Winsome, LLC

WATER RESOURCES
And
WASTEWATER REPORT
For
Winsome Subdivision

April, 2019
(Revised April 2021)
PCD File Number: SP-18-006

Prepared By:

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CONSULTANTS, INC.

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Executive Summary:
Water Resources and Wastewater Report—Winsome Subdivision

Development at McCune Ranch by PT McCune, LLC consists of 768.06 acres and 147 lots (146 residential and one commercial), located north of Hodgen Rd, and west of Meridian Rd. The development is primarily located in Section 24 (T11S R65W), with portions located in Section 13 (T11S R65W) and 19 (T11S R64W). Residential and commercial properties within the development will be provided water services through individual residential wells and wastewater served through individual on-site wastewater treatment systems (OWTS). The proposed phased development is planned as follows:

- Filing 1 - 47 rural lots
- Filing 2 - 61 rural lots and one (1) commercial lot
- Filing 3 – 38 rural lots

It is expected that each rural residential home in Winsome Subdivision will require an average of 0.60 annual acre-feet (which includes annual allocations for domestic use, irrigation, and stock water). This anticipated water demand constant is consistent with historic needs for nearby developments.

Filings 1-3 will be served by individual on-site residential wells and septic. The three (3) residential portions of the phases will be covered by two replacement plans, both of which are approved. However, the second replacement plan is currently being amended to add three (3) additional residential lots. The amount of water available for consumptive use from the Dawson Aquifer to serve the proposed residential development is estimated at 232.66 AF/year, while 149.95 AF/year is available out of the Denver formation to serve the commercial lot (though in the end only 60 AF/year may be "left behind" to the developer of Winsome. Overall Annual demand estimates using the residential constant described above comes to approximately 87.60 AF annually (with total development demands coming to 92.60 AF annually, including commercial). Return flows from each individual OWTS will be dedicated to replace post-pumping depletions and are estimated at 39.42 AF annually, which will replace estimated depletions.

As mentioned above a proposed amendment to previously approved Replacement Plan No. 3 for Water Right No. 1692-BD to add three lots was submitted to the State Groundwater Commission on April 8, 2021. At the time of this report, the proposed amendment had not yet been approved by the Groundwater Commission. As mentioned above, the proposed source of replacement water is leaching field return flows through individual septic system to the underlying alluvium. As described in this report the amount of return flows through the septic system should be sufficient to replace all depletions to the alluvium. Of note, Denver Aquifer usages for the commercial property will not be covered under Replacement Plans Nos. 1 and 2 as the Denver Aquifer in this location is considered Non-tributary.

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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 Filings 1-3 of the Winsome Subdivision development.

1.1 New Development Description:

Development at the Winsome Subdivision by Winsome, LLC consists of 768.06 acres and 144 lots, located north of Hodgen Rd, and west of Meridian Rd. The development is primarily located in Section 24 (T11S R65W), with portions located in Section 13 (T11S R65W) and 19 (T11S R64W). The proposed lots are to be provided water and sewer services through on-site individual wells and septic. Filings 1-3 are designated for 146 rural residential lots, along with one (1) commercial lot, open space, drainageway, and trails.

This should be corrected to reflect the change to 3 phases

Phases 1-4 include the following water using land uses;

Filing 1

- 47 single family homes on individual well and septic systems

Filing 2

- 61 single family homes on individual well and septic systems, along with one (1) commercial lot with on-site well and septic systems

Filing 3

- 38 single family homes on individual well and septic systems

Appendix A contains a preliminary plan for the Winsome Subdivision.

SECTION 2 PROJECTION OF WATER NEEDS

2.1 *Analysis of Water Demands:*

Expected water demands are calculated in **Appendix B.** Table 2-1 below estimates the projected water demands for development at Winsome Subdivision. Each Dawson Aquifer well is proposed to divert 0.6 acre-feet of water annually for in house use in one single family residence (0.3 acre-foot per residence for domestic indoor use; irrigation of up to 4,000 square feet of lawn, garden, and trees, which require 0.25 acre-feet; and watering of four large domestic animals, which require 0.05 acre-feet).

Table 2-1 -Projected Water Demands for Winsome Subdivision

# of Units	*Land Use*	*Water Use Per Unit (AF/Unit)*	*Annual Demand (AF)*	*Average Daily Flow (ADF) (GPD)*	*Maximum Daily Flow (MDF) (@ 2.5 x ADF) (GPD)*	*Peak Hour Flow (@ 1.5 x MDF) (GPM)*
146	**Residential (Rural, Well & OWTS)**	**0.6**	**87.6**	**78,204**	**195,510**	**204**
1	**Commercial**	**5**	**5**	**4,464**	**11,160**	**12**

Total Annual Demand of the Winsome Subdivision is 90.8 acre-feet.

This figure needs to be updated

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 information are displayed in **Appendix C**.

Table 3-1
Summary of Available Legal Water Supply for Winsome Subdivision Phases 1-4

Update

Water	**Annual Supply* (Acre-Feet)**	**Notes**
Dawson NNT	232.66	90.8 acre-feet will be drawn from this formation annually
Denver NT	149.95	90 acre-feet/year may be sold to SRMD** leaving 60 acre-feet/year for Winsome Subdivision.
Arapahoe NT	113.00	Entirety to be sold to SRMD**
Laramie-Fox Hills NT	74.78	Entirety to be sold to SRMD**

*300-year annual supply
**Sterling Ranch Metropolitan District

The existing replacement plan associated with Water Right No. 1692-BD (Dawson Aquifer) is segregated into two separate replacement plans. Replacement Plans No. 2 and No. 3 are included in **Appendix D** , with Replacement Plan No. 2 augmenting 83 residential lots and Replacement Plan No. 3 augmenting 60 residential lots. Of note, Replacement Plan No. 3 is currently being amended to include three (3) additional lots to the total in Filing No. 3 (from 35 lots to 38 lots). The replacement plans will utilize return flows from each on-site individual septic system on the order of 0.27 AF/Year-SFE, which is estimated to provide approximately 39.42 AF/year. These return flows are sufficient to augment estimated annual post-pumping depletions within the development. It is possible that the current property owner may "leave behind" 60 AF/year of Denver Aquifer water to assist with possible replacement purposes, as well as serving potable water to the commercial lot as described in Table 2-1. Water from the other two non-tributary formations associated with the property (Arapahoe and Laramie-Fox Hills) is being sold to another municipality and will not be used to serve the Winsome Subdivision.

Beneficial use of the water from the decrees includes domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds, piscatorial habitat less than 1000sqft, wildlife, replacement, and all other augmentation purposes.

Appendix D includes four decrees enumerated in Table 3-1 as the water decrees. Of the decrees, only Water Right No. 1692-BD and possibly a portion of No. 1691-BD will be associated with this development. **Appendix D** also includes Replacement Plans Nos. 2 and 3, as well as the amendment application for Replacement Plan No. 3.

3.2 Source of Supply:

Domestic water demand will be met using individual wells drilled into the Dawson formation. Commercial water demand will be met using an individual well drilled into the Denver Formation.

3.3 Water Quality and Treatment:

The water quality in the Dawson Aquifer in this area has typically been suitable for residential potable use. Water samples were obtained from an existing Dawson well located on a neighboring property (11745 Quiet Waters PT – Gowler Well), located north-east of and directly adjacent to the proposed Winsome Subdivision. Utilization of the adjacent well structure as a representative sample source for the individual residential wells was approved by Nina Ruiz with El Paso County Development Services on November 14th, 2018. Water samples were obtained from the Gowler Well on February 7th, 2019 with water quality testing performed by Colorado Analytical Laboratories per the El Paso County Land Development Code section 8.4.7(B). Final results from this water quality testing were received on March 7th, 2019 can be found in **Appendix G**. The only results of concern were for combined radium 226+228 and manganese.

Combined radium 226 + 228 – the Maximum Contaminant Limit (MCL) for this constituent is 5 pCi/l. The result for this constituent from water sampling the Gowler Well is 8.3 pCi/l. Of note, the Colorado Department of Health and Environment would not consider one result above the MCL as a violation of the coRAD MCL and would instead take a series of samples over the entire year and take the average of these results to compare to the state MCL before issuing a violation. In addition, the presence of radium is an aquifer is rarely consistent with the potential that radium could be present in one well and then 100 feet away not exist at all. Moreover, the EPA has proposed that the standard MCL be raised to 20 pCi/l as the current MCL is well below levels in which health effects have been observed. For comparison purposes, the risk associated with consuming water containing 5 pCi/l of radium for one year is comparable to one chest X-ray. However, if residents of the development which to provide an extra layer of protection on their source water and eliminate all potential of radium in their drinking water the installation of a water softener featuring ion exchange or a residential reverse osmosis unit is fairly simple. A list of manufacturers for these units can be provided to homebuilders, if desired.

Manganese – manganese is considered an aesthetic water quality issue and only features a secondary maximum contaminant level (SMCL). The SMCL for manganese is 0.05 mg/L while the results from the Gowler Well came in at 0.1171 mg/L. Manganese exists naturally and is found in several foods including nuts, legumes, seeds, teas, whole grains, and vegetables. However, if found in excess of the SMCL it can impair color, odor, or taste of the water. According to the EAP, however, health effects are not a concern until concentrations of manganese are found to be 10 times higher (or 0.5 mg/L). Regardless, manganese can be removed from drinking water using the same ion exchange or reverse osmosis units described above.

The commercial lot will most likely be classified as a transient non-community system with the Colorado Department of Health and Environment and will have its own public water system ID (PWSID). The source water will, at a minimum, be chlorinated, and a contract operator will be responsible for maintaining and monitoring the system on the commercial property. Water quality sampling and reporting will be conducted by the commercial developer, as described in section 4.1 of this report. As mentioned above water for this particular property will be drawn out of the Denver formation.

3.4 Water Storage:

Each single-family home and the commercial lot will have its own individual pressure tank. The size and pressure of the tanks are to be determined by the property owner.

3.5 Distribution and Transmission Lines:

There will be four (4) well sites on the Winsome Subdivision property to obtain the non-tributary water outlined in Table 3-1 for transmission to the Sterling Ranch Development for municipal uses. In addition, there will also be several

transmission lines from the well sites to deliver water to Sterling Ranch Metropolitan District property. These transmission lines will not serve the Winsome Subdivision.

3.6 Impact on Existing Wells:

Well Permit 309240 - Matt Gowler facilitated the purchase of approximately 120 acres from McCune Ranch, LLC for the construction of three (3) homes on three (3) 40-acre lots (owned by the Gowlers, the Kings, and the Grothes). These three lots represent the remaining McCune Ranch acreage left behind after the purchase of the 766.66 acres by PT McCune, LLC. Each of these lots include a permitted exempt/small capacity well to the Dawson aquifer, two of which have already been drilled. None of these wells, including the Gowler property (well permit no. 309240) directly adjacent to the proposed development, will be impacted by the water resource plan proposed for the development. As illustrated by the Land Survey Plat and the Existing Well Locations Map included in **Appendix F**, the Winsome Subdivision property will not impact well no. 309240 nor do the properties, as platted, overlap. Well permit 309240 was issued on May 7th, 2018 and was permitted to serve 40-acres of land defined by the NE ¼ NE ¼ of Section 24, Township 11 South, Range 65 West in El Paso County. This description of the property to be served by the well was not properly represented in the original permit and will subsequently be impacted by the proposed preliminary plan boundaries created in the submittal. The current well owner, Matt Gowler, will submit a revised well permit depicting a correct description of his property that will accurately convey the 40-acres of land to be served by the well.

Well Permit 162283 - According to information available with the Colorado Division of Water Resources an exempt/small capacity Dawson aquifer well (permit no. 162283 as permitted by the Conway family), is said to be located on the proposed Winsome Subdivision, as illustrated in the Existing Well Locations Map in **Appendix F**. A search for the well structure was conducted on January 7th, 2019, resulting in no evidence that the structure exists at or near the location depicted in the permit. In addition, the current owner of the property, Mary Sue Liss with McCune Ranch, has indicated that she has never seen a well casing or structure since she has owned or lived on the property. At this time it can be assumed that this structure was never built according to Well Permit Number 162283. However, the developer has agreed to abandon the well per Colorado Well Construction Rules and Regulations should the well structure be found during construction of the development.

