2 °C /Ice Y Sample Pres. Yes X No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/16/17 12:15pm		2/17/11 0800				

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 Volle	Phone #: 719-227-0072	Contact Person: Customer Service	Phone: 303-659-2313
Comments:	Do Samples Need to be Composited BY THE LAB? ☐	Comments:	

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 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	Alachlor	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	170217005-01H	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	170217005-01H	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	Dinoseb	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 A less than sign (<) may also be used.

170217005-01 1/2 3/6/17

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 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	170217005-01F	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	EPA 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 A less than sign (<) may also be used.

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: SP Water	PWSID: Co- 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: LFH-1
Address: 545 E. Pikes Peak Ave Suite 200	Address: 20 Boulder Crescent St	Address: NE 1/4 NW 1/4 S27 T12S R65W 6th PM
City CS State CO Zip 80903	City Colo Spgs State CO Zip 80903	City Colo Spgs State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley2870@aol.com	Compliance Samples: Yes [X] No [ ] Please report on state forms
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170217005

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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC/DOC (Circle)	SUVA, UV 254 (Circle)	Metals	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
	7:31	#1	3			X																			X					
	7:46	#2	3				X																							
	9:30	#3	3								X																			
	9:54	#4	1																						X					
	12:53	#5	1															X	X	X		X								
	7:46	#6	2																											
	9:22	#7	2																									X		
	8:46	#8	2							X													X							
	9:54	#9	2		X																									
	8:52	#10	1										X																	

PHASE I, II, V Drinking Water Analyses (check analysis) | Subcontract Analyses

Instructions:

C/S Info: Fedex | Seals Present Yes [ ] No [X] | Headspace Yes [ ] No [ ]

Delivered Via: | C/S Charge [X] | Temp. 2 °C /Ice Y | Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/16/17 12:15pm	[signature]	2/17/17 0800				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS HYDRO	Company Name: SR WATER	PWSID: CO-0121724
Contact Name: MARK VOLLE	Contact Name: JIM MORLEY	System Name: LFH-1
Address: 545 E. PIKES PEAK AVE SUITE 300	Address: 20 BOULDER CRESCENT ST	Address: NE¼ NW¼ S27 T12S R65W 6TH PM
City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: EL PASO
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes X No
Sampler Name: STEPH SCHWENKE	PO No.:	Send Forms to State: Yes No X

Please report results on state forms

CAL Task No. 170217005

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Drinking Water Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	1,4 Dioxane	Gross Alpha/Beta	Radium 226	Radium 228	~~Radon~~ Cyanide	Uranium
2/16	8:37	#11	3																						X				
	9:50	#12	3																							X	X		
	9:01	#13	2																					X					
	9:43	#14	1																										
2/16	8:40	#15	1																									X	
	8:44	#16	1					X																	X				
	9:00	#17	1																										
	9:42	#18	1											X						X									
	9:19	#19	3						X																				

PHASE I, II, V Drinking Water Analyses (check analysis)

Subcontract Analyses

Instructions: 34 + 504 Blank

VOA

C/S Info: fedex

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Temp. 2 °C /Ice Y Sample Pres. Yes ☐ No X

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	9/16/17 12:15pm	[signature]	2/17/11 0800				

Page 1 of 1

Colorado Analytical LABORATORIES, INC.

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**	Colilert	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**	Colilert	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 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Colorado Analytical LABORATORIES, INC.

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
Total					
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 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: SP Water	PWSID: Co. 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: LFH-1
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Crescent St	Address: NE 1/4 NW 1/4 S27 T12S R65W 6th PM
City CS State CO Zip 80903	City ColoSpgs State CO Zip 80903	City ColoSpgs State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ] Please report on state forms
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170217005

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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC/DOC (Circle)	SUVA, UV 254 (Circle)	Metals	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
	7:31	#1	3			X																								
	7:42	#2	3				X																							
	9:30	#3	3								X																			
	3:54	#4	1																						X					
	12:53	#5	1															X	X	X		X								
	10:46	#6	2																											
	9:22	#7	2																									X		
	8:46	#8	2																				X							
	9:54	#9	2		X					X																				
	8:52	#10	1										X																	

PHASE I, II, V Drinking Water Analyses (check analysis) | Subcontract Analyses

Page 3 of 4

Instructions:

C/S Info: fedex

Seals Present Yes [ ] No [X] Headspace Yes [ ] No [ ]

Delivered Via: C/S Charge [ ] Temp. 2 °C /Ice [Y] Sample Pres. Yes [Y] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
Stephanie	2/16/17 1215	[signature]	2/17/17 0800				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS HYDRO	Company Name: SR WATER	PWSID: CO-0121724
Contact Name: MARK VOLLE	Contact Name: JIM MORLEY	System Name: LFH-1
Address: 545 E. PIKES PEAK AVE SUITE 300	Address: 20 BOULDER CRESCENT ST	Address: NE¼ NW¼ S27 T12S R65W 6TH PM
City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80903	City COLO SPGS State CO Zip 80908
Phone: 719-227-0072 Fax:	Phone: Fax:	County: EL PASO
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ]
Sampler Name: STEPH SCHWENKE	PO No.:	Send Forms to State: Yes [ ] No [X] Please report results on state forms

CAL Task No. 170217005

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~531.1 Carbamates~~ 6PA	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	~~Fluoride~~ Drinking Water TDS	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	1,4 Dioxane	Gross Alpha/Beta	Radium 226	Radium 228	~~Radon~~ Cyanide	Uranium
2/16	8:37	#11	3																								X	X		
	9:50	#12	3																					X						
	9:26	#13	2																											
	9:43	#14	1																										X	
2/16	8:40	#15	1																								X			
	8:44	#16	1					X																						
	9:00	#17	1																	X										
	5:42	#18	1											X																
	9:19	#19	3						X																					

PHASE I, II, V Drinking Water Analyses (check analysis)

Subcontract Analyses

Instructions: 34 + 504 Blank

VOA

C/S Info: fedex

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Temp. 2 °C /Ice Y Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	2/16/17 12:15pm		2/17/11 0800				

Page 1 of 1

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
DateReceived: 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 Definitions:
RL - Analyte reporting limit.
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
DateReceived: 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 Definitions: RL - Analyte reporting limit. 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
DateReceived: 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 Definitions: RL - Analyte reporting limit. 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
DateReceived: 02/21/17
Matrix: Drinking Water

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
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 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: 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
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
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
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: lcs022417	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.I_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	91	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.I_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
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
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
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.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.
S - Spike recovery outside of advisory limits.
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									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	66	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
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: b17021110-001bmsd	Sample Matrix Spike Duplicate				Run: 5971A.I_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
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: MB-107004	Method Blank				Run: SV5973N2.I_170227B				02/27/17 18:24
Acenaphthene	ND	ug/L	10						
Acenaphthylene	ND	ug/L	10						
Anthracene	ND	ug/L	10						
Azobenzene	ND	ug/L	10						
Benzo(a)anthracene	ND	ug/L	10						
Benzo(a)pyrene	ND	ug/L	10						
Benzo(b)fluoranthene	ND	ug/L	10						
Benzo(g,h,i)perylene	ND	ug/L	10						
Benzo(k)fluoranthene	ND	ug/L	10						
4-Bromophenyl phenyl ether	ND	ug/L	10						
Butylbenzylphthalate	ND	ug/L	10						
4-Chloro-3-methylphenol	ND	ug/L	10						
bis(-2-chloroethoxy)Methane	ND	ug/L	10						
bis(-2-chloroethyl)Ether	ND	ug/L	10						
bis(2-chloroisopropyl)Ether	ND	ug/L	10						
2-Chloronaphthalene	ND	ug/L	10						
2-Chlorophenol	ND	ug/L	10						
4-Chlorophenyl phenyl ether	ND	ug/L	10						
Chrysene	ND	ug/L	10						
Diethyl phthalate	ND	ug/L	10						
Di-n-butyl phthalate	ND	ug/L	10						
1,2-Dichlorobenzene	ND	ug/L	10						
1,3-Dichlorobenzene	ND	ug/L	10						
1,4-Dichlorobenzene	ND	ug/L	10						
3,3'-Dichlorobenzidine	ND	ug/L	10						
2,4-Dichlorophenol	ND	ug/L	10						
Dimethyl phthalate	ND	ug/L	10						
Di-n-octyl phthalate	ND	ug/L	10						
Dibenzo(a,h)anthracene	ND	ug/L	10						
2,4-Dimethylphenol	ND	ug/L	10						
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
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: 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	62	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	61.5	ug/L	10	62	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	83.8	ug/L	10	84	63	110			
Fluorene	77.4	ug/L	10	77	60	99			
Hexachlorobenzene	78.2	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	18.3	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
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
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	89.8	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	Sample Matrix Spike				Run: SV5973N2.I_170227B				02/27/17 21:31
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
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: B17021688-003CMS	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	106			
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.