SECTION 4 COMMERCIAL DEVELOPMENT

4.1 Water Supply and Quality:

Development at Winsome Subdivision will include one (1) 7.3-acre commercial lot with its own well and septic system. As mentioned in section 3.3, the property will likely be classified as a transient non-community system with the Colorado Department of Health and Environment. The future well will require a quality sampling suite for analysis for evaluation by the CDPHE. Water quality sampling

will be conducted at the time the well is drilled, and will be conducted by the commercial developer after the design application for the transient non-community public water system is prepared and submitted to the CDPHE.

4.2 Fire Flow:

The commercial developer of the commercial lot will be required to provide fire suppression to the proposed structure, per the 2009 IFC. Fire suppression will include a storage tank or cistern, along with adequate booster pumps to serve the fire suppression system in the building.

Please update to reflect amended development proposal

SECTION 5 WASTEWATER AND WASTEWATER TREATMENT

5.1 Wastewater Loads

Wastewater projections are based on similar District historical use. There are 143 initial residential units expected in Phases 1-4 of the Winsome Subdivision, along with one (1) commercial lot, which will all have on-site septic systems. **Appendix B** includes a complete breakdown. Average daily wastewater loads are expected to be approximately 241 gallons per day per single family residence and 2009 gallons per day for the commercial lot. Maximum daily wastewater loads are expected to be approximately 294 gallons per day per single family residence and 2452 gallons per day for the commercial lot.

Table 5-1 - Projected Wastewater Loads for Winsome Subdivision

Wastewater Loads			
# of Units	***Type***	***Average Daily Flow (ADF) (GPD)***	***Maximum Daily Flow (GPD)***
146	**Residential**	**35,186**	**42,924**
1	**Commercial**	**2,009**	**2,452**

Total Expected Daily Loads of Winsome Subdivision is 37,195 gallons/day.

5.2 On-Site Wastewater Treatment Systems

146 single family homes and one (1) commercial lot 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 September 2018. Five (5) test borings, and ten (10) tactile test pits were performed on the site to determine general suitability of the site for the use of on-site wastewater treatment systems. Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Percolation test and tactile test pits were located in anticipated locations of

proposed on-site wastewater treatment systems. The on-site soils are described to typically have slow to rapid permeabilities

Based on the evaluation, the site is suitable for on-site wastewater treatment systems. Contamination of surface and subsurface water resources should not occur provided the OWTS sites are evaluated and installed according to El Paso County and State guidelines and are properly maintained. Based on the testing performed, designed systems will likely be required for the majority of the lots. Each septic design will need to consider the wastewater loadings presented in Table 4-1 vs. the soil conditions found on each lot. The report does indicate that there are three properties that may need to be modified in order to accommodate the construction of an OWTS due to the presence of extensive drainage through each property or excessively steep slopes. Since the development of the soils report, the proposed platting of the McCune Ranch has been modified to accommodate OWTS development on lots 87 and 111. The only lot that still may pose a challenge to accommodating an OWTS system is lot 44 due to excessive slopes existing on the property. The Soil, Geology, and Geologic Hazard Report by Entech Engineering, Inc. dated September, 28th, 2018 is included in **Appendix E**.

Appendix A

NES

N.E.S. Inc.
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PLANNERS / LANDSCAPE ARCHITECT

IN ASSOCIATION WITH

WINSOME

OVERALL SITE PLAN

PROJECT INFO

DATE: 3/4/2021
PROJECT MGR: A. BARLOW
PREPARED BY: B. SWENSON

SEAL

ISSUE INFO

DATE:	BY:	DESCRIPTION:

ISSUE / REVISION

SHEET TITLE

SHEET NUMBER

1

1 OF 1

PLAN FILE #

P:\Pro Terra\McCune Ranch\Drawings\Planning\Develop\Winsome_Filing3_SitePlan.dwg [OverallPlan_NOTOPO] 3/9/2021 9:33:50 AM bswenson

Appendix B

Appendix B
Winsome, LLC- Winsome Subdivision
Water Demands and Wastewater Loads Estimate (Phase 1-3)

Residential Constants

Water (Rural)	***0.6***	***AF/Year-SFE***
Wastewater (Base Flow)	***241***	***GPD/SFE***
Wastewater (MDF)	***294***	***GPD/SFE***
Estimated Wastewater Flow	***0.27***	***AF/Year-SFE***

Commercial Constants

Water (Rural)	***5***	***AF/Year-SFE***
Wastewater (Base Flow)	***2009***	***GPD/SFE***
Wastewater (MDF)	***2452***	***GPD/SFE***
Estimated Wastewater Flow	***2.25***	***AF/Year-SFE***

Land Use	Density	Water Demands						Wastewater Loads			
		SFE	Unit Use	Acre-Feet	ADF (GPD)	Max Daily Use (GPD)	Peak Hour (GPM)	Return Flow AF/Year	SFE	Average Daily Flow	Max Day Daily Flow
Residential		146	0.6	87.6	78204	195510	204	39.42	146	35186	42924
Commercial		1	5	5	4464	11160	12	2.25	1	2009	2452
Total Demand		147		92.6	82668	206670	216	41.67	147	37195	45376
				AF/Year	GPD	GPD	GPM	AF/Year		GPD	GPD

Appendix C

WATER SUPPLY INFORMATION SUMMARY

Section 30-28-133,(d), C.R.S. requires that the applicant submit to the County, "Adequate evidence that a Water supply that is sufficient in terms of quantity, quality, and dependability will be available to ensure an adeuate supply of water"

1. NAME OF DEVELOPMENT AS PROPOSED Winsome Subdivision

2. LAND USE ACTION Preliminary Plan

3. NAME OF EXISTING PARCEL AS RECORDED N/A

SUBDIVISION See Above **FILING** Preliminary **BLOCK** All **Lot** All

4. TOTAL ACERAGE 768.03 **5. NUMBER OF LOTS PROPOSED** 147 **PLAT MAPS ENCLOSED** ☑ YES Preliminary Plan in submittal

6. PARCEL HISTORY - Please attach copies of deeds, plats, or other evidence or documentation. (In submittal package)

A. Was parcel recorded with county prior to June 1, 1972? ☐ YES ☐ NO

B. Has the parcel ever been part of a division of land action since June 1, 1972? ☐ YES ☐ NO

If yes, describe the previous action

7. LOCATION OF PARCEL - Include a map deliniating the project area and tie to a section corner.

☐ N ☑ S **RANGE** 64 and 65 ☐ E ☑ W

Portions **OF** **1/4 SECTION** 18,19, 13,24 **TOWNSHIP** 11

1/4 OF **1/4 SECTION** **TOWNSHIP**

PRINCIPAL MERIDIAN: ☑ 6TH ☐ N.M. ☐ UTE ☐ COSTILLA

8. PLAT - Location of all wells on property must be plotted and permit numbers provided.

Surveyors plat ☐ YES ☑ NO If not, scaled hand -drawn sketch ☐ YES ☑ NO N/A

9. ESTIMATED WATER REQUIREMENTS - Gallons per Day or Acre Foot per Year

HOUSEHOLD USE *	146	of units	39,102	GPD	43.80	AF
COMMERCIAL USE **	7.200	Acres	4,464	GPD	5.00	AF
IRRIGATION ***	36.5	acres	32,585	GPD	36.50	AF
STOCK WATERING #	584	of head	6,517	GPD	7.30	AF
OTHER				GPD		AF
TOTAL			82,668	GPD *	92.60	AF *

*** - Household Use = 0.30 AF/year/residence per Replacement Plans No. 1, No. 2, and No. 3 1692-BD and Determinatino of Water Right No. 1692-BD**

**** - Overall commercial property water use = 5.0 AF/year per Winsome Filing No. 2 Water Resource Report**

***** - Per 8.4.7.(B)(7)d of the EPC Land Development Code - @ 1 AF/year/acre @ 0.25 acres per lot**

 # - Per Part 2.c. of the Findings from Determination of Water Right No. 1692-BD and Replacement Plans No. 1, 2, and 3 - assumed 4 horses per lot at 0.0125 AF/year/horse

10. WATER SUPPLY SOURCE

☐ EXISTING ☑ DEVELOPED

WELLS SPRING

WELL PERMIT NUMBERS

TBD

☑ NEW WELLS

Proposed Aquifers - (Check One)

☐ Alluvial ☐ Upper Arapahoe
☑ Upper Dawson ☐ Lower Arapahoe
☑ Lower Dawson ☐ Laramie Fox Hills
☑ Denver ☐ Dakota
☐ Other

☐ MUNICIPAL
☐ ASSOCIATION
☐ COMPANY
☐ DISTRICT

NAME

LETTER OF COMMITMENT FOR SERVICE ☐ YES ☑ NO

WATER COURT DECREE CASE NUMBERS

1692-BD - Dawson

1692-BD - Denver

Replacement Plan No. 2 for 1692-BD

Replacement Plan No. 3 for 1692-BD (rev)

11. ENGINEER'S WATER SUPPLY REPORT ☑ YES ☐ NO If yes, please forward with this form.

12. TYPE OF SEWAGE DISPOSAL SYSTEM Individual On-Site Wastewater Treatment Systems

☑ SEPTIC TANK/LEACH FIELD ☐ CENTRAL SYSTEM - DISTRICT NAME:

☐ LAGOON ☐ VAULT - LOCATION SEWAGE HAULED TO:

☐ ENGINEERED SYSTEM (Attach a copy of engineering design) ☐ OTHER:

Appendix D

Appendix D
Winsome, LLC- Winsome Subdivision
Overall Water Supply Inventory (Phases 1-3)

Land Formation/Aquifer	Finding/ Decree	Tributary Status	Volume	Annual Allocation 100 Year	Annual Allocation 300 Year	Notes	Saturated Sand Thickness	Saturated Specific Yield	Owner
			Acre-Feet	A-F/Year	A-F/Year				
Currently Available On-Site Ground Water Legal Sources (Note 1 & 2)									
Dawson	1692-BD	NNT	69,797	697.97	232.66	Entirety of McCune Ranch Subdivision demand will be met with water from Dawson Aquifer	455	20%	George F. McCune and Evelyn McCune
Denver	1691-BD	NT	44,985	449.85	149.95	60 acre-feet/year will be kept for McCune Ranch, with the remainder sold to Sterling Ranch	345	17%	George F McCune and Evelyn McCune
Arapahoe	1690-BD	NT	33,901	339.01	113.00	Water from this aquifer will be sold to Sterling Ranch and not used at the McCune Ranch Subdivision	260	17%	George F McCune and Evelyn McCune
Laramie-Fox Hills	1689-BD	NT	22,435	224.35	74.78	Water from this aquifer will be sold to Sterling Ranch and not used at the McCune Ranch Subdivision	195	15%	George F McCune and Evelyn McCune
Total Legal Supply			**171,118**	**1,711**	**570**				
Total Available for Use at McCune Ranch Subdivision			**75,797**		**293**				

Beneficial Uses *Domestic*
Industrial
Commercial
Irrigation
Augmentation
Stock watering
Recreational water feature ponds
Piscatorial
Wildlife
Replacement

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: DAWSON

DETERMINATION NO.: **1692-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
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Rec $36.00 1 of 7
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In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Dawson Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Dawson Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 81900 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

RECORDER NOTE: Legibility of writing, typing or printing UNSATISFACTORY in portions of this document when received

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 20 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 455 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 819 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is considered to be not-nontributary ground water. Withdrawal of water from the aquifer underlying the claimed land area would impact the alluvial aquifer of Kiowa Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan - pursuant to Section 37-90-107.5, C.R.S., and Rule 5.6 of the Designated Basin Rules - providing for the actual depletion of the alluvial aquifer and adequate to prevent any material injury to existing water rights, would be required prior to approval of well permits for wells to be located on this land area to withdraw the allocated ground water from the aquifer.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Dawson Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 819 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. Commission approval of a replacement plan, providing for actual depletion of affected alluvial aquifers and adequate to prevent any material injury to existing water rights in such alluvial aquifers is required prior to approval of well permits for wells to be located on the overlying land area to withdraw ground water from the aquifer.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Dawson Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged <u>prior</u> to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1692-BD

RECEIVED

APR 17 2008

WATER RESOURCES
STATE ENGINEER
COLO.

STATE OF COLORADO
OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES
1313 Sherman St. Room 821
Denver, CO 80203
(303) 866-3581 Fax (303) 866-3589

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

and, that the ground water sought to be withdrawn from the **Dawson** aquifer underlying the above-described land has not been conveyed or reserved to another, nor has consent been given to its withdrawal by another.

Further, I (we) claim and say that I (we) have read the statements made herein; know the contents hereof; and that the same are true to my (our) knowledge.

George F McCune
Signature Date

Evelyn M. McCune
Signature Date

INSTRUCTIONS:
Please type or print neatly in black or blue ink. This form may be reproduced by photocopy or word processing means. See additional information on the reverse side.

County of El Paso, State of Colorado, This 2nd
Received at 9:[illegible] A.M. NOV 29 1976
Reception No. 2501197 Harriet Beale, Clerk and Recorder

BOOK 2877 PAGE 197

RECEIVED
APR 17 2008
WATER RESOURCES
STATE ENGINEER
COLO.

SEARCHED

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Young
Notary Public

My commission expires: 6/20/78

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: DENVER

DETERMINATION NO.: **1691-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
07/10/2008 03:13:17 PM
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Rec $36.00 1 of 7
208078576

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Denver Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Denver Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 52800 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

RECORDER NOTE: Legibility of writing, typing or printing UNSATISFACTORY in portions of this document when received

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 345 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 528 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Denver Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 528 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Denver Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

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03/2005

EXHIBIT A

1691-BD

STATE OF COLORADO
OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES
1313 Sherman St. Room 821
Denver, CO 80203
(303) 866-3581 Fax (303) 866-3589

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APR 17 2008
WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

and, that the ground water sought to be withdrawn from the **Denver** aquifer underlying the above-described land has not been conveyed or reserved to another, nor has consent been given to its withdrawal by another.

Further, I (we) claim and say that I (we) have read the statements made herein; know the contents hereof; and that the same are true to my (our) knowledge.

Signature George F McCune Date

Signature Evelyn M. McCune Date

INSTRUCTIONS:
Please type or print neatly in black or blue ink. This form may be reproduced by photocopy or word processing means. See additional information on the reverse side.

EXHIBIT A

1691-BD

Page 2 of 2

County of El Paso, State of Colorado, Fee 2.00
RECEIVED AT 9:00 o'clock A.M. NOV 29 1976
RECEPTION NO. 2501437 HARRIET BEALS, Clerk and Recorder

BOOK 2877 PAGE 197

RECEIVED

APR 17 2008

WATER RESOURCES
STATE ENGINEER
COLO.

SEC 01 TAL

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No Consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Gurney
Notary Public

My commission expires: 6/20/78

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: ARAPAHOE

DETERMINATION NO.: **1690-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
07/10/2008 03:13:17 PM
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Rec $36.00 1 of 7
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In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Arapahoe Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Arapahoe Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 39800 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

RECORDER NOTE: Legibility writing, typing or printing UNSATISFACTORY in portions of this document when received

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 260 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 398 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Arapahoe Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 398 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Arapahoe Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged <u>prior</u> to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1690-BD

STATE OF COLORADO
OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES
1313 Sherman St. Room 821
Denver, CO 80203
(303) 866-3581 Fax (303) 866-3589

RECEIVED
APR 1 7 2008
WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

and, that the ground water sought to be withdrawn from the **Arapahoe** aquifer underlying the above-described land has not been conveyed or reserved to another, nor has consent been given to its withdrawal by another.

Further, I (we) claim and say that I (we) have read the statements made herein; know the contents hereof; and that the same are true to my (our) knowledge.

Signature George F. McCune Date

Signature Evelyn M. McCune Date

INSTRUCTIONS:
Please type or print neatly in black or blue ink. This form may be reproduced by photocopy or word processing means. See additional information on the reverse side.

EXHIBIT A

1690-BD

Page 2 of 2

County of El Paso, State of Colorado, This 2nd
RECEIVED AT 9:00 o'clock A.M. NOV 29 1976
RECEPTION NO. 2301437 HARRIET NEALS, Recorder, By

BOOK 2077 PAGE 187

RECEIVED

APR 17 2008

WATER RESOURCES
STATE ENGINEER
COLO.

SAOTAS

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No Consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Young
Notary Public

My commission expires: 6/20/78

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: LARAMIE-FOX HILLS

DETERMINATION NO.: **1689-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
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In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Laramie-Fox Hills Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Laramie-Fox Hills Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 26300 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

RECORDER NOTE: Legibility of writing, typing or printing UNSATISFACTORY in portions of this document when received

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 15 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 195 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 263 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Laramie-Fox Hills Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 263 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Laramie-Fox Hills Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith VanderHorst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1689-BD

STATE OF COLORADO
OFFICE OF THE STATE ENGINEER
DIVISION OF WATER RESOURCES
1313 Sherman St. Room 821
Denver, CO 80203
(303) 866-3581 Fax (303) 866-3589

RECEIVED
APR 17 2008
WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

and, that the ground water sought to be withdrawn from the **Laramie-Fox Hills** aquifer underlying the above-described land has not been conveyed or reserved to another, nor has consent been given to its withdrawal by another.

Further, I (we) claim and say that I (we) have read the statements made herein; know the contents hereof; and that the same are true to my (our) knowledge.

Signature George F. McCune Date

Signature Evelyn M. McCune Date

INSTRUCTIONS:
Please type or print neatly in black or blue ink. This form may be reproduced by photocopy or word processing means. See additional information on the reverse side.

EXHIBIT A

1689-BD

Page 2 of 2

County of El Paso, State of Colorado, Fee 2.00

RECEIVED AT 9:00 O'CLOCK A.M. NOV 29 1976

RECEPTION NO. 280197 HARRIET WALL, Recorder/Clerk

BOOK 2877 PAGE 197

RECEIVED

APR 17 2008

WATER RESOURCES STATE ENGINEER COLO.

SEARCHED

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No Consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Gurney
Notary Public

My commission expires: 6/20/78

REPLACEMENT PLAN SUMMARY

REPLACEMENT PLAN NO. 2	83 RESIDENTIAL LOTS
FILING NO. 1	47 RESIDENTIAL LOTS
REMAINING REPLACEMENT PLAN NO. 2	36 RESIDENTIAL LOTS
AMENDED REPLACEMENT PLAN NO. 3	63 RESIDENTIAL LOTS
REMAINING REPLACEMENT PLAN LOTS	99 RESIDENTIAL LOTS
FILING NO. 2	61 RESIDENTIAL LOTS
REMAINING AMENDED REPLACEMENT PLAN NO. 3	38 RESIDENTIAL LOTS
FILING NO. 3	38 RESIDENTIAL LOTS

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

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

WINSOME SUBDIVISION

PRELIMINARY PLAT

EXHIBIT

Project No.:	255.02
Date:	04/08/21
Design:	DES
Drawn:	ACH
Check:	DES
Revised:	
Revised:	
Revised:	

SHEET 1 OF 1

2021/04/08 2:19 PM By: Andrew Hood J:\JDS-Hydro\Project Files\255 ProTerra Properties\255.02 McCune Ranch Water And Wastewater Report\Drawings\Working\25502_Preliminary_Plat.dwg

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Electronically Recorded Official Records El Paso County CO
Chuck Broerman, Clerk and Recorder
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COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR REPLACEMENT PLAN TO ALLOW THE WITHDRAWAL OF GROUNDWATER FROM THE DAWSON AQUIFER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN.

REPLACEMENT PLAN NO. 2 - DETERMINATION OF WATER RIGHT NO. 1692-BD

AQUIFER: DAWSON

APPLICANT: MCCUNE RANCH, LLC

In compliance with Section 37-90-107.5, C.R.S. and the Designated Basin Rules, 2 CCR 410-1 ("Rules" or "Rule"), McCune Ranch, LLC ("Applicant") submitted an application to replace the previously approved McCune Ranch, LLC replacement plan that allowed the withdrawal of ground water from the Dawson Aquifer that has been allocated by Determination of Water Right No. 1692-BD.

FINDINGS

1. Pursuant to Section 37-90-107.5, C.R.S., in a Findings and Order dated June 29, 2018, the Ground Water Commission ("Commission") approved a Replacement Plan that allowed the withdrawal of 42 acre-feet per year of Dawson Aquifer groundwater allocated by Determination of Water Right No. 1692-BD. This replacement plan application submitted by the Applicant seeks to replace in its entirety the previously approved replacement plan.

2. Pursuant to Section 37-90-107(7), C.R.S., in a Findings and Order dated June 25, 2008, the Commission approved a Determination of a Right to an Allocation of Ground Water, No. 1692-BD, from the Dawson Aquifer ("Aquifer"), summarized as follows.

    a. The determination quantified an amount of water from beneath 900.52 acres of overlying land generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County.
    b. The allowed average annual amount of withdrawal shall not exceed 819 acre-feet, which based on an aquifer life of one hundred years results in an amount of water allocated of 81,900 acre-feet (subject to adjustment by the Commission to conform to actual local aquifer characteristics).
    c. The use of ground water is limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes.
    d. In accordance with Rule 5.3.6 the withdrawal of the subject ground water will, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal, the ground water is considered to be not-nontributary, and Commission approval of a replacement plan providing for actual depletion of affected alluvial aquifers and adequate to prevent any material injury to existing water rights in such alluvial aquifers is required prior to approval of well permits for wells to withdraw the subject ground water.

3. The subject water is Designated Ground water located within the boundaries of the Kiowa-

Bijou Designated Ground Water Basin. The Commission has jurisdiction over the withdrawal of the water by large capacity wells that are permitted pursuant to section 37-90-107(7), C.R.S.

4. Withdrawal of the subject ground water would deplete the alluvial aquifer of the Kiowa-Bijou Designated Ground Water Basin, the alluvial aquifer of the Upper Big Sandy Designated Ground Water Basin and the alluvial aquifer of the Upper Black Squirrel Creek Designated Ground Water Basin, all of which, according to Rules 5.2.4.2, 5.2.7.2 and 5.2.6.2, respectively, have been determined to be over appropriated. Such depletion would unreasonably impair existing large capacity alluvial rights withdrawing water from those alluvial aquifers.

5. Pursuant to Rule 5.6.1 this plan must be adequate to prevent any material injury to water rights of other appropriators, which for purposes of this plan means large capacity wells withdrawing water from the alluvial aquifer of the Kiowa-Bijou Designated Ground Water Basin, the alluvial aquifer of the Upper Big Sandy Designated Ground Water Basin and the alluvial aquifer of the Upper Black Squirrel Creek Designated Ground Water Basin.

6. Pursuant to Rule 5.3.6.2(C) the amount of replacement water shall provide for the depletion of alluvial water for the first 100 years due to all previous pumping and if pumping continues beyond 100 years, shall replace actual impact until pumping ceases.

7. The application for the replacement plan was received by the Commission on December 6, 2018. The application is subject to the Designated Basin Rules as re-amended on May 15, 2018.

8. The Applicant proposes to divert 49.8 acre-feet annually from the Dawson Aquifer for a period of 300 years. The Dawson aquifer water will be withdrawn through 83 wells to be located on 83 residential lots. The residential lots will be within 278.1 acres generally described as a portion of the W1/2 of Section 19, Township 11 South, Range 64 West and a portion of Section 24, Township 11 South, Range 65 West, 6th P.M., and more specifically described on attached Exhibit B. As shown on attached Exhibit B, 70 lots are located mostly in Section 24 and 13 lots are located mostly in Section 19. Each Dawson Aquifer well is proposed to divert 0.6 acre-feet of water annually for use in 1 single family residence; irrigation of landscape, lawn and gardens; and watering of domestic animals and stock.

9. At a continuous withdrawal of 49.8 acre-feet annually for 300 years, depletions to the alluvial aquifer systems of the Kiowa-Bijou Designated Ground Water Basin, Upper Big Sandy Designated Ground Water Basin and Upper Black Squirrel Creek Designated Ground Water Basin would steadily increase to 1.87 acre-feet per year in the 300th year, which is equal to 3.75% of pumping, as shown in Exhibit A.

10. The Applicant proposes to provide 22.41 acre-feet per year of replacement water to the alluvial aquifer system of the Kiowa-Bijou Designated Ground Water Basin. The proposed source of replacement water is septic and leaching field return flows from the in-house use of the ground water to be pumped under the plan. The Applicant estimates that return flows from each lot will consist of 90% of the water used for in-house purposes. Assuming each lot uses a total annual amount for in-house use of 0.30 acre-feet, the return flow per lot would be 0.27 acre-feet annually, and the return flows under the plan will total 22.41 acre-feet per year for all 83 lots at full build out.

11. The subject property is located within the drainage of Kiowa Creek, and the return flows will flow to the alluvial aquifer of the Kiowa-Bijou Designated Ground Water Basin. The Applicant proposes to aggregate all replacements to the drainage in which the well or wells will operate, in accordance with Guideline 2007-1.