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: 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
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									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	72.6	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				02/27/17 09:22
1,4-Dioxane	106	ug/L	1.0	106	70	130			
Lab ID: MB-107003	Method Blank				Run: VOA5973A.I_170227A				02/27/17 09:44
1,4-Dioxane	ND	ug/L	1.0						
Lab ID: C17020566-001BMS	Sample Matrix Spike				Run: VOA5973A.I_170227A				02/27/17 11:37
1,4-Dioxane	200	ug/L	2.0	100	70	130			
Lab ID: C17020566-001BMSD	Sample Matrix Spike Duplicate				Run: VOA5973A.I_170227A				02/27/17 11:59
1,4-Dioxane	206	ug/L	2.0	103	70	130	3.0	20	

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
Reviewed by: Kasey Vidick
Reviewed Date: 2/21/2017

Date Received: 2/21/2017
Received by: dcq
Carrier name: Ground

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

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

Chain of Custody Form

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

Report To Information	Bill To Information (If different from report to)	Project Name
Company Name: Colorado Analytical	Company Name: Same As Report To	170217005
Contact Name: Stuart Nielson	Contact Name: ____	Lfh-1 Co-0121724
Address: 240 S. Main St.	Address:	Task Number (Lab Use Only)
City Brighton State CO Zip80601	City ____ State __ Zip ____	
Phone:3036592313 Fax:3036592315	Phone: Fax:	
Email: stuartnielson@coloradolab.com	Email:	Disposal Date(Lab Use Only)
Sample Collector: Stephanie Schwenke	PO No.:	

C170205lole

Waste Water ☐	Soil ☐	Plant Tissue ☐
Ground Water ☐	Sludge ☐	Other ☒
Surface Water ☐	Compost ☐	Drinking Water

Date	Time	Sample ID	No. of Containers	Grab	or (Check One Only) Composite	624 VOC Long List	625 SOCs	1,4 Dioxane
2/16/17		170217005-01 LFH-1	7	☐	☐	☒	☒	☒

Instructions: *Send via UPS to Energy Labs*

3.2

C/S Info:

Deliver Via:

C/S Charge ☐

Seals Present Yes ☐ No ☒

Temp. 6.8 °C/Ice Blue

Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
S Adams	2/20/17 1600					[signature]	2/21/17 1150

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	Phone #: 719-227-0072	Contact Person: Customer Service Phone: 303-659-2313
Comments:	Do Samples Need to be Composited BY THE LAB? ☐	Comments:

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	3/24/17	170324007-01	Fluoride	7681-49-4	EPA 300.0	4	0.09	**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

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR WATER	PWSID: CO 0121724
Contact Name: Mark Tolle	Contact Name: JIM MORLEY	System Name: STERLING RANCH MD
Address: 5455 E. Pikes Peak Ave Suite 300	Address: 20 BOULDER CRESCENT	Address: 20 BOULDER CRESCENT
City CS State CO Zip 80903	City COLORADO SPRINGS State CO Zip 80903	City COLO SPGS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mtolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	525-SOC	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	7:55	#1	1					X																						
	7:57	#2	1										X																	
	[redacted]	#3 8:05	2							X																				
	8:11	#4	1		X																									
	7:52	#5	1																							X				
	7:50am	#6	3																								X	X		
	7:53	#7	2																						X					
	7:58	#8 – no H_2SO_4 included in shipment	1											X																
	7:59	#9	1																		X									
	8:03	#10	1															X	X	X		X								

Page 2 of 3

Instructions: No H_2SO_4 preservative was included with the bottle shipment. Please preserve Diquot Sample #8 as soon as you receive this shipment.

C/S Info:

Delivered Via: Fed Ex C/S Charge ☐

Seals Present Yes ☐ No ☑ Headspace Yes ☐ No ☒

Temp. 3.3 °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am	Elise Nelson	3/24/17 1010				

Drinking Water Chain of Custody

page 2 of 2

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

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

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR Water	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: Sterling Ranch MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Cresent	Address: 20 Boulder Cresent
City CS State CO Zip 80903	City ColoSpg State CO Zip 80903	City CS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

Page 3 of 3

PHASE I, II, V Drinking Water Analyses (check analysis)

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/DBCP	505 Pests/PCBs	515.4 Herbicides	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Subcontract Analyses: Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	8:01	#11	1																					X					
	6:00 am	#12	1 X																										
		~~#13~~	~~3~~																										
	8:26	#14	3			X																							
	8:18	#15	2																										
	8:12	#16 (1,4 Dioxane)	3																								X		
	8:23	#17	2																			X							
	8:21	#18	2						X																				
	8:15	#19	3				X																						
	8:29	#20	3					X																					

Instructions:

C/S Info:

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Temp. °C /Ice Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am						

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	Phone #:	Contact Person: Customer Service	Phone: 303-659-2313
Comments:	Do Samples Need to be Composited BY THE LAB? ☐	Comments:	

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

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

Drinking Water Chain of Custody

page 1 of 2

Colorado Analytical LABORATORIES, INC.

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

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

www.coloradolab.com

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR WATER	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: JIM MORLEY	System Name: STERLING RANCH MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 BOULDER CRESCENT	Address: 20 BOULDER CRESCENT
City CS State CO Zip 80903	City COLORADO SPRINGS State CO Zip 80903	City COLO SPGS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ]
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170324007

ARF

Page 2 of 3

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis): Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	525-SOC	Subcontract Analyses: Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	7:55	#1	1					X																						
	7:57	#2	1										X																	
	[redacted]	#3 8:05	2							X			X																	
	8:11	#4	1		X																									
	7:52	#5	1																							X				
	7:50am	#6	3																								X	X		
	7:53	#7	2																						X					
	7:58	#8 – no H_2SO_4 included in shipment	1											X																
	7:59	#9	1																		X									
	8:03	#10	1															X	X	X		X								

Instructions: No H_2SO_4 preservative was included with the bottle shipment. Please preserve Diquot Sample #8 as soon as you receive this shipment.

C/S Info: Delivered Via: Fed Ex C/S Charge [ ]

Seals Present Yes [ ] No [✓] Headspace Yes [ ] No [X]

Temp. 3.3 °C /Ice Y Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am	Elise Nelson	3/24/17 1010				

Drinking Water Chain of Custody

page 2 of 2

Colorado Analytical
LABORATORIES, INC.