12. Pursuant to Rule 5.6.1.D this plan may not cause unreasonable impairment of water quality. So long as the septic and leaching treatment systems for the in-house use of the water are constructed and operated in compliance with state and county health department standards the plan would not cause unreasonable impairment of water quality of the alluvial aquifer.

13. Records in this office indicate that the Applicant controls the water right to be used as the source of replacement water, consisting of Determination of Water Right No. 1692-BD, and such water is legally available for use pursuant to this plan.

14. In accordance with Sections 37-90-107.5 and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on December 19, 2019 and December 26, 2019. No objections to the application were received within the time limit set by statute.

15. According to Rule5.6.2:

    a. The Applicant has the burden of proving the adequacy of the plan in all respects.

    b. The Commission Staff shall propose any additional terms and conditions or limitations which are necessary to prevent material injury and to ensure that the plan is administrable and enforceable.

16. The Commission Staff has evaluated the application pursuant to Section 37-90-107.5, C.R.S., and the requirements of Rule 5.3.6.2(C) and Rule 5.6, finds that the requirements have been meet, no material injury will occur to water rights of other appropriators, and the plan may be approved to allow diversions from the Dawson Aquifer if operated subject to the conditions given below.

ORDER

In accordance with Section 37-90-107.5, C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for a replacement plan to allow the withdrawal of ground water from the Dawson Aquifer underlying 900.52 acres that are the subject of Determination of Water Right no. 1692-BD is approved subject to the following conditions:

17. Approval of this replacement plan herby cancels the McCune Ranch, LLC replacement plan approved by the Commission in a Findings and Order dated June 29, 2018.

18. The Dawson aquifer water will be withdrawn through 83 wells to be located on 83 residential lots. The residential lots will be within 278.1 acres generally described as a portion of the W1/2 of Section 19, Township 11 South, Range 64 West and a portion of Section 24, Township 11 South, Range 65 West, 6th P.M., and more specifically described on attached Exhibit B. Each Dawson Aquifer well may divert 0.6 acre-feet of water annually for use in 1 single family residence; irrigation of landscape, irrigation of lawn and gardens; and watering of domestic animals and stock.

19. The allowed annual amount of ground water to be withdrawn from the aquifer by all wells

operating under this plan shall not exceed 49.8 acre-feet. The allowed annual amount of water to be withdrawn from each on-lot well shall not exceed 0.6 acre-feet.

20. A totalizing flow meter shall be installed on each well. The well owner shall maintain the meter in good working order.

21. Permanent records of all withdrawals of ground water from each well shall be recorded at least annually by the well owners, permanently maintained, and provided to the Commission.

22. Pumping under this plan is limited to a period of 300 years. The year of first use of this replacement plan shall be the calendar year of construction of a well permitted pursuant to this plan or permitting of an existing well pursuant to the plan.

23. Return flows from in-house use of ground water shall occur through individual on-lot non-evaporative septic systems located within the 278.1 acres of land on which the 83 wells will be located, as described in paragraph 19 above and shown on attached Exhibit B. The septic systems must be constructed and operated in compliance with a permit issued by a local health agency.

24. Replacement of depletions must be provided annually in the acre-feet amounts shown in Exhibit A. Annual replacement requirements may be computed by pro-rating between the values given on Exhibit A, or for simplicity may be taken as the amount shown in the next succeeding 5 year increment.

25. The Applicant or their successor(s) are responsible for ensuring that replacement water is provided to the alluvial aquifer as required by this plan. The annual replacement requirement and the annual amount of replacement water provided shall be calculated and reported on a form acceptable to the Commission. The annual amount of replacement water provided must be no less than the annual replacement requirement on a yearly basis. No credit shall be claimed by the Applicant for an oversupply of replacement water provided to the alluvium during previous years.

26. The Applicant must provide the required annual amount of replacement water for the first 100 years, or for as long as a well is operated pursuant to this plan, whichever is longer.

27. To assure adequate return flows, the number of wells serving an occupied single-family dwelling that is generating return flows via a non-evaporative septic system must be equal to or greater than the number of wells shown in Table 1 below, or an amended or alternate replacement plan must be obtained that will replace actual depletions to the alluvial aquifer so as to prevent any material injury to water rights of other appropriators.

Table 1

Year	No. of Wells	Return Flow (af/yr)
1-70	1	0.27
71-110	2	0.54
111-150	3	0.81
151-185	4	1.08
186-225	5	1.35
226-260	6	1.62
261-300	7	1.89

28. The Applicant (and their successors) must gather and maintain permanent records of all information pertaining to operation of this plan, which shall include, but is not be limited to, those items identified below. The Applicant must submit records to the Commission on forms acceptable to the Commission, on an annual basis for the previous calendar year, by February 15th of the following year.

    a. Identification of all well permits issued and wells constructed under this plan.
    b. The amount of water diverted by each well and all wells in total, both annually and cumulatively since operation of the plan began.
    c. The number of occupied dwellings served by each well.
    d. The number of square feet irrigated by each well.
    e. The number of large domestic animals served by each well.
    f. The return flows occurring from use of all wells operating under the plan, assuming 0.27 acre-feet per year per occupied single family dwelling (90% of the water used for in-house purposes) enters the alluvial aquifer as replacement water.
    g. Any other information the Commission deems relevant and necessary to operation, monitoring, accounting, or administration of the plan.

29. The Applicant (and their successors) are fully responsible for the operation, monitoring, and accounting of the replacement plan. In the event a lot with a well permitted or operating pursuant to this plan is sold, identification of the well that was sold and evidence that the new owner has been notified of their responsibilities under the replacement plan shall accompany that year's accounting.

30. Any covenants adopted for this subdivision should contain a description of the replacement plan, including the limitations on diversions and use of water for each well and lot, the requirement to meter and record all well pumping, and information on how records are to be reported and the plan is to be administered.

31. In the event the permitted well or wells are not operated in accordance with the conditions of this replacement plan, they shall be subject to administration, including orders to cease diverting ground water.

32. All terms and conditions of Determination of Water Right No. 1692-BD must be meet.

33. A copy of this Findings and Order shall be recorded by the Applicant in the clerk and recorder's records of El Paso County, so that a title examination of the land on which the structures involved in this plan are located reveals the existence of this plan.

Dated this 3rd day of February, 2020.

Kevin G. Rein

Kevin G. Rein, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Chief of Water Supply, Basins

F&O1692-BD-RP.docx
Prepared by: jmw

Exhibit A

Replacement Plan - Determination No.: 1692-BD

Designated Basin Summary Table for McCune Ranch, LLC

Pumping Rate of 49.8 acre-feet per year for 300 Years from the Dawson aquifer

Section(s): Sec. 24, T11S, R65W and Sec. 19, T11S, R64W

Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)	Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)
5	49.8	0.00	0.00	155	49.8	0.85	1.70
10	49.8	0.00	0.01	160	49.8	0.88	1.78
15	49.8	0.01	0.02	165	49.8	0.92	1.85
20	49.8	0.02	0.04	170	49.8	0.96	1.92
25	49.8	0.03	0.06	175	49.8	0.99	1.99
30	49.8	0.05	0.10	180	49.8	1.03	2.07
35	49.8	0.07	0.13	185	49.8	1.07	2.14
40	49.8	0.09	0.18	190	49.8	1.10	2.21
45	49.8	0.11	0.22	195	49.8	1.14	2.28
50	49.8	0.14	0.27	200	49.8	1.17	2.36
55	49.8	0.16	0.33	205	49.8	1.21	2.43
60	49.8	0.19	0.38	210	49.8	1.25	2.50
65	49.8	0.22	0.44	215	49.8	1.28	2.57
70	49.8	0.25	0.51	220	49.8	1.32	2.64
75	49.8	0.28	0.57	225	49.8	1.35	2.72
80	49.8	0.32	0.64	230	49.8	1.39	2.79
85	49.8	0.35	0.70	235	49.8	1.42	2.86
90	49.8	0.38	0.77	240	49.8	1.46	2.93
95	49.8	0.42	0.84	245	49.8	1.49	3.00
100	49.8	0.45	0.91	250	49.8	1.53	3.07
105	49.8	0.49	0.98	255	49.8	1.56	3.14
110	49.8	0.52	1.05	260	49.8	1.60	3.21
115	49.8	0.56	1.12	265	49.8	1.63	3.28
120	49.8	0.59	1.19	270	49.8	1.67	3.34
125	49.8	0.63	1.27	275	49.8	1.70	3.41
130	49.8	0.67	1.34	280	49.8	1.73	3.48
135	49.8	0.70	1.41	285	49.8	1.77	3.55
140	49.8	0.74	1.48	290	49.8	1.80	3.62
145	49.8	0.78	1.56	295	49.8	1.84	3.69
150	49.8	0.81	1.63	300	49.8	1.87	3.75

Created by jmw on December 13, 2019

Values for 'Depletion as a % of Pumping' (q/Q) are not calculated when the pumping rate (Q) is changed to anything but zero

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Exhibit B
Replacement Plan - Determination No.: 1692-BD
Page 1 of 1

Demand Summary

S24,T11S,R65W = 70 Lots @ 0.600 AF/Lot/Year = 42.00 AF/year

S19,T11S,R64W = 13 Lots @ 0.600 AF/Lot/Year = 7.800 AF/year

PROPOSED AREA: 278.1 AC - 83 LOTS

COLORADO 811 KNOW WHAT'S BELOW. CALL BEFORE YOU DIG.

VERTEX
2420 W. 26th Avenue, Suite 100-D | Denver, CO 80211
Main: 303.623.9116 | VERTEXENG.COM

SITE PLAN EXHIBIT

SITE:

FOR: PROTERRA PROPERTIES, LLC
1864 WOODMORE DR, SUITE 100
MONUMENT, COLORADO 80132

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

DATE: 10/1/2018
DRAWN BY: JCP
CHECKED BY: JWD
JOB #: 49388
1

P:\Shared\Projects\49000-49999\49300-49399\49388-McCune Ranch\06-Engineering\Vertex Drawings\Exhibits\49388-SitePlanOptions.dwg
Tuesday, December 10, 2019 12:09:12 PM
Copyright: 2019 The Vertex Companies, Inc.

Recieved by email dated 12/13/2019

EXHIBIT A

LEGAL DESCRIPTION: REPLACEMENT PLAN

A TRACT OF LAND BEING A PORTION OF SECTION 24, RANGE 11 SOUTH, RANGE 65 WEST AND A PORTION OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN BEING MONUMENTED ON THE SOUTHERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "LS 28658" AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP STAMPED "LS 12103" BEING ASSUMED TO BEAR N00°14'25"E A DISTANCE OF 2636.99 FEET AS SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL PASO COUNTY, COLORADO.

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 24, SAID POINT BEING THE POINT OF BEGINNING; THENCE S00°14'17"W, A DISTANCE OF 1,684.27 FEET TO THE POINT OF BEGINNING; THENCE S89°41'23"E, A DISTANCE OF 820.25 FEET; THENCE N29°41'56"E, A DISTANCE OF 768.98 FEET; THENCE S89°45'39"E, A DISTANCE OF 128.26 FEET; THENCE S69°47'19"E, A DISTANCE OF 306.30 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N69°47'19"W, HAVING A DELTA OF 2°06'42", A RADIUS OF 1,790.00 FEET, A DISTANCE OF 65.97 FEET TO A POINT A POINT OF TANGENT; THENCE N18°06'10"E, A DISTANCE OF 383.72 FEET; THENCE N19°13'35"E, A DISTANCE OF 60.00 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N19°13'35"E, HAVING A DELTA OF 50°01'50", A RADIUS OF 1,470.00 FEET, A DISTANCE OF 1,283.60 FEET TO A POINT ON CURVE; THENCE N30°48'16"W, A DISTANCE OF 58.07 FEET; THENCE N54°25'41"E, A DISTANCE OF 240.00 FEET; THENCE S40°33'13"E, A DISTANCE OF 57.62 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N40°33'13"W, HAVING A DELTA OF 7°37'13", A RADIUS OF 1,470.00 FEET A DISTANCE OF 195.51 FEET TO A POINT OF TANGENT; THENCE N41°49'33"E, A DISTANCE OF 207.94 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT HAVING A DELTA OF 48°27'33", A RADIUS OF 1,384.00 FEET, A DISTANCE OF 1,170.55 FEET TO A POINT OF TANGENT; THENCE S89°42'54"E, A DISTANCE OF 1,221.71 FEET; THENCE S00°17'06"W, A DISTANCE OF 306.26 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF CURVE OT THE RIGHT HAVING A DELTA OF 18°02'49", A RADIUS OF 930.00 FEET, A DISTANCE OF 292.93 FEET TO A POINT OF REVERSE CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 18°02'49", A RADIUS OF 870.00 FEET, A DISTANCE OF 274.03 FEET TO A POINT OF TANGENT; THENCE S00°17'06"W, A DISTANCE OF 780.00 FEET; THENCE S89°42'54"E, A DISTANCE OF 411.84 FEET; THENCE S00°17'06"W, A DISTANCE OF 825.56 FEET; THENCE N89°31'37"W, A DISTANCE OF 411.84 FEET; THENCE S00°17'06"W, A DISTANCE OF 447.57 FEET TO A POINT 50.00 FEET NORTH OF THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH PRINCIPAL MERIDIAN; THENCE S89°55'06"W ON A LINE 50.00 NORTH OF AND PARALLEL TO SOUTH LINE OF THE SAID SOUTHWEST QUARTER OF SAID SECTION 19, A DISTANCE OF 418.09 FEET TO A POINT THE EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN; THENCE

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S89°30'15"W ON A LINE 50.00 FEET NORTH OF AN PARALLEL WITH THE SOUTH LINE OF SAID SECTION 24, A DISTANCE OF 5,238.40 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE N00°14'17"E ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 902.65 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 12,114,313 SQUARE FEET OR 278.106 ACRES.