Brighton Lab
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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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR Water	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: Sterling Ranch MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Cresent	Address: 20 Boulder Cresent
City CS State CO Zip 80903	City ColoSpgs State CO Zip 80903	City CS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624 VOA	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	8:01	#11	1																						X					
↓	8:00 am	#12	1X																											
		~~#13~~	~~3~~																											
	8:26	#14	3			X																								
	8:18	#15	2																											
	8:12	#16 (1,4 Dioxane)	3																										X	
	8:23	#17	2																				X							
	8:21	#18	~~3~~ 2								X																			
	8:15	#19	3				X																							
↓	8:29	#20	3						X																					

Instructions:

C/S Info:

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Delivered Via: C/S Charge ☐ Temp. °C /Ice Sample Pres. Yes ☐ No ☐

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

Colorado Analytical LABORATORIES, INC.

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 CaCO3	SM 2320-B	0.1	3/28/17	VDB
Calcium as CaCO3	2.6 mg/L	SM 3111-B	0.1	3/30/17	MBN
Carbonate	< 0.1 mg/L as CaCO3	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 CaCO3	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 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Drinking Water Chain of Custody

page 1 of 2

Colorado Analytical LABORATORIES, INC.

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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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR WATER	PWSID: CO 0121724
Contact Name: Mark Tolle	Contact Name: JIM MORLEY	System Name: STERLING RANCH MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 BOULDER CRESCENT	Address: 20 BOULDER CRESCENT
City CS State CO Zip 80903	City COLORADO SPRINGS State CO Zip 80905	City COLO SPGS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mtolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ]
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170324007

ARF

Page 2 of 3

PHASE I, II, V Drinking Water Analyses (check analysis)

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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	525-SOC	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	7:55	#1	1					X																						
	7:57	#2	1										X																	
	[redacted]	#3 8:05	2							X																				
	8:11	#4	1		X																									
	7:52	#5	1																							X				
	7:50am	#6	3																								X	X		
	7:53	#7	2																						X					
	7:58	#8 – No H_2SO_4 included in shipment	1											X																
	7:59	#9	1																		X									
	8:03	#10	1															X	X	X		X								

Instructions: No H_2SO_4 preservative was included with the bottle shipment. Please preserve Diquot Sample #8 as soon as you receive this shipment.

C/S Info:

Delivered Via: Fed Ex C/S Charge [ ]

Seals Present Yes [ ] No [ ] Headspace Yes [ ] No [ ]

Temp. 3.3 °C /Ice Y Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am	Elise Nelson	3/24/17 1010				

Drinking Water Chain of Custody

page 2 of 2

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Phone: 303-659-2313
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www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR Water	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: Sterling Ranch MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Cresent	Address: 20 Boulder Cresent
City CS State CO Zip 80903	City Colo Spgs State CO Zip 80903	City CS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	624 VOA	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	8:07	#11	1																						X					
↓	8:00 am	#12	1X																											
		~~#13~~	~~3~~																											
	8:26	#14	3			X																								
	8:18	#15	2																											
	8:12	#16 (1,4 Dioxane)	3																										X	
	8:23	#17	2																				X							
	8:21	#18	~~3~~ 2								X																			
	8:15	#19	3				X																							
↓	8:29	#20	3						X																					

Instructions:

C/S Info:

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Delivered Via: C/S Charge ☐

Temp. °C /Ice Sample Pres. Yes ☐ No ☐

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

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#: 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	tephanie Schwenk	New Well	New Well	☐	3/24/17	3/24/17	170324007-01	Nitrate Nitrogen	EPA 300.0	10	0.1	**BDL**
3/23/17	tephanie Schwenk	New Well	New Well	☐	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

Drinking Water Chain of Custody

page 1 of 2

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR WATER	PWSID: CO 0121724
Contact Name: Mark Tolle	Contact Name: JIM MORLEY	System Name: STERLING RANCH MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 BOULDER CRESCENT	Address: 20 BOULDER CRESCENT
City CS State CO Zip 80903	City COLORADO SPRINGS State CO Zip 80903	City COLO SPGS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mtolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ]
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170324007

ARF

Page 2 of 3

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																					Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	6025-SOC	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	7:55	#1	1					X																						
	7:57	#2	1										X																	
	[redacted]	#3 8:05	2							X																				
	8:11	#4	1		X																									
	7:52	#5	1																						X					
	7:50am	#6	3																							X	X			
	7:53	#7	2																					X						
	7:58	#8 – no H_2SO_4 included in shipment	1											X																
	7:59	#9	1																	X										
	8:03	#10	1														X	X	X		X									

Instructions: No H_2SO_4 preservative was included with the bottle shipment. Please preserve Diquot Sample #8 as soon as you receive this shipment.

C/S Info:

Delivered Via: Fed Ex C/S Charge [ ]

Seals Present Yes [ ] No [X] Headspace Yes [X] No [X]

Temp. 3.3 °C /Ice Y Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am	Elise Nelson	3/24/17 1010				

Drinking Water Chain of Custody

page 2 of 2

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR Water	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: Sterling Ranch MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Cresent	Address: 20 Boulder Cresent
City CS State CO Zip 80903	City ColoSpgs State CO Zip 80903	City CS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 524 VOA	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	8:01	#11	1																						X					
↓	8:00 am	#12	1X																											
		~~#13~~	~~3~~																											
	8:26	#14	3			X																								
	8:18	#15	2																										X	
↓	8:12	#16 (1,4 Dioxane)	3																											
	8:23	#17	2																				X							
	8:21	#18	~~3~~ 2								X																			
↓	8:15	#19	3				X																							
	8:29	#20	3						X																					

Instructions:

C/S Info:

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Temp. °C /Ice Sample Pres. Yes ☐ No ☐

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

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#: CO0121724		Laboratory ID: CO 00063	
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:	Do Samples Need to be Composited BY THE LAB? ☐	Comments:	

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 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	Dalapon	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.

170324007-01 N 1/2
4/21/17

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 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	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

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR WATER	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: JIM MORLEY	System Name: STERLING RANCH MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 BOULDER CRESCENT	Address: 20 BOULDER CRESCENT
City CS State CO Zip 80903	City COLORADO SPRINGS State CO Zip 80905	City COLO SPGS State CO Zip 80905
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

Page 3 of 4

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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	525-SOC	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	7:55	#1	1					X																						
	7:57	#2	1										X																	
	[redacted]	#3 8:05	2							X																				
	8:11	#4	1		X																									
	7:52	#5	1																							X				
	7:50am	#6	3																								X	X		
	7:53	#7	2																						X					
	7:58	#8 – no H2SO4 included in shipment	1											X																
	7:59	#9	1																		X									
	8:03	#10	1															X	X	X		X								

Instructions: No H_2SO_4 preservative was included with the bottle shipment. Please preserve Diquot sample #8 as soon as you receive this shipment.

C/S Info:

Delivered Via: Fed Ex C/S Charge ☐

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☒

Temp. 3.3 °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am	Elise Nielsen	3/24/17 1010				

Drinking Water Chain of Custody

page 2 of 2

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR Water	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: Sterling Ranch MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Cresent	Address: 20 Boulder Cresent
City CS State CO Zip 80903	City ColoSpgs State CO Zip 80903	City CS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOCs~~ 624 VOA	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	8:01	#11	1																						X					
↓	8:00 am	#12	1X																											
		~~#13~~	~~3~~																											
	8:26	#14	3			X																								
	8:18	#15	2																											
	8:12	#16 (1,4 Dioxane)	3																										X	
	8:23	#17	2																				X							
	8:21	#18	~~3~~ 2								X																			
	8:15	#19	3				X																							
↓	8:29	#20	3						X																					

Instructions:

C/S Info:

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Temp. °C /Ice Sample Pres. Yes ☐ No ☐

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

Colorado Department of Public Health and Environment

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

Revision 6/13/2014

RAD

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:	Phone #:	Contact Person: Jessica Axen	Phone #: 303-279-4501
Comments:	Do Samples Need to be Composited BY THE LAB?	Comments:	

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

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

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: Picocuries per Liter
MCL: Maximum Contaminant Level

Drinking Water Chain of Custody

Colorado Analytical Laboratories, Inc.