LEGAL DESCRIPTION STATEMENT

I, JONATHAN W. TESSIN, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THE ABOVE LEGAL DESCRIPTION WAS PREPARED UNDER MY RESPONSIBLE CHARGE AND ON THE BASIS OF MY KNOWLEDGE, INFORMATION, AND BELIEF IS CORRECT.

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR
JONATHAN W. TESSIN
12/12/2019
33196

JONATHAN W. TESSIN, PROFESSIONAL LAND SURVEYOR
COLORADO PLS NO. 33196
FOR AND ON BEHALF OF EDWARD-JAMES SURVEYING, INC.

Recieved by email dated 12/13/2019

EXHIBIT B

REPLACEMENT PLAN

LEGEND:

P.O.B. POINT OF BEGINNING

P.O.C. POINT OF COMMENCING

* AREA IS NOT PART OF THIS SURVEY

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR JONATHAN W. TESSIN 12/12/2019 38196

THIS DRAWING DOES NOT REPRESENT A MONUMENTED LAND SURVEY AND IS ONLY

EDWARD-JAMES SURVEYING, INC.
926 Elkton Dr.
Colorado Springs, CO 80907
(719) 576-1216
4732 Eagleridge Circle
Pueblo, CO 81008
(719) 545-6240

220194754 12/1/2020 11:45 AM
PGS 8 $48.00 DF $0.00
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Chuck Broerman, Clerk and Recorder
TD1000 N

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR REPLACEMENT PLAN TO ALLOW THE WITHDRAWAL OF GROUNDWATER FROM THE DAWSON AQUIFER IN THE KIOWA-BIJOU DESIGNATED GROUNDWATER BASIN.

REPLACEMENT PLAN NO. 1692-RP, NO. 3

FOR DETERMINATION OF WATER RIGHT NO. 1692-BD

AQUIFER: DAWSON

APPLICANT: WINSOME, LLC

In compliance with section 37-90-107.5, C.R.S. and the Designated Basin Rules, 2 CCR 410-1 (Rules or Rule), Winsome, LLC (Applicant) submitted an application for a replacement plan to allow the withdrawal of groundwater from the Dawson Aquifer that has been allocated by Determination of Water Right No. 1692-BD.

FINDINGS

1. Pursuant to section 37-90-107(7), C.R.S., in a Findings and Order dated June 25, 2008, the Ground Water Commission (Commission) approved a Determination of a Right to an Allocation of Groundwater, No. 1692-BD, from the Dawson Aquifer (Aquifer), summarized as follows.

    a. The determination quantified an amount of water from beneath 900.52 acres of overlying land generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th P.M., in El Paso County (Overlying Land).
    b. The allowed average annual amount of withdrawal shall not exceed 819 acre-feet, which based on an aquifer life of one hundred years results in an amount of water allocated of 81,900 acre-feet (subject to adjustment by the Commission to conform to actual local aquifer characteristics).
    c. The use of groundwater is limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes.
    d. Withdrawal of the subject groundwater will, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal, the groundwater is considered to be not-nontributary, and Commission approval of a replacement plan providing for actual depletion of affected alluvial aquifers and adequate to prevent any material injury to existing water rights in such alluvial aquifers is required prior to approval of well permits for wells to withdraw the subject groundwater.

2. Pursuant to section 37-90-107.5, in a Findings and Order dated June 29, 2018, the Commission approved a Replacement Plan to allow the withdrawal of groundwater from the Dawson Aquifer that has been allocated by Determination of Water Right No. 1692-BD. The replacement plan allowed for the withdrawal of 42 acre-feet annually through 70 wells to be located on 70 residential lots within the 900.52 acres of Overlying Land described above.

3. Pursuant to section 37-90-107.5, in a Findings and Order dated February 3, 2020, the

Commission approved a Replacement Plan to allow the withdrawal of groundwater from the Dawson Aquifer that has been allocated by Determination of Water Right No. 1692-BD. The replacement plan allows for the withdrawal of 49.8 acre-feet annually through 83 wells to be located on 83 residential lots. The residential lots will be within 278.1 acres of the Overlying Land generally described as a portion of the W1/2 of Section 19, Township 11 South, Range 64 West and a portion of Section 24, Township 11 South, Range 65 West, 6th P. M., and more specifically described on Exhibit B of the Findings and Order dated February 3, 2020. Upon approval of the replacement plan the replacement plan approved by the Commission in the Findings and Order dated June 29, 2018 was cancelled.

4. The subject water is Designated Groundwater located within the boundaries of the Kiowa-Bijou Designated Groundwater Basin. The Commission has jurisdiction over the withdrawal of the water by large capacity wells that are permitted pursuant to section 37-90-107(7).

5. Withdrawal of the subject groundwater would deplete the alluvial aquifer of the Kiowa-Bijou Designated Groundwater Basin, the alluvial aquifer of the Upper Big Sandy Designated Groundwater Basin and the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin, all of which, according to Rules 5.2.4.2, 5.2.7.2 and 5.2.6.2, respectively, have been determined to be over appropriated. Such depletion would unreasonably impair existing large capacity alluvial rights withdrawing water from those alluvial aquifers.

6. Pursuant to Rule 5.6.1.A this plan must be adequate to prevent any material injury to water rights of other appropriators, which for purposes of this plan means large capacity wells withdrawing water from the alluvial aquifer of the Kiowa-Bijou Designated Groundwater Basin, the alluvial aquifer of the Upper Big Sandy Designated Groundwater Basin and the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin.

7. Pursuant to Rule 5.3.6.2(C) the amount of replacement water shall provide for the depletion of alluvial water for the first 100 years due to all previous pumping and if pumping continues beyond 100 years, shall replace actual impact until pumping ceases.

8. The application for the replacement plan was received by the Commission on July 13, 2020.

9. The Applicant proposes to divert 36 acre-feet annually from the Dawson Aquifer for a period of 300 years. The Dawson aquifer water will be withdrawn through 60 wells to be located on 60 residential lots. The residential lots will be within 479.4 acres generally described as a portion of the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM, a portion of the S1/2 of the SE1/4, Section 13 and a portion of Section 24, all in Township 11 South, Range 65 West of the 6th P.M., and more specifically described on attached Exhibit A. As shown on attached Exhibit A, 10 lots are located mostly in Section 13, 12 lots are located mostly in Section 19 and 38 lots are located mostly in Section 24. Each Dawson Aquifer well is proposed to divert 0.6 acre-feet of water annually for use in 1 single family residence; irrigation of landscape, lawn and gardens; and watering of domestic animals and stock.

10. At a continuous withdrawal of 36 acre-feet annually for 300 years, depletions to the alluvial aquifer systems of the Kiowa-Bijou Designated Groundwater Basin, Upper Big Sandy Designated Groundwater Basin and Upper Black Squirrel Creek Designated Groundwater Basin would steadily increase to 1.39 acre-feet per year in the 300th year, which is equal to 3.85% of pumping, as shown in Exhibit B.

11. The Applicant proposes to provide 16.2 acre-feet per year of replacement water to the alluvial aquifer system of the Kiowa-Bijou Designated Groundwater Basin. The proposed source of replacement water is septic and leaching field return flows from the in-house use of the ground water to be pumped under the plan. The Applicant estimates that return flows from each lot will consist of 90% of the water used for in-house purposes. Assuming each lot uses a total annual amount for in-house use of 0.30 acre-feet, the return flow per lot would be 0.27 acre-feet annually, and the return flows under the plan will total 16.2 acre-feet per year for all 60 lots at full build out.

12. The subject property is located within the drainage of Kiowa Creek, and the return flows will flow to the alluvial aquifer of the Kiowa-Bijou Designated Groundwater Basin. The Applicant proposes to aggregate all replacements to the drainage in which the well or wells will operate, in accordance with Guideline 2007-1.

13. Pursuant to Rule 5.6.1.B this plan must be adequate to prevent unreasonable impairment of water quality. Pursuant to Rule 5.6.1.B.1.b, if the replacement source water is from an onsite wastewater treatment system permitted by a local health agency and the applicant demonstrates the source is in compliance with that permit there shall be a rebuttable presumption of no unreasonable impairment of water quality.

14. Pursuant to Rule 5.6.1.C this plan, including the proposed uses of the water withdrawn pursuant to the plan, must not be speculative, and must be technically and financially feasible and within the Applicant's ability to complete. The plan, including the proposed uses of the water withdrawn pursuant to the plan, is not speculative. The plan appears technically and financially feasible and within the Applicant's ability to complete.

15. Pursuant to Rule 5.6.1.D this plan must be able to be operated and administered on an ongoing and reliable basis. The plan appears to be able to be operated and administered on an ongoing and reliable basis.

16. Pursuant to Rule 5.6.1.F replacement source water must be physically and legally available in time, place and amount to prevent material injury. As determined in Determination of Water Right No. 1692-BD water is currently available in the amounts and for the number of years proposed to be diverted.

17. Pursuant to Rule 5.6.1.G the replacement source water must be legally available for use. Records in this office indicate that the Applicant controls the water right to be used as the source of replacement water, consisting of Determination of Water Right No. 1692-BD, and such water is legally available for use pursuant to this plan.

18. In accordance with sections 37-90-107.5 and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on October 15, 2020 and October 22, 2020. No objections to the application were received within the time limit set by statute.

19. According to Rule 5.6.1:

    a. The Applicant has the burden of proving the adequacy of the plan in all respects.

    b. If the applicant meets its burden of proof, the Commission shall grant approval of the plan which shall include any terms and conditions established the Commission.

20. The Commission Staff has evaluated the application pursuant to section 37-90-107.5, and

the requirements of Rule 5.3.6.2(C) and Rule 5.6, finds that the requirements have been met, and the plan may be approved to allow diversions from the Dawson Aquifer if operated subject to the conditions given below.

ORDER

In accordance with section 37-90-107.5, and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for a replacement plan to allow the withdrawal of groundwater from the Dawson Aquifer underlying 900.52 acres that are the subject of Determination of Water Right no. 1692-BD is approved subject to the following conditions:

21. The Dawson aquifer water will be withdrawn through 60 wells to be located on 60 residential lots. The residential lots will be within 479.4 acres generally described as a portion of the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM, a portion of the S1/2 of the SE1/4, Section 13 and a portion of Section 24, all in Township 11 South, Range 65 West of the 6th P.M., and more specifically described on attached Exhibit A. Each Dawson Aquifer well may divert 0.6 acre-feet of water annually for use in 1 single family residence; irrigation of landscape, irrigation of lawn and gardens; and watering of domestic animals and stock.

22. The allowed annual amount of groundwater to be withdrawn from the Aquifer by all wells operating under this plan shall not exceed 36 acre-feet. The allowed annual amount of water to be withdrawn from each on-lot well shall not exceed 0.6 acre-feet.

23. A totalizing flow meter shall be installed on each well. The well owner shall maintain the meter in good working order.

24. Permanent records of all withdrawals of groundwater from each well shall be recorded at least annually by the well owners, permanently maintained, and provided to the Commission.

25. Pumping under this plan is limited to a period of 300 years. The year of first use of this replacement plan shall be the calendar year of construction of a well permitted pursuant to this plan or permitting of an existing well pursuant to the plan.

26. Return flows from in-house use of groundwater shall occur through individual on-lot non-evaporative septic systems located within the 479.4 acres described above, which are a portion of Overlying Land that is the subject of Determination of Water Right No. 1692-BD. The septic systems must be constructed and operated in compliance with a permit issued by a local health agency.

27. Replacement of depletions must be provided annually in the acre-feet amounts shown in Exhibit B. Annual replacement requirements may be computed by pro-rating between the values given on Exhibit B, or for simplicity may be taken as the amount shown in the next succeeding 5 year increment.

28. The Applicant or their successor(s) are responsible for ensuring that replacement water is provided to the alluvial aquifer as required by this plan. The annual replacement requirement and the annual amount of replacement water provided shall be calculated and reported on a form acceptable to the Commission. The annual amount of replacement water provided must be no less than the annual replacement requirement on a yearly basis. No credit shall be claimed by the Applicant for an oversupply of replacement water provided

to the alluvium during previous years.

29. The Applicant must provide the required annual amount of replacement water for the first 100 years, or for as long as a well is operated pursuant to this plan, whichever is longer.

30. To assure adequate return flows, the number of wells serving an occupied single-family dwelling that is generating return flows via a non-evaporative septic system must be equal to or greater than the number of wells shown in Table 1 below, or an amended or alternate replacement plan must be obtained that will replace actual depletions to the alluvial aquifer so as to prevent any material injury to water rights of other appropriators.

Table 1		
Year	No. of Wells	Return Flow (af/yr)
1-85	1	0.27
86-135	2	0.54
136-185	3	0.81
186-235	4	1.08
236-290	5	1.35
291-300	6	1.62

31. The Applicant (and their successors) must gather and maintain permanent records of all information pertaining to operation of this plan, which shall include, but is not be limited to, those items identified below. The Applicant must submit records to the Commission on forms acceptable to the Commission, on an annual basis for the previous calendar year, by February 15th of the following year.

    a. Identification of all well permits issued and wells constructed under this plan.
    b. The amount of water diverted by each well and all wells in total, both annually and cumulatively since operation of the plan began.
    c. The number of occupied dwellings served by each well.
    d. The number of square feet irrigated by each well.
    e. The number of large domestic animals served by each well.
    f. The return flows occurring from use of all wells operating under the plan, assuming 0.27 acre-feet per year per occupied single family dwelling (90% of the water used for in-house purposes) enters the alluvial aquifer as replacement water.
    g. Any other information the Commission deems relevant and necessary to operation, monitoring, accounting, or administration of the plan.

32. The Applicant (and their successors) are fully responsible for the operation, monitoring, and accounting of the replacement plan. In the event a lot with a well permitted or operating pursuant to this plan is sold, identification of the well that was sold and evidence that the new owner has been notified of their responsibilities under the replacement plan shall accompany that year's accounting.

33. Any covenants adopted for this subdivision should contain a description of the replacement plan, including the limitations on diversions and use of water for each well and lot, the requirement to meter and record all well pumping, and information on how records are to be

reported and the plan is to be administered.

34. In the event the permitted well or wells are not operated in accordance with the conditions of this replacement plan, they shall be subject to administration, including orders to cease diverting groundwater.

35. All terms and conditions of Determination of Water Right No. 1692-BD must be meet.

36. Pursuant to Rule 5.6.1.E, a copy of this Findings and Order shall be recorded by the Applicant in the clerk and recorder's records of El Paso County, so that a title examination of the land on which the structures involved in this plan are located reveals the existence of this plan.

Dated this 1st day of December, 2020.

Kevin G. Rein, P.E
Executive Director
Colorado Ground Water Commission

By: _____
Joanna Williams, P.E.
Water Resource Engineer

F&O1692-RP.docx
Prepared by: jmw

Exhibit A
Replacement Plan 1692-RP
Page 1 of 1

Received 8/27/2020

DEMAND SUMMARY

S13,T11S,R65W = 10 Lots @ 0.6 AF/Lot/Year = 6.0 AF/Year

S24,T11S,R65W = 38 Lots @ 0.6 AF/Lot/Year = 22.8 AF/Year

S19,T11S,R64W = 12 Lots @ 0.6 AF/Lot/Year = 7.2 AF/Year

Total Demand = 36 AF/Year

SHADED AREA: 479.368 AC

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2420 W. 26th Avenue, Suite 100-D | Denver, CO 80211
Main: 303.623.9116 | VERTEXENG.COM

SITE PLAN EXHIBIT

SITE:

FOR: PROTERRA PROPERTIES, LLC
1864 WOODMORE DR, SUITE 100
MONUMENT, COLORADO 80132

NO.	REVISIONS
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

DATE: 10/1/2018
DRAWN BY: JCP
CHECKED BY: JWD
JOB #: 49388

6

Z:\Shared\Projects\49000-49999\49300-49399\49388-McCune Ranch\06-Engineering\Vertex Drawings\Exhibits\49388-SitePlanOptions.dwg
Thursday, June 25, 2020 10:24 AM
Copyright: 2020 The Vertex Companies, Inc.

Exhibit B

Replacement Plan - Determination No.: 1692-BD

Designated Basin Summary Table for Winsome, LLC
Pumping Rate of 36 acre-feet per year for 300 Years from the Dawson aquifer
Section(s): Secs. 13 and 24, T11S, R65W and Sec. 19, T11S, R64W

Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)	Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)
5	36.0	0.00	0.00	155	36.0	0.64	1.78
10	36.0	0.00	0.01	160	36.0	0.67	1.85
15	36.0	0.01	0.02	165	36.0	0.69	1.92
20	36.0	0.02	0.04	170	36.0	0.72	2.00
25	36.0	0.03	0.07	175	36.0	0.75	2.07
30	36.0	0.04	0.11	180	36.0	0.77	2.15
35	36.0	0.05	0.15	185	36.0	0.80	2.22
40	36.0	0.07	0.19	190	36.0	0.83	2.29
45	36.0	0.09	0.24	195	36.0	0.85	2.37
50	36.0	0.11	0.30	200	36.0	0.88	2.44
55	36.0	0.13	0.36	205	36.0	0.90	2.51
60	36.0	0.15	0.42	210	36.0	0.93	2.58
65	36.0	0.17	0.48	215	36.0	0.96	2.66
70	36.0	0.20	0.54	220	36.0	0.98	2.73
75	36.0	0.22	0.61	225	36.0	1.01	2.80
80	36.0	0.24	0.68	230	36.0	1.03	2.87
85	36.0	0.27	0.75	235	36.0	1.06	2.94
90	36.0	0.29	0.82	240	36.0	1.09	3.02
95	36.0	0.32	0.89	245	36.0	1.11	3.09
100	36.0	0.35	0.96	250	36.0	1.14	3.16
105	36.0	0.37	1.03	255	36.0	1.16	3.23
110	36.0	0.40	1.11	260	36.0	1.19	3.30
115	36.0	0.43	1.18	265	36.0	1.21	3.37
120	36.0	0.45	1.25	270	36.0	1.24	3.44
125	36.0	0.48	1.33	275	36.0	1.26	3.51
130	36.0	0.51	1.40	280	36.0	1.29	3.57
135	36.0	0.53	1.48	285	36.0	1.31	3.64
140	36.0	0.56	1.55	290	36.0	1.34	3.71
145	36.0	0.59	1.63	295	36.0	1.36	3.78
150	36.0	0.61	1.70	300	36.0	1.39	3.85

Created by jmw on August 17, 2020

Values for 'Depletion as a % of Pumping' (q/Q) are not calculated when the pumping rate (Q) is changed to anything but zero

Depletions modelled based on pumping 6 AF/Year from Section 13, 22.8 AF/Year from Section 24 and 7.2 AF/Year from Section 19

Form no. GWS-69 (5-2019)

COLORADO GROUND WATER COMMISSION
DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES
1313 Sherman St, Room 821, Denver, CO 80203
(303) 866-3581, www.water.state.co.us, dwrpermitsonline@state.co.us

APPLICATION FOR A REPLACEMENT PLAN WITHIN A DESIGNATED GROUND WATER BASIN

NOTE: This application may only be used to request Ground Water Commission approval of a replacement plan within a Designated Ground Water Basin pursuant to Section 37-90-107.5, C.R.S. Review the instructions on the reverse of this form. This form must be completed, signed, dated and submitted to the Commission with a non-refundable $100 filing fee. Type or print in black ink.

1. APPLICANT INFORMATION

Name of Applicant
Winsome, LLC

Mailing Address
1864 Woodmoor Dr. #100, Monument, CO 80132

Telephone Number (include area code)
719-476-0800

Email cdc@cowaterlaw.com
jdesjardin@proterraco.com; abiggs@proterraco.com

2. AQUIFER AND GENERAL DESCRIPTION OF THE LOCATION OF THE PLAN

Aquifer in which the plan will operate: Dawson

County: El Paso Section 13, 19, 24, Township 11 S N / S, Range 64 W W

3 THE FOLLOWING MUST BE PROVIDED AS ATTACHEMENTS TO THIS APPLICATION

A. A report containing all information required to be submitted for a replacement plan as required by Designated Basin Rule 5.6.2 (Rule 5.6.2 is provided as an attachment to this form). See attached.

B. If the replacement plan is for the purpose of allowing withdrawals of ground water from the Dawson, Denver, Arapahoe, or Laramie-Fox Hills aquifer pursuant to Section 37-90-107(7), C.R.S. and in accordance with Designated Basin Rule 5.3.6.2.C, indicate the subject aquifer, the approved determination of water right or pending application for such determination, and provide a table showing the first 100 years of annual depletions to affected alluvial aquifer(s) caused by proposed pumping during the first 100 years, and if pumping continues beyond 100 years the annual depletions to affected alluvial aquifer(s) until pumping ceases. See attached.

4. SIGNATURE – Sign or enter name(s) of applicant(s) or authorized agent. The making of false statements herein constitutes perjury in the second degree, which is punishable as a class 1 misdemeanor pursuant to C.R.S. 24-4-104(13)(a). I have read the statements herein, know the contents thereof, and state that they are true to my knowledge.

Signature Date:

Print name and title:

FOR OFFICE USE ONLY

DIV_____ CO_____WD_____BASIN_____MD_____

INSTRUCTIONS - APPLICATION FOR A REPLACEMENT PLAN

ITEM 1 - APPLICANT INFORMATION - Provide the applicant's name, telephone number, mailing address and email where all correspondence will be sent.

ITEM 2 – AQUIFER AND GENERAL DESCRIPTION OF THE LOCATION OF THE PLAN – Identify the aquifer in which the plan will operate and the general location where water will be withdrawn and replacement water provided.

ITEM 3 – REQUIRED ATTACHEMENTS TO THIS APPLICATION

A. - The report is typically prepared by an engineer and/or attorney.
- Designated Basin Rule 5.6.1 states the applicant shall have the burden of proving the adequacy of the plan in all respects. Therefore, the applicant and/or the applicant's consultant should review all of Rule 5.6 to ensure the plan considers and addresses all requirements for approval and operation of a replacement plan, and that the plan is adequate to prevent any material injury to water rights of other appropriators and will not cause unreasonable impairment of water quality.
- The Designated Basin Rules are available on the Ground Water Commission's webpage at: http://water.state.co.us/groundwater/CGWC/CGWCDocs/Pages/CGWCRulesandRegs.aspx

B. Designated Basin Rule 5.3.6.2.C requires that the amount of replacement water shall provide for the depletion of alluvial water for the first 100 years due to all previous pumping and if pumping continues beyond 100 years, shall replace actual impact until pumping ceases.

Be advised:

- Section 37-90-107.5, C.R.S, requires the applicant to submit a summary of the application to the Commission for publication. Pursuant to Designated Basin Rule 5.6.2.N, the written summary of the application may be required to be provided in electronic form to facilitating publication of the application. The applicant will be contacted via email to provide the electronic form of the summary. If the Commission determines the application for replacement plan to be complete, the summary will be published in a newspaper in each county of concern (e.g. each county involving withdrawals, replacement water deliveries, etc.) once each week for two successive weeks, followed by a 30-day objection period. The applicant is responsible for, and will be billed for, the actual cost of such publication.
- Pursuant to Rule 5.6.2.I, if required by Commission Staff the applicant must submit a ground water model evidencing no material injury to vested rights or unreasonable impairment of water quality will result from operation of the plan.