Brighton Lab
240 South Main Street
Brighton, CO 80601

Lakewood Lab
12860 W. Cedar Dr, Suite 101
Lakewood CO 80228

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

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: Colorado Analytical Labs Contact Name: Stuart Nielson	Company Name: same Contact Name:	PWSID: CO0121724 System Name: Sterling Ranch MD
Address: P.O. Box 507 City: Brighton State: CO Zip: 80601	Address: City: State: Zip:	System Address: 20 Boulder Crescent City: Colo Spgs State: CO Zip: 80903
Phone:303-659-2313 Fax:303-659-2315	Phone: Fax:	County: El Paso
Email: stuartnielson@coloradolab.com	Email:	Compliance Samples: Yes ☒ No ☐
Sampler Name:	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No.
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/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	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
3/23/17	08:03	170324007 Sterling Ranch MD	6		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐
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					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Columns "Total Coliform P/A" through the unlabeled column: PHASE I, II, V Drinking Water Analyses (check analysis). Columns "Gross Alpha /Beta" through "Uranium": Subcontract Analyses.

Instructions: Gross Alpha, without Radon & Uranium. ** Combined Radium -226 & -228.
Please print results on Colorado State form but do not submit to CDPHE. Thank you.

C/S Info:
Delivered Via: HD
C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐
Temp. °C /Ice Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
PMcClell[signature]	3/24/17 1150					[signature]	03/24/2017 1152

Colorado Analytical LABORATORIES, INC.

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**	Colilert	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**	Colilert	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 CaCO3**	SM 2340-B	0.1 mg/L as CaCO3	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 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Colorado Analytical LABORATORIES, INC.

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
Total					
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 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Drinking Water Chain of Custody

page 1 of 2

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

Report To Information	Bill To Information (if different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR WATER	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: JIM MORLEY	System Name: STERLING RANCH MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 BOULDER CRESCENT	Address: 20 BOULDER CRESCENT
City CS State CO Zip 80903	City COLORADO SPRINGS State CO Zip 80905	City COLO SPGS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes [X] No [ ]
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes [ ] No [X]

CAL Task No. 170324007

ARF

Page 3 of 4

Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	PHASE I, II, V Drinking Water Analyses (check analysis)																					Subcontract Analyses				
					Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	525-SOC	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	7:55	#1	1					X																						
	7:57	#2	1										X																	
	[redacted]	#3 8:05	2							X																				
	8:11	#4	1		X																									
	7:52	#5	1																							X				
	7:50am	#6	3																								X	X		
	7:53	#7	2																					X						
	7:58	#8 – no H_2SO_4 included in shipment	1											X																
	7:59	#9	1																		X									
	8:03	#10	1															X	X	X		X								

Instructions: No H_2SO_4 preservative was included with the bottle shipment. Please preserve Diquot Sample #8 as soon as you receive this shipment.

C/S Info:

Delivered Via: Fed Ex C/S Charge [ ]

Seals Present Yes [ ] No [ ] Headspace Yes [ ] No [X]

Temp. 3.3 °C /Ice Y Sample Pres. Yes [X] No [ ]

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am	Eloise Nielsen	3/24/17 1010				

Drinking Water Chain of Custody

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

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro Consultants	Company Name: SR Water	PWSID: CO 0121724
Contact Name: Mark Volle	Contact Name: Jim Morley	System Name: Sterling Ranch MD
Address: 545 E. Pikes Peak Ave Suite 300	Address: 20 Boulder Cresent	Address: 20 Boulder Cresent
City CS State CO Zip 80903	City Colo Spgs State CO Zip 80903	City CS State CO Zip 80903
Phone: 719-227-0072 Fax:	Phone: Fax:	County: El Paso
Email: mvolle@jdshydro.com	Email: jmorley3870@aol.com	Compliance Samples: Yes ☒ No ☐
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 170324007

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

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/DBCP	505 Pests/PCBs	515.4 Herbicides	~~524.2 VOA~~	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	(TOC), DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
3-23	8:01	#11	1																						X					
	8:00 am	#12	1 X																											
		~~#13~~	~~3~~																											
	8:26	#14	3			X																								
	8:18	#15	2																									X		
	8:12	#16 (1,4 Dioxane)	3																											
	8:23	#17	2																				X							
	8:21	#18	~~3~~ 2								X																			
	8:15	#19	3				X																							
	8:29	#20	3						X																					

Page 4 of 4

Instructions:

C/S Info:

Delivered Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐

Temp. °C /Ice Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
	3-23 11:30am						

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

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
DateReceived: 03/28/17
Matrix: Groundwater

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
VOCS BY AZEOTROPIC DISTILLATION							
1,4-Dioxane	ND	ug/L		1.0		SW8260M	04/06/17 09:34 / 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	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 Definitions:
RL - Analyte reporting limit.
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
DateReceived: 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 Definitions: RL - Analyte reporting limit. 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
DateReceived: 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 Definitions:
RL - Analyte reporting limit.
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
DateReceived: 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
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									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
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									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.I_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
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: lcs033117	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	4.60	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	20						
Acrylonitrile	ND	ug/L	20						
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
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
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	Sample Matrix Spike				Run: 5971A.I_170331A				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
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: 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
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: 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
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: 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	10						
Acenaphthylene	ND	ug/L	10						
Anthracene	ND	ug/L	10						
Azobenzene	ND	ug/L	10						
Benzidine	ND	ug/L	10						
Benzo(a)anthracene	ND	ug/L	10						
Benzo(a)pyrene	ND	ug/L	10						
Benzo(b)fluoranthene	ND	ug/L	10						
Benzo(g,h,i)perylene	ND	ug/L	10						
Benzo(k)fluoranthene	ND	ug/L	10						
4-Bromophenyl phenyl ether	ND	ug/L	10						
Butylbenzylphthalate	ND	ug/L	10						
4-Chloro-3-methylphenol	ND	ug/L	10						
bis(-2-chloroethoxy)Methane	ND	ug/L	10						
bis(-2-chloroethyl)Ether	ND	ug/L	10						
bis(2-chloroisopropyl)Ether	ND	ug/L	10						
2-Chloronaphthalene	ND	ug/L	10						
2-Chlorophenol	ND	ug/L	10						
4-Chlorophenyl phenyl ether	ND	ug/L	10						
Chrysene	ND	ug/L	10						
Diethyl phthalate	ND	ug/L	10						
Di-n-butyl phthalate	ND	ug/L	10						
1,2-Dichlorobenzene	ND	ug/L	10						
1,3-Dichlorobenzene	ND	ug/L	10						
1,4-Dichlorobenzene	ND	ug/L	10						
3,3'-Dichlorobenzidine	ND	ug/L	10						
2,4-Dichlorophenol	ND	ug/L	10						
Dimethyl phthalate	ND	ug/L	10						
Di-n-octyl phthalate	ND	ug/L	10						
Dibenzo(a,h)anthracene	ND	ug/L	10						
2,4-Dimethylphenol	ND	ug/L	10						
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
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
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
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: 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
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
Acenaphthene	86.7	ug/L	10	87	58	99			
Acenaphthylene	75.5	ug/L	10	76	57	96			
Anthracene	81.6	ug/L	10	82	60	107			
Azobenzene	84.6	ug/L	10	85	56	100			
Benzidine	122	ug/L	20	122	10	100			S
Benzo(a)anthracene	83.4	ug/L	10	83	62	114			
Benzo(a)pyrene	78.4	ug/L	10	78	62	108			
Benzo(b)fluoranthene	79.9	ug/L	10	80	48	127			
Benzo(g,h,i)perylene	83.2	ug/L	10	83	62	121			
Benzo(k)fluoranthene	84.5	ug/L	10	84	55	111			
4-Bromophenyl phenyl ether	79.5	ug/L	10	79	58	105			
Butylbenzylphthalate	89.2	ug/L	10	89	60	113			
4-Chloro-3-methylphenol	78.3	ug/L	10	78	53	92			
bis(-2-chloroethoxy)Methane	77.9	ug/L	10	78	50	92			
bis(-2-chloroethyl)Ether	71.5	ug/L	10	71	44	82			
bis(2-chloroisopropyl)Ether	58.4	ug/L	10	58	56	87			
2-Chloronaphthalene	77.6	ug/L	10	78	56	95			
2-Chlorophenol	63.7	ug/L	10	64	47	76			
4-Chlorophenyl phenyl ether	81.0	ug/L	10	81	58	99			
Chrysene	85.9	ug/L	10	86	63	106			
Diethyl phthalate	84.0	ug/L	10	84	58	103			
Di-n-butyl phthalate	87.0	ug/L	10	87	61	110			
1,2-Dichlorobenzene	67.3	ug/L	10	67	43	81			
1,3-Dichlorobenzene	66.0	ug/L	10	66	41	79			
1,4-Dichlorobenzene	66.7	ug/L	10	67	42	79			
3,3'-Dichlorobenzidine	131	ug/L	10	131	51	93			S
2,4-Dichlorophenol	70.0	ug/L	10	70	49	90			
Dimethyl phthalate	79.3	ug/L	10	79	58	104			
Di-n-octyl phthalate	81.8	ug/L	10	82	56	110			
Dibenzo(a,h)anthracene	80.1	ug/L	10	80	61	111			
2,4-Dimethylphenol	70.7	ug/L	10	71	45	87			
4,6-Dinitro-2-methylphenol	53.1	ug/L	50	53	37	105			
2,4-Dinitrophenol	43.0	ug/L	50	43	27	81			
2,4-Dinitrotoluene	85.6	ug/L	10	86	63	110			
2,6-Dinitrotoluene	81.5	ug/L	10	81	60	107			
bis(2-ethylhexyl)Phthalate	77.5	ug/L	10	77	56	108			
Fluoranthene	84.0	ug/L	10	84	63	110			
Fluorene	80.0	ug/L	10	80	60	99			
Hexachlorobenzene	78.2	ug/L	10	78	57	103			
Hexachlorobutadiene	69.1	ug/L	10	69	39	83			
Hexachlorocyclopentadiene	69.0	ug/L	10	69	39	91			
Hexachloroethane	62.6	ug/L	10	63	37	75			
Indeno(1,2,3-cd)pyrene	76.3	ug/L	10	76	59	109			