ITEM 4 - SIGNATURE OF APPLICANT – The application must be signed. If the applicant is a company, corporation, organization, etc, the statement must be signed by an official of the company who must indicate his/her position or capacity that grants authorization to sign. An applicant's authorized agent or attorney may sign the application if a letter signed by the applicant is submitted with the application authorizing them to act as agent for the specific purpose of applying for a determination of water right.

IF YOU HAVE ANY QUESTIONS - call the Division of Water Resources - Ground Water Information Desk - at 303-866-3587

APPLICATION FOR A REPLACEMENT PLAN -
DESIGNATED BASIN RULE 5.6.2 (page 1)

5.6.2 Applications for Replacement Plans must contain the following.

A. Name, mailing address, email address and telephone number of Applicant(s).

B. Name of designated basin in which plan will be located, and management district, if any, and aquifer in which the plan will operate.

C. Information regarding other water rights diverted from the structures involved in the plan.

D. Maps (either USGS topographic base map or other base map as appropriate) showing the locations of all structures involved in the Replacement Plan, including all recharge wells, recharge ponds, and other structures involved in recharging Replacement Source Water, all structures involved in delivering the Replacement Source Water to the project location, and all structures involved in delivering the new diversions to the end use.

E. A detailed description of the plan and its operation, including the following.

1. A general description of the Replacement Plan project location.

2. The purpose of the Replacement Plan.

3. The detailed description of the physical and legal sources of all proposed Replacement Source Water. Identify the amount of water available for replacement use from each source and provide copies of all decrees, permits, findings and orders and determinations issued by the Ground Water Commission and Courts.

4. The description of how the Replacement Source Water is delivered to the Replacement Plan project for recharge.

5. The method, location, timing, and amount of Replacement Source Water being recharged into the aquifer including without limitation identification of the structures that will recharge the Replacement Source Water, such as by recharge through a well or through a pond.

6. Based on Applicant's proposed Replacement Plan operations, the maximum volume of water proposed to be introduced into the aquifer in any day, month and year, as applicable.

7. The detailed description of the method, location, timing and amount of proposed new diversions and depletions caused by the new appropriations of designated basin water, including without limitation identification of the structures that will divert, legal descriptions of their locations, and identification and copies of all decrees, permits, findings and orders and determinations issued by the Commission and Courts involving the structures.

8. The proposed use of the new diversions.

9. The proposed quantity and quality monitoring plan.

10. The approximate cost of the Replacement Plan project and the approximate date construction will begin and end.

APPLICATION FOR A REPLACEMENT PLAN -
DESIGNATED BASIN RULE 5.6.2 (page 2)

F. Evidence that the plan will not injure other water rights.

G. Evidence that the plan does not cause unreasonable impairment of water quality. Such evidence shall include water quality for the Replacement Source Water and the water quality of the receiving aquifer unless 5.6.1.B.1.a applies.

H. Proposed terms and conditions required to prevent injury to other water rights, and prevent unreasonable impairment of water quality.

I. If required by Commission Staff, the Applicant shall submit a ground water model evidencing no material injury to vested rights or unreasonable impairment of water quality will result from operation of the plan.

J. A detailed description of the proposed use of the new appropriation of designated ground water which would result under the plan, including where the use will occur.

K. Name(s) and address(es) of owner(s) or reputed owner(s) of the land upon which structures that withdraw water and recharge replacement water involved in the plan are located. The Applicant must notify these owners that the Applicant is applying for this Replacement Plan, and provide proof to the Commission that the Applicant has done so, no later than 14 days after filing the application. Applicant may rely on the records maintained by the applicable County, including records available online, to determine the owner(s) or reputed owner(s), unless Applicant has actual knowledge or information of others not identified in said records.

L. If proposed Replacement Source Water is not legally available for use in the Replacement Plan at the time the application is submitted, the Applicant must identify any applications it has or is submitting or actions it has or is taking to make the source legally available.

M. Applicant must provide information demonstrating the Applicant's right to use all proposed Replacement Source Water and that the Replacement Source Water will not be used by any other person.

N. A summary of the application for publication. If required by the Commission, the summary must be submitted in an electronic form that can be provided to the newspaper in which publication occurs.

NOTE:
1. IMAGERY IS NOT ACCURATELY SCALED AND SHOULD BE UTILIZED FOR REFERENCE ONLY (SOURCE: NES, WINSOME FILING NO. #3 OVERALL SITE PLAN: 03/04/21)

SCALE: N.T.S.

WINSOME FILING NO. #3

DEMAND SUMMARY

S13, T11S, R65W = 10 LOTS @ 0.6 AF/LOT/YEAR = 6.0 AF/YEAR

S24, T11S, R65W = 41 LOTS @ 0.6 AF/LOT/YEAR = 24.6 AF/YEAR

S19, T11S, R64W = 12 LOTS @ 0.6 AF/LOT/YEAR = 7.2 AF/YEAR

TOTAL DEMAND = 37.8 AF/YEAR

ATTACHMENT TO REPLACEMENT PLAN
Application of Winsome, LLC,
as concerns the not-nontributary Dawson Aquifer

SUMMARY OF PLAN

Applicant seeks an amendment/modification to the replacement plan for use of the not-nontributary Dawson aquifer underlying a tract of land generally described as a portion of the SE ¼ of Section 13 and a portion of Section 24, Township 11 South, Range 65 West of the 6th P.M., and a portion of the SW ¼ of Section 19, Township 11 South, Range 64 West of the 6th P.M., all in El Paso County, Colorado, containing 479.368 acres, more or less. On June 29, 2018, the Colorado Ground Water Commission issued an approved replacement plan for a 900-acre property, including the above-described land, concerning the use of the underlying not-nontributary Dawson aquifer as previously determined in Determination No. 1692-BD ("Prior Replacement Plan). On February 3, 2020 a portion of that 900-acre property was issued an amended replacement plan as pertains to 83 lots, and the June 29, 2018 order was cancelled. On December 1, 2020, the Colorado Ground Water Commission issued Replacement Plan No. 1692-RP, No. 3 concerning the above-described land, more specifically pertaining to 60 lots. The Applicant is seeking an amended/modified replacement plan for the above-described property containing 479.368 acres for an additional 3 lots, for a total of 63 lots on the 479.368 acres.

The Applicant, Winsome, LLC, proposes to pump approximately 24.6 annual acre-feet of water in Section 24, 7.2 annual acre-feet of water in Section 19, and 6.0 annual acre-feet of water in Section 13 from the Dawson aquifer for domestic-type uses, including in-house, landscape/irrigation of lawn and gardens, and watering of domestic animals and stock (horses or similar) from sixty (63) individual wells to be located on sixty (63) residential lots, as part of a subdivision of Applicant's above described property. Twelve (12) of the lots will be located in Section 19, ten (10) lots will be located in Section 13, and forty-one (41) lots will be located in Section 24.

Total annual demands of the subdivision are estimated by the Applicants engineer to be 0.6 annual acre-feet per lot, based on sixty-three (63) residential units, for a total annual demand of 37.8 acre-feet.

Each individual residential well is anticipated to pump a maximum of 0.6 annual acre feet of supply. Maximum annual depletions have been determined by Applicant's consulting water resource engineers at JDS-Hydro Consultants, Inc. to amount to 3.85% of actual pumping in the 300th year of pumping, or a maximum of 1.45 annual acre feet. Replacements shall be made by means of septic return flows in the amount of 90% of diversions to in-house uses from individual non-evaporative septic systems. A minimum

of 0.30 annual acre-feet will be used for in-house sanitary uses, resulting in septic return flows of 0.27 acre feet annually per lot, or a total of 17.01 acre feet annually. The remainder of the pumping per lot, will be used for other accessory uses of landscape/lawn and garden irrigation, and for watering of domestic animals and livestock.

The water quality in the Denver Basin aquifers in this area is well established as being suitable for potable use with only in-house filtration for mineral deposits. There is a general acceptance of suitable and sufficient water quality for residences utilizing Denver Basin groundwater supplies. All wells will meet all applicable regulatory requirements regarding quality testing before being utilized as a residential and consequently, replacement water source. The septic system will be evaluated and installed according to applicable Guidelines, including those of the El Paso County Department of Health and Human Services, and properly maintained to prevent contamination of surface and subsurface water resources. All water pumped from the well will be metered to ensure no water beyond that permitted is pumped. The replacement water consists of septic return flows, conservatively estimated as being 90% of water utilized in-house.

Estimated cost of development amounts to $9,000,000. Infrastructure development is planned to begin in 2021 and is expected to last until 2024.

Total replacement for the pumping of 37.8 annual acre-feet amounts to 17.01 acre-feet, exceeding the maximum depletion of 1.45 acre feet, or 3.85% of pumping, over the 300-year life of the replacement plan.

Amendment to Replacement Plan #3: Add three additional lots to Filing No. 3

Location:	38 lots located in Section 24, T 11S, Range 65 W; 12 lots in Section 19, T 11S, Range 64W; 10 lots in Section 13, T 11S, Range 65W
Surface Area:	471.787 acres
Number of lots / wells:	61 Filing No. 2 - 25 lots in Replacement Plan No. 3
Number of lots / wells:	38 Filing No. 3 - all in Replacement Plan No. 3
Designated Basin:	Kiowa-Bijou
Management District:	Kiowa-Bijou Management District

300-year Supply area

Description:	Filing No. 2 / Filing No. 3
Location:	Section 24, TS 11S, Range 65 W; Section 19, TS 11S, Range 64W; Section 13, TS 11S, Range 65 W
Water Demand:	37.8 AF/year (300-year supply)
	24.6 AF/year in Section 24
	7.2 AF/year in Section 19
	6 AF/year in Section 13
Total Water Available:	15000 AF
Residential Demand:	0.6 AF/year/lot
Total Lots:	63 Lots
Return Flow @ 90%:	0.27 AF/year/lot - domestic use
Total Return Flows:	17.01 AF/year

Table 3: AUG-3 Denver Basin Depletion Model - Maximum Depletions

41 lots located in Section 24, T 11S, Range 65 W; 12 lots in Section 19, T 11S, Range 64W; 10 lots in Section 13, T 11S, Range 65W

Desginated Basin V2019 for use inside Kiowa-Bijou Designated Basin

Dawson Aquifer - Not-Nontributary - Kiowa Bijou

		Division 1 / Division 2 - Maximum Total Depletions					Designated Basin - MaximumTotal Depletions		
Pumping Interval	**Formation**	**Total Depl.**	**Total Depl. (%**	**Year of Max.**	**Div. 1 Depl.**	**Div. 2 Depl.**	**Total Depl.**	**Total Depl. (%**	**Year of Max.**
300-year pumping period									
Pumping Period	Dawson (NNT)	4.332	11.46%	300	2.973	1.359	1.45	3.84%	300
Model Period	Dawson (NNT)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Depletion in Kiowa-Bijou Basin = 1.36 AF/year

Exhibit A

Replacement Plan - Determination No.: 1692-RP, No. 3 - Determination No. 169 - BD-BD

Designated Basin Summary Table for Winsome, LLC Pumping Rate of 37.8 acre-feet per year for 300 Years from the Dawson aquifer Section(s): S13/24, T11S, R65W; S119,T11S,R64W							
Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)	Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)
5	37.8	0.00	0.00	155	37.8	0.67	1.77
10	37.8	0.00	0.01	160	37.8	0.70	1.84
15	37.8	0.01	0.02	165	37.8	0.72	1.92
20	37.8	0.02	0.04	170	37.8	0.75	1.99
25	37.8	0.03	0.07	175	37.8	0.78	2.07
30	37.8	0.04	0.11	180	37.8	0.81	2.14
35	37.8	0.06	0.15	185	37.8	0.84	2.21
40	37.8	0.07	0.19	190	37.8	0.86	2.29
45	37.8	0.09	0.24	195	37.8	0.89	2.36
50	37.8	0.11	0.30	200	37.8	0.92	2.43
55	37.8	0.13	0.35	205	37.8	0.95	2.51
60	37.8	0.16	0.41	210	37.8	0.97	2.58
65	37.8	0.18	0.48	215	37.8	1.00	2.65
70	37.8	0.20	0.54	220	37.8	1.03	2.72
75	37.8	0.23	0.61	225	37.8	1.06	2.79
80	37.8	0.26	0.68	230	37.8	1.08	2.86
85	37.8	0.28	0.74	235	37.8	1.11	2.94
90	37.8	0.31	0.81	240	37.8	1.14	3.01
95	37.8	0.33	0.89	245	37.8	1.16	3.08
100	37.8	0.36	0.96	250	37.8	1.19	3.15
105	37.8	0.39	1.03	255	37.8	1.22	3.22
110	37.8	0.42	1.10	260	37.8	1.24	3.29
115	37.8	0.44	1.18	265	37.8	1.27	3.36
120	37.8	0.47	1.25	270	37.8	1.30	3.43
125	37.8	0.50	1.32	275	37.8	1.32	3.50
130	37.8	0.53	1.40	280	37.8	1.35	3.57
135	37.8	0.56	1.47	285	37.8	1.37	3.63
140	37.8	0.58	1.55	290	37.8	1.40	3.70
145	37.8	0.61	1.62	295	37.8	1.43	3.77
150	37.8	0.64	1.69	300	37.8	1.45	3.84