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: 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
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	
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.

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
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: 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				Run: VOA5973A.I_170406A				04/06/17 08:51
1,4-Dioxane	87.5	ug/L	1.0	88	70	130			
Lab ID: MB-108173	Method Blank				Run: VOA5973A.I_170406A				04/06/17 09:12
1,4-Dioxane	ND	ug/L	1.0						
Lab ID: C17030850-001AMS	Sample Matrix Spike				Run: VOA5973A.I_170406A				04/06/17 09:55
1,4-Dioxane	194	ug/L	2.0	97	70	130			
Lab ID: C17030850-001AMSD	Sample Matrix Spike Duplicate				Run: VOA5973A.I_170406A				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 ☑	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☑	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☑	Not Applicable ☐
Container/Temp Blank temperature:	6.6°C On Ice - From Field		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	Not Applicable ☑

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

Chain of Custody Form

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

Report To Information	Bill To Information (If different from report to)	Project Name
Company Name: Colorado Analytical Laboratoy	Company Name: Same	170324007
Contact Name: Stuart Nielson	Contact Name: ____	Sterling Ranch MD
Address: P.O. Box 507 240 S Main St City Brighton State CO Zip80601	Address: ____ City ____ State __ Zip ____	Task Number (Lab Use Only) CAL Task No. 170324007 ARF LS-11 IR-1 750 w/ 15488
Phone:303-659-2313 Fax:303-659-2315	Phone: Fax:	
Email: stuartnielson@coloradolab.com	Email:	Disposal Date(Lab Use Only)
Sample Collector:	PO No.:	

C17030850

Sample Matrix (Select One Only)

- Waste Water ☐
- Ground Water ☒
- Surface Water ☐
- Soil ☐
- Sludge ☐
- Compost ☐
- Plant Tissue ☐
- Other ☐ ____

Date	Time	Sample ID	No. of Containers	Grab	or (Check One Only) Composite	8260 1,4-Dioxane	624 Long List	625 SOCs
3/23/17	08:03	170324007 Sterling Ranch MD	7	☐	☐	☒	☒	☒

Instructions: UPS to Energy Labs

C/S Info:

Deliver Via: C/S Charge ☐

Seals Present Yes ☐ No ☐ UPS-6

Temp. 6 °C/Ice yes Sample Pres. Yes ☐ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
P.McClellan	3/27/17 1700					[signature]	3.28.17

Supplemental Appendix B

EPC Confined Aquifer Sampling Requirements

Field Measurements
pH
Temp

Radionuclides
Radium 226 and Radium 228
Gross alpha/Beta

Inorganics
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cyanide (Total)
Fluoride
Mercury
Nitrate
Nitrite
Selenium
Thallium

Secondary MCLs
Aluminum
Chloride
Corrosivity
Iron
Manganese
Silver
Sulfate
Zinc
TDS

Bacteriological:
Total Coliform

Stephanie Schwenke

From: Catherine McGarvy <CatherineMcGarvy@elpasoco.com>
Sent: Tuesday, October 13, 2020 11:59 AM
To: Stephanie Schwenke
Subject: RE: Small subdivision plat approval question regarding sampled water quality

Good Afternoon,

I apologize for the delay in response I am working through a lot of inquiries at the moment and wanted to make sure I had the most accurate information for you.

El Paso County Public Health (EPCPH) will note this on the Water Quality sufficiency determination. That determination is usually made just before the Final Plat is submitted. Once we make comment on the sufficiency they will usually attach and record plat note to the subdivision final drawings that is part of the information disclosed when anyone buys a lot. In some cases EPCPH has strongly encouraged the installation of an under the counter type RO system be installed, especially with a more prevalent contaminant like fluoride or nitrates. A high radium result on one test is not likely the case throughout the subdivision, so a plat note is what I would expect.

I hope this helps, please let me know if I can provide any additional information.

Thank you

Kat McGarvy M.S., R.E.H.S
Water Quality Program Manager
El Paso County Public Health
1675 W. Garden of the Gods Rd., Ste. 2044
Colorado Springs, CO 80907
Office: (719) 578-3112
Cell: (719) 337-7832
Fax: (719) 578-3118
www.elpasocountypublichealth.org

2020 Census information can be found at:
https://coloradosprings.gov/pikespeakcensus

From: Stephanie Schwenke <sschwenke@jdshydro.com>
Sent: Thursday, October 8, 2020 4:31 PM
To: Catherine McGarvy <CatherineMcGarvy@elpasoco.com>
Subject: Small subdivision plat approval question regarding sampled water quality

---

Kat,

I believe you have replaced Aaron Doussett in responding to water quality questions within El Paso County Health. I have a client who would like to subdivide land on the eastern side of the County into 10 - 12 lots that would range in size from 2.5 - 5 acres. We were able to pull water samples from the same aquifer at a property that was 0.5 miles away from the furthest possible future well in this subdivision. All the water quality came back below MCL limits except combined Radium 226+228. The result was 5.5 pCi/l using the standard deviation. That result is just above the MCL for combined Radium 226+228 of 5 pCi/l.

JDS is wondering if EPC would sign off on the signature page of the Water Resources Report with a recommendation for disclosure of the results to the lot purchaser. With that disclosure would be treatment information for the new owner to install one of several NSF approved Reverse Osmosis Point of Use treatment systems in the new home for the removal of Radium 226+228.

Please respond as soon as possible and do not hesitate to contact to contact me if you have any questions.

Thank you for your time!

Stephanie Schwenke
JDS-Hydro Consultants, INC
545 E. Pikes Peak Ave. Ste 300
Colorado Springs, CO 80903
719-227-0072
719-321-5341 (c)
sschwenke@jdshydro.com

El Paso County, CO Public Health

1675 W. Garden of the Gods Road Suite 2044
Colorado Springs, CO 80907 (719) 578-3120

REPORTING FORM FOR INORGANIC ANIONS IN WATER

EPA ID # CO00025

PWSID# CO0	CONTACT: Stephanie Schwenke-JDS-Hydro
SITE ADDRESS: 10620 Vollmer Colorado Springs, CO 80908	PHONE: (719) 227-0072 FAX/EMAIL: sschwenke@jdshydro.com COLLECTED BY: Stephanie Schwenke SAMPLE COLLECTION DATE: 9/8/20
SITE DESCRIPTION: ☐ Public System ☑ Private ☐ Surface ☐ Stream ☐ GWUDI ☐ Other	SAMPLE COLLECTION TIME: 0850 MATRIX: Groundwater RESIDUAL CHLORINE: mg/L
CUSTOMER: Stephanie Schwenke-JDS-Hydro 5540 Tech Center Drive Ste 100 COLORADO SPRINGS, CO 80908	SAMPLE RECEIVED DATE: 9/8/20 RECEIVED TIME: 1350 TECH: EE0000728 RECEIVED TEMP: 21.8°C DILUTIONS: 1:1
COMMENTS:	

TESTED	COMPLETED	TECH
DATE: 09/09/2020	DATE: 09/09/2000	
TIME: 1122	TIME: 1440	ID: EE0000742
LAB SAMPLE #:IC21798	SAMPLE POINT NAME: Hydrant	
SAMPLE POINT ID:	FACILITY TYPE:	
FACILITY ID:	FACILITY NAME:	

PARAMETER	RESULTS	UNITS	MCL	MSL	STANDARD METHOD	LAB MRL
Fluoride		mg/L	4.0		EPA 300	0.04
Chloride		mg/L		250	EPA 300	0.1
Nitrite-N	BDL	mg/L	1.0		EPA 300	0.2
Bromide		mg/L				0.2
Nitrate-N	< 0.2	mg/L	10.0		EPA 300	0.2
Orthophosphate-P		mg/L	no limit established		EPA 300	0.3
Sulfate		mg/L		250	EPA 300	0.3

BDL - Below Detection Limit
MRL - Minimum Reporting Limit
MCL - Maximum Contamination Unit per EPA
MSL - Maximum Secondary Unit per EPA
Q - Quality Control Limit Exceeded
H - Holding Time Exceeded
NT - No Test

Revision: 6/21/2019

STANDARD BACTERIOLOGICAL WATER TEST METHOD:SM-9223B

El Paso County Public Health Laboratory EPA ID# CO00025

1675 West Garden of the Gods Road, Suite 2044, Colorado Springs, CO 80907 - (719) 578-3120

PWSID

☐ Raw
☐ Finished
☐ LT2
☐ Quantitative

Sample Point ID:

Sample Taken Date: 09/08/2020 Time: 0850 Name of Supply:

Address where sample was taken: 10620 Vollmer

Sample site location: Hydrant Sampler: Stephanie Schwe Chlorine: mg/L

☐ Community Supply ☑ Private ☑ Well ☐ City

☐ Non-Community ☐ EHS ☐ Surface/Spring ☐ Cistern

Results to: Stephanie Schwenke-JDS-Hydro Phone: (719) 227-0072

Mailing address: 5540 Tech Center Drive

City/State/Zip: COLORADO SPRINGS, CO. 8019

Fax/Email: sschwenke@jdshydro.com

Comments:

Date 09/08/2020	Time 1350	Rc'd EE0000728
Date 09/08/2020	Time 1541	Tested EE0000742
Date 09/09/2020	Time 0953	Comp EE0000742

Lab Sample #21797

Colliert Results Per 100ml

☑ Absence: Absence of coliform bacteria

☐ Presence: Presence of coliform bacteria & non-compliance with drinking water standards.

MPN/100 ml:

☑ Absence: E. Coli: Escherichia coli bacteria

☐ Presence:

MPN/100 ml:

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 200910111

Report To: Stephanie Schwenke
Company: JDS Hydro Consultants
5540 Tech Center Dr.
Suite 100
Colorado Springs CO 80919

Bill To: Stephanie Schwenke
Company: JDS Hydro Consultants
5540 Tech Center Dr.
Suite 100
Colorado Springs CO 80919

Task No.: 200910111
Client PO:
Client Project:

Date Received: 9/10/20
Date Reported: 9/23/20
Matrix: Water - Drinking

Customer Sample ID Retreat Test
Sample Date/Time: 9/8/20 8:35 AM
Lab Number: 200910111-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	**70.0 mg/L as CaCO3**	SM 2320-B	4	9/11/20	ECM
Calcium as CaCO3	**60.2 mg/L**	EPA 200.7	0.1	9/15/20	MBN
Carbonate	**< 4 mg/L as CaCO3**	SM 2320-B	4	9/11/20	ECM
Hydroxide	**< 4 mg/L as CaCO3**	SM 2320-B	4	9/11/20	ECM
Langelier Index	**-1.19 units**	SM 2330-B		9/23/20	SAN
pH	**7.03 units**	SM 4500-H-B	0.01	9/8/20	Sampler
Temperature	**16 °C**	SM 4500-H-B	1	9/8/20	Sampler
Total Alkalinity	**70.0 mg/L as CaCO3**	SM 2320-B	4	9/11/20	ECM
Total Dissolved Solids	**141 mg/L**	SM 2540-C	5	9/15/20	ISG

Abbreviations/ References:

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

DATA APPROVED FOR RELEASE BY

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 200910111

Report To: Stephanie Schwenke
Company: JDS Hydro Consultants
5540 Tech Center Dr.
Suite 100
Colorado Springs CO 80919

Bill To: Stephanie Schwenke
Company: JDS Hydro Consultants
5540 Tech Center Dr.
Suite 100
Colorado Springs CO 80919

Task No.: 200910111
Client PO:
Client Project:

Date Received: 9/10/20
Date Reported: 9/23/20
Matrix: Water - Drinking

Customer Sample ID Retreat Test
Sample Date/Time: 9/8/20 8:35 AM
Lab Number: 200910111-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Chloride	**2.1 mg/L**	EPA 300.0	0.1 mg/L	9/11/20	MAT	
Fluoride	**0.30 mg/L**	EPA 300.0	0.09 mg/L	9/11/20	MAT	4
Sulfate	**10.4 mg/L**	EPA 300.0	0.1 mg/L	9/11/20	MAT	
Cyanide-Total	**< 0.005 mg/L**	EPA 335.4	0.005 mg/L	9/15/20	CES	0.02
Total						
Iron	**0.005 mg/L**	EPA 200.7	0.005 mg/L	9/15/20	MBN	0.3
Aluminum	**0.007 mg/L**	EPA 200.8	0.001 mg/L	9/16/20	IPC	0.05
Antimony	**< 0.0012 mg/L**	EPA 200.8	0.0012 mg/L	9/16/20	IPC	0.006
Arsenic	**0.0008 mg/L**	EPA 200.8	0.0006 mg/L	9/16/20	IPC	0.01
Barium	**0.1151 mg/L**	EPA 200.8	0.0007 mg/L	9/16/20	IPC	2
Beryllium	**< 0.0001 mg/L**	EPA 200.8	0.0001 mg/L	9/16/20	IPC	0.004
Cadmium	**< 0.0001 mg/L**	EPA 200.8	0.0001 mg/L	9/16/20	IPC	0.005
Chromium	**< 0.0015 mg/L**	EPA 200.8	0.0015 mg/L	9/16/20	IPC	0.1
Manganese	**0.0081 mg/L**	EPA 200.8	0.0008 mg/L	9/16/20	IPC	0.05
Mercury	**< 0.0001 mg/L**	EPA 200.8	0.0001 mg/L	9/16/20	IPC	0.002
Selenium	**< 0.0008 mg/L**	EPA 200.8	0.0008 mg/L	9/16/20	IPC	0.05
Silver	**< 0.0005 mg/L**	EPA 200.8	0.0005 mg/L	9/16/20	IPC	
Thallium	**< 0.0002 mg/L**	EPA 200.8	0.0002 mg/L	9/16/20	IPC	0.002
Zinc	**0.118 mg/L**	EPA 200.8	0.001 mg/L	9/16/20	IPC	5

Abbreviations/ References:

ML = Minimum Level = LRL = RL
MCL = Maximum Contaminant Level per The EPA
mg/L = Milligrams Per Liter or PPM
ug/L = Micrograms Per Liter or PPB
mpn/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Analytical Report

October 06, 2020

Report to:
Stephanie Schwenke
JDS Hydro Consultants, Inc.
5540 Tech Center Drive

Colorado Springs, CO 80919

cc: John McGinn

Bill to:
Stephanie Schwenke
JDS Hydro Consultants, Inc.
545 E. Pikes Peak Ave.
Suite 300
Colorado Springs, CO 80903

Project ID:
ACZ Project ID: L61347

Stephanie Schwenke:

Enclosed are the analytical results for sample(s) submitted to ACZ Laboratories, Inc. (ACZ) on September 09, 2020. This project has been assigned to ACZ's project number, L61347. Please reference this number in all future inquiries.

All analyses were performed according to ACZ's Quality Assurance Plan. The enclosed results relate only to the samples received under L61347. Each section of this report has been reviewed and approved by the appropriate Laboratory Supervisor, or a qualified substitute.

Except as noted, the test results for the methods and parameters listed on ACZ's current NELAC certificate letter (#ACZ) meet all requirements of NELAC.

This report shall be used or copied only in its entirety. ACZ is not responsible for the consequences arising from the use of a partial report.

All samples and sub-samples associated with this project will be disposed of after November 05, 2020. If the samples are determined to be hazardous, additional charges apply for disposal (typically $11/sample). If you would like the samples to be held longer than ACZ's stated policy or to be returned, please contact your Project Manager or Customer Service Representative for further details and associated costs. ACZ retains analytical raw data reports for ten years.

If you have any questions or other needs, please contact your Project Manager.

Sue Webber has reviewed and approved this report.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

RadioChemistry Analytical Results

JDS Hydro Consultants, Inc.
Project ID:
Sample ID: #1-#3 RETREAT TEST
Locator:

ACZ Sample ID: ***L61347-01***
Date Sampled: *09/08/20 8:42*
Date Received: *09/09/20*
Sample Matrix: *Drinking Water*

Gross Alpha & Beta, total — Prep Method:
M900.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Gross Alpha	09/28/20 0:23		1.1	1.2	1.2	pCi/L		fdw
Gross Beta	09/28/20 0:23		6	2.1	1.8	pCi/L	*	fdw

Radium 226, total — Prep Method:
M903.1

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 226, total	09/23/20 0:27		1.4	0.18	0.08	pCi/L	*	djc

Radium 228, total — Prep Method:
M904.0

Parameter	Measure Date	Prep Date	Result	Error(+/-)	LLD	Units	XQ	Analyst
Radium 228, total	10/03/20 14:40		5	0.72	0.53	pCi/L	*	fdw

Report Header Explanations

Batch	A distinct set of samples analyzed at a specific time
Error(+/-)	Calculated sample specific uncertainty
Found	Value of the QC Type of interest
Limit	Upper limit for RPD, in %.
LCL	Lower Control Limit, in % (except for LCSS, mg/Kg)
LLD	Calculated sample specific Lower Limit of Detection
PCN/SCN	A number assigned to reagents/standards to trace to the manufacturer's certificate of analysis
PQL	Practical Quantitation Limit
QC	True Value of the Control Sample or the amount added to the Spike
Rec	Amount of the true value or spike added recovered, in % (except for LCSS, mg/Kg)
RER	Relative Error Ratio, calculation used for Dup. QC taking into account the error factor.
RPD	Relative Percent Difference, calculation used for Duplicate QC Types
UCL	Upper Control Limit, in % (except for LCSS, mg/Kg)
Sample	Value of the Sample of interest

QC Sample Types

DUP	Sample Duplicate	*MS/MSD*	Matrix Spike/Matrix Spike Duplicate
LCSS	Laboratory Control Sample - Soil	*PBS*	Prep Blank - Soil
LCSW	Laboratory Control Sample - Water	*PBW*	Prep Blank - Water

QC Sample Type Explanations

Blanks	Verifies that there is no or minimal contamination in the prep method procedure.
Control Samples	Verifies the accuracy of the method, including the prep procedure.
Duplicates	Verifies the precision of the instrument and/or method.
Matrix Spikes	Determines sample matrix interferences, if any.

ACZ Qualifiers (Qual)

H	Analysis exceeded method hold time.

Method Prefix Reference

M	EPA methodology, including those under SDWA, CWA, and RCRA
SM	Standard Methods for the Examination of Water and Wastewater.
D	ASTM
RP	DOE
ESM	DOE/ESM

Comments

(1)	Solid matrices are reported on a dry weight basis.
(2)	Preparation method: "Method" indicates preparation defined in analytical method.
(3)	QC results calculated from raw data. Results may vary slightly if the rounded values are used in the calculations.
(4)	An asterisk in the "XQ" column indicates there is an extended qualifier and/or certification qualifier associated with the result.

For a complete list of ACZ's Extended Qualifiers, please click:
https://acz.com/wp-content/uploads/2019/04/Ext-Qual-List.pdf

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Radiochemistry QC Summary

JDS Hydro Consultants, Inc.

ACZ Project ID: ***L61347***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Alpha M900.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG505597																
WG505597PBW	PBW	09/28/20						-.49	0.19	0.79			1.58			
WG505597LCSWA	LCSW	09/28/20	PCN60283	66.67				73	6	0.88	110	67	144			
L61267-01DUP	DUP-RER	09/28/20			1.1	1.6	1.7	2.7	1.9	1.6				0.64	2	
L61267-01DUP	DUP-RPD	09/28/20			1.1	1.6	1.7	2.7	1.9	1.6				84	20	RG
L61319-04MSA	MS	09/28/20	PCN60283	131.58	-0.54	1.7	3.1	100	14	3.7	76	67	144			
L61535-05DUP	DUP-RPD	09/28/20			8.1	5.7	15	8	5.6	29				1	20	

Beta M900.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG505597																
WG505597PBW	PBW	09/28/20						-1.6	1.7	1.9			3.8			
WG505597LCSWB	LCSW	09/28/20	RC200602-10	66.6				61	4	1.7	92	82	122			
L61267-01DUP	DUP-RPD	09/28/20			2.6	1.9	1.8	2.8	2.1	2				7	20	
L61267-01MSB	MS	09/28/20	RC200602-10	66.6	2.6	1.9	1.8	64	4.3	1.9	92	82	122			
L61535-05DUP	DUP-RER	09/28/20			-1.9	5.7	19	2.2	5.5	24				0.52	2	
L61535-05DUP	DUP-RPD	09/28/20			-1.9	5.7	19	2.2	5.5	24				2733	20	RG

Radium 226, total M903.1 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG505137																
WG505137PBW	PBW	09/23/20						.03	0.1	0.11			0.22			
WG505137LCSW	LCSW	09/23/20	PCN61539	20				14	0.5	0.1	70	43	148			
L61175-04DUP1	DUP-RER	09/23/20			0.05	0.12	0.13	.1	0.1	0.12				0.32	2	
L61175-04DUP1	DUP-RPD	09/23/20			0.05	0.12	0.13	.1	0.1	0.12				67	20	RG
L61189-01MS	MS	09/23/20	PCN61539	20	0.12	0.12	0.12	16	0.48	0.07	79	43	148			
L61271-01DUP2	DUP-RPD	09/23/20			0.29	0.1	0.39	.38	0.2	0.2				27	20	RG
L61271-01DUP2	DUP-RER	09/23/20			0.29	0.1	0.39	.38	0.2	0.2				0.4	2	

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Radiochemistry QC Summary

JDS Hydro Consultants, Inc.

ACZ Project ID: ***L61347***

NOTE: If the Rec% column is null, the high/low limits are in the same units as the result. If the Rec% column is not null, then the high/low limits are in % Rec.

Radium 228, total M904.0 **Units:** pCi/L

ACZ ID	Type	Analyzed	PCN/SCN	QC	Sample	Error	LLD	Found	Error	LLD	Rec%	Lower	Upper	RPD/RER	Limit	Qual
WG505781																
L61504-01DUP	DUP-RPD	10/03/20			1.5	1.3	3.2	1.9	1	2.4				24	20	RG
L61504-01DUP	DUP-RER	10/03/20			1.5	1.3	3.2	1.9	1	2.4				0.24	2	
L61267-04DUP	DUP-RER	10/03/20			0.3	0.36	0.36	.87	1.1	1.1				0.49	2	
WG505781LCSW	LCSW	10/03/20	PCN61541	4.82				5.4	0.54	0.35	112	47	123			
WG505781PBW	PBW	10/03/20						.45	0.36	0.36			0.72			
L61267-04DUP	DUP-RPD	10/03/20			0.3	0.36	0.36	.87	1.1	1.1				97	20	RG
L61267-05MS	MS	10/03/20	PCN61541	9.63	0.5	0.54	0.54	13	1.4	0.97	130	47	123			M1

RadChem Extended Qualifier Report

JDS Hydro Consultants, Inc.

ACZ Project ID: ***L61347***

ACZ ID	WORKNUM	PARAMETER	METHOD	QUAL	DESCRIPTION
L61347-01	WG505597	Gross Beta	M900.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG505137	Radium 226, total	M903.1	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.
	WG505781	Radium 228, total	M904.0	M1	Matrix spike recovery was high, the recovery of the associated control sample (LCS or LFB) was acceptable.
			M904.0	RG	Sample concentration is less than 5x LLD; RPD was not used for data validation. Replicate Error Ratio (RER) is less than 2. Precision judged to be in control.

Certification Qualifiers

JDS Hydro Consultants, Inc.

ACZ Project ID: ***L61347***

No certification qualifiers associated with this analysis

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

JDS Hydro Consultants, Inc.

ACZ Project ID: L61347
Date Received: 09/09/2020 12:23
Received By:
Date Printed: 9/10/2020

Receipt Verification

	YES	NO	NA
1) Is a foreign soil permit included for applicable samples?			X
2) Is the Chain of Custody form or other directive shipping papers present?	X		
3) Does this project require special handling procedures such as CLP protocol?		X	
4) Are any samples NRC licensable material?			X
5) If samples are received past hold time, proceed with requested short hold time analyses?	X		
6) Is the Chain of Custody form complete and accurate?	X		
7) Were any changes made to the Chain of Custody form prior to ACZ receiving the samples?		X	

Samples/Containers

	YES	NO	NA
8) Are all containers intact and with no leaks?	X		
9) Are all labels on containers and are they intact and legible?	X		
10) Do the sample labels and Chain of Custody form match for Sample ID, Date, and Time?	X		
11) For preserved bottle types, was the pH checked and within limits? [1]	X		
12) Is there sufficient sample volume to perform all requested work?	X		
13) Is the custody seal intact on all containers?			X
14) Are samples that require zero headspace acceptable?			X
15) Are all sample containers appropriate for analytical requirements?	X		
16) Is there an Hg-1631 trip blank present?			X
17) Is there a VOA trip blank present?			X
18) Were all samples received within hold time?	X		

NA indicates Not Applicable

Chain of Custody Related Remarks

Client Contact Remarks

Shipping Containers

Cooler Id	Temp(°C)	Temp Criteria(°C)	Rad(µR/Hr)	Custody Seal Intact?
4817	5.5	NA	15	Yes

Was ice present in the shipment container(s)?

Yes - Wet ice was present in the shipment container(s).

Client must contact an ACZ Project Manager if analysis should not proceed for samples received outside of their thermal preservation acceptance criteria.

ACZ Laboratories, Inc.
2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

Sample Receipt

JDS Hydro Consultants, Inc.

ACZ Project ID: L61347
Date Received: 09/09/2020 12:23
Received By:
Date Printed: 9/10/2020

[1] The preservation of the following bottle types is not checked at sample receipt: Orange (oil and grease), Purple (total cyanide), Pink (dissolved cyanide), Brown (arsenic speciation), Sterile (fecal coliform), EDTA (sulfite), HCl preserved vial (organics), Na2S2O3 preserved vial (organics), and HG-1631 (total/dissolved mercury by method 1631).

ACZ Laboratories, Inc. L61347

2773 Downhill Drive Steamboat Springs, CO 80487 (800) 334-5493

CHAIN of CUSTODY

Report to:

Name: Stephanie Schwenke
Company: JDS-Hydro Consultants
E-mail: SSchwenke@jdshydro.com
Address: 5540 TechCenter Dr
Colorado Springs, CO 80919
Telephone: 719-321-5341

Copy of Report to:

Name: John McGinn
Company: JDS-Hydro
E-mail: jmcginn@jdshydro.com
Telephone: 719-227-0072

Invoice to:

Name: Stephanie Schwenke
Company: JDS-Hydro
E-mail: SSchwenke@jdshydro.com
Address: 5540 Tech Center Dr
Colorado
Telephone:

If sample(s) received past holding time (HT), or if insufficient HT remains to complete analysis before expiration, shall ACZ proceed with requested short HT analyses? YES [X] NO [ ]

If "NO" then ACZ will contact client for further instruction. If neither "YES" nor "NO" is indicated, ACZ will proceed with the requested analyses, even if HT is expired, and data will be qualified

Are samples for SDWA Compliance Monitoring? Yes [ ] No [X]

If yes, please include state forms. Results will be reported to PQL for Colorado.

Sampler's Name: _____ **Sampler's Site Information** **State** CO **Zip code** _____ **Time Zone** MDT

***Sampler's Signature:** _____

*I attest to the authenticity and validity of this sample. I understand that intentionally mislabeling the time/date/location or tampering with the sample in anyway, is considered fraud and punishable by State Law.

PROJECT INFORMATION

Quote #: DW - RADCHEM
PO#:
Reporting state for compliance testing:
Check box if samples include NRC licensed material? [ ]

ANALYSES REQUESTED *(attach list or use quote number)*

SAMPLE IDENTIFICATION	DATE:TIME	Matrix	# of Containers	Rad226/228	Gross alpha/beta
#1-Retreat Test	9/8/20 8:40am	RAW	1		
#2-Retreat Test	8:41am		1		
#3-Retreat Test	8:42am		1		

Matrix: SW (Surface Water) · GW (Ground Water) · WW (Waste Water) · DW (Drinking Water) · SL (Sludge) · SO (Soil) · OL (Oil) · Other (Specify)

REMARKS

Please refer to ACZ's terms & conditions located on the reverse side of this COC.

RELINQUISHED BY:	DATE:TIME	RECEIVED BY:	DATE:TIME
Stephanie Schwenke	9/8/20 9:30am		9/9/20 12:23

L61347 Chain of Custod