Created by JDS-Hydro Consultants, Inc. on March 01, 2021

Values for 'Depletion as a % of Pumping' (q/Q) are not calculated when the pumping rate (Q) is changed to anything but zero

Stream Depletion for Winsome, LLC
Pumping Rate of 37.8 acre-feet per year for 300 Years from the Dawson aquifer

	Kiowa Bijou Designated		Upper Big Sandy Designated		Upper Black Squirrel			
	KIOWA		BIG SANDY		BLACK SQUIRREL-UBSCDB		TOTAL	
Time	q/Q	vol./yr	q/Q	vol./yr	q/Q	vol./yr	q/Q	vol./yr
(yr)	(%)	(af/yr)	(%)	(af/yr)	(%)	(af/yr)	(%)	(af/yr)
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00
15	0.02	0.01	0.00	0.00	0.00	0.00	0.02	0.01
20	0.04	0.02	0.00	0.00	0.00	0.00	0.04	0.02
25	0.07	0.03	0.00	0.00	0.00	0.00	0.07	0.03
30	0.11	0.04	0.00	0.00	0.00	0.00	0.11	0.04
35	0.15	0.06	0.00	0.00	0.00	0.00	0.15	0.06
40	0.19	0.07	0.00	0.00	0.00	0.00	0.19	0.07
45	0.24	0.09	0.00	0.00	0.00	0.00	0.24	0.09
50	0.30	0.11	0.00	0.00	0.00	0.00	0.30	0.11
55	0.35	0.13	0.00	0.00	0.00	0.00	0.35	0.13
60	0.41	0.16	0.00	0.00	0.00	0.00	0.41	0.16
65	0.47	0.18	0.00	0.00	0.00	0.00	0.48	0.18
70	0.54	0.20	0.00	0.00	0.00	0.00	0.54	0.20
75	0.60	0.23	0.00	0.00	0.00	0.00	0.61	0.23
80	0.67	0.25	0.00	0.00	0.01	0.00	0.68	0.26
85	0.74	0.28	0.00	0.00	0.01	0.00	0.74	0.28
90	0.81	0.30	0.00	0.00	0.01	0.00	0.81	0.31
95	0.87	0.33	0.00	0.00	0.01	0.00	0.89	0.33
100	0.94	0.36	0.00	0.00	0.01	0.00	0.96	0.36
105	1.01	0.38	0.00	0.00	0.02	0.01	1.03	0.39
110	1.08	0.41	0.00	0.00	0.02	0.01	1.10	0.42
115	1.16	0.44	0.00	0.00	0.02	0.01	1.18	0.44
120	1.23	0.46	0.00	0.00	0.02	0.01	1.25	0.47
125	1.30	0.49	0.00	0.00	0.03	0.01	1.32	0.50
130	1.37	0.52	0.00	0.00	0.03	0.01	1.40	0.53
135	1.44	0.54	0.00	0.00	0.03	0.01	1.47	0.56
140	1.51	0.57	0.00	0.00	0.04	0.01	1.55	0.58
145	1.58	0.60	0.00	0.00	0.04	0.02	1.62	0.61
150	1.65	0.62	0.00	0.00	0.04	0.02	1.69	0.64
155	1.72	0.65	0.00	0.00	0.05	0.02	1.77	0.67
160	1.79	0.68	0.00	0.00	0.05	0.02	1.84	0.70
165	1.86	0.70	0.00	0.00	0.06	0.02	1.92	0.72
170	1.93	0.73	0.00	0.00	0.06	0.02	1.99	0.75
175	2.00	0.75	0.00	0.00	0.07	0.03	2.07	0.78
180	2.06	0.78	0.00	0.00	0.07	0.03	2.14	0.81
185	2.13	0.81	0.00	0.00	0.08	0.03	2.21	0.84
190	2.20	0.83	0.00	0.00	0.08	0.03	2.29	0.86
195	2.27	0.86	0.00	0.00	0.09	0.03	2.36	0.89
200	2.34	0.88	0.00	0.00	0.09	0.04	2.43	0.92
205	2.40	0.91	0.00	0.00	0.10	0.04	2.51	0.95
210	2.47	0.93	0.00	0.00	0.10	0.04	2.58	0.97
215	2.54	0.96	0.00	0.00	0.11	0.04	2.65	1.00
220	2.60	0.98	0.00	0.00	0.12	0.04	2.72	1.03
225	2.67	1.01	0.00	0.00	0.12	0.05	2.79	1.06
230	2.73	1.03	0.00	0.00	0.13	0.05	2.86	1.08
235	2.80	1.06	0.01	0.00	0.13	0.05	2.94	1.11
240	2.86	1.08	0.01	0.00	0.14	0.05	3.01	1.14
245	2.92	1.11	0.01	0.00	0.15	0.06	3.08	1.16
250	2.99	1.13	0.01	0.00	0.15	0.06	3.15	1.19
255	3.05	1.15	0.01	0.00	0.16	0.06	3.22	1.22
260	3.11	1.18	0.01	0.00	0.17	0.06	3.29	1.24
265	3.18	1.20	0.01	0.00	0.17	0.07	3.36	1.27
270	3.24	1.23	0.01	0.00	0.18	0.07	3.43	1.30
275	3.30	1.25	0.01	0.00	0.19	0.07	3.50	1.32
280	3.36	1.27	0.01	0.00	0.19	0.07	3.57	1.35
285	3.42	1.29	0.01	0.00	0.20	0.08	3.63	1.37
290	3.49	1.32	0.01	0.00	0.21	0.08	3.70	1.40
295	3.55	1.34	0.01	0.00	0.21	0.08	3.77	1.43
300	3.61	1.36	0.01	0.00	0.22	0.08	3.84	1.45

Created by JDS-Hydro Consultants, Inc. on March 01, 2021
Values for q/Q are not calculated when the pumping rate (Q) is changed to anything but zero.

Summary Table 1

Applicant Name	Winsome, LLC	
Receipt No.	1692-RP, No. 3 - Determination No. 169 -	
Number of Years of Pumping	300	
Pumping Rate (ac-ft/yr)	37.80	
Total Volume (ac-ft)	11340	
Legal for All Sections	S13/24, T11S, R65W; S119,T11S,R64W	
Model	DA02	
Aquifer	Dawson	

100th Year Stream Depletion

Streams	100th Year Depletion (ac-ft/yr)	q/Q (%)
MONUMENT	0.075	0.198
EAST PLUM-W&E BRANCH	0.002	0.004
RUNNING CREEK	0.002	0.005
WEST CHERRY	0.168	0.444
EAST CHERRY	0.626	1.656
CHERRY	0.017	0.044
KIOWA	0.357	0.944
KETTLE	0.043	0.114
SAND-DIV2	0.053	0.141
BIG SANDY	0.000	0.000
BLACK SQUIRREL-UBSCDB	0.005	0.013
Total	**1.347**	**3.563**

South Platte(No Designated Basin Streams)	0.814	2.154
Arkansas(No Designated Basin Streams)	0.171	0.453
Designated Basin	0.362	0.957

Summary Table 2

Model Period (years)	300			
Applicant Name	Winsome, LLC			
Receipt No.	1692-RP, No. 3 - Determination No. 169 - BD			
Number of Years of Pumping	300			
Pumping Rate (ac-ft/yr)	37.80			
Total Volume (ac-ft)	11340			
Legal for All Sections	S13/24, T11S, R65W; S119,T11S,R64W			
Model	DA02			
Aquifer	Dawson			

Maximum Stream Depletion

Streams	Max.Depletion during model period (ac-ft/yr)	Year during model period	Max. Depletion during pumping period (ac-ft/yr)	Year during pumping period
MONUMENT	0.576	300	0.576	300
EAST PLUM-W&E BRANCH	0.093	300	0.093	300
RUNNING CREEK	0.050	300	0.050	300
WEST CHERRY	0.902	300	0.902	300
EAST CHERRY	1.660	300	1.660	300
CHERRY	0.268	300	0.268	300
KIOWA	1.363	300	1.363	300
KETTLE	0.253	300	0.253	300
SAND-DIV2	0.530	300	0.530	300
BIG SANDY	0.005	300	0.005	300
BLACK SQUIRREL-UBSCDB	0.083	300	0.083	300
Total	**5.783**	**300**	**5.783**	**300**

South Platte Basin(No Designated Basin Streams)	2.973	300	2.973	300
Arkansas Basin(No Designated Basin Streams)	1.359	300	1.359	300
Designated Basin	1.451	300	1.451	300

Created by JDS-Hydro Consultants, Inc. on March 01, 2021

Values for 'Depletion as a % of Pumping' (q/Q) are not calculated when the pumping rate (Q) is changed to anything but zero

Appendix E

DRAFT

PRELIMINARY SOIL, GEOLOGY, GEOLOGIC HAZARD, AND WASTEWATER STUDY, MCCUNE RANCH SUBDIVISION PARCEL NO. 51990-01-009 17480 MERIDIAN ROAD NORTH EL PASO COUNTY, COLORADO

Prepared for

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Respectfully Submitted,

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1.0 SUMMARY

Project Location

The project site lies in Section 24 and a portion of the S½ of Section 13, Township 11 South, Range 65 West of the 6th Principal Meridian, and a portion of the W½ of Section 19, Township 11 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 12 miles east of Monument, Colorado, northwest of Hodgen Road and Meridian Road North.

Project Description

Total acreage involved in the project is approximately 666 acres. The proposed site development consists of one-hundred and forty-three single-family rural residential lots and one commercial lot. The development will utilize individual wells and on-site wastewater treatment systems.

Scope of Report

This report presents the results of our geologic evaluation, treatment of engineering geologic hazard study and wastewater study for individual on-site wastewater treatment systems.

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 artificial fill, potentially expansive soils, potentially unstable slopes, downslope creep areas, floodplain, potentially seasonal shallow groundwater, and seasonal 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 Section 24 and a portion of the S½ of Section 13, Township 11 South, Range 65 West of the 6th Principal Meridian, and a portion of the W½ of Section 19, Township 11 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 12 miles east of Monument, Colorado, northwest of Hodgen Road and Meridian Road North. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site consists of rolling hills that vary from gradually to moderately sloping generally to the southeast and northwest. West Kiowa Creek bisects the site. Steep slopes are located along some of the drainages on the site. The drainages on site flow in a northeasterly direction through the central portion of the site. Water was observed in West Kiowa Creek 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 and weeds. Site photographs, taken September 12 and 15, 2018, are included in Appendix A.

Total acreage involved in the proposed development is approximately 666 acres. One hundred and fourty-three single-family rural residential lots and one commercial lot are proposed. The proposed residential lots are approximately 2.5 to 5 acres each, and the commercial lot is 6.8 acres. The area will be serviced by individual wells and on-site wastewater treatment systems. The proposed Site Plan/Testing Location Map is presented in Figure 3.

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 individual 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 Geology/Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech Engineering, Inc. on September 12 and 15, 2018.

Five (5) test borings, and ten (10) tactile test pits were performed on the site to determine general suitability of the site for the use of on-site wastewater treatment systems. The locations of the test borings, and test pits are indicated on the Site Plan/Testing Location Map, Figure 3. 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, and Atterberg Limits, ASTM D-4318. 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, north of the Palmer Divide. Approximately 16 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 northwesterly direction (Reference 1). The rocks in the area

of the site are sedimentary in nature and typically Tertiary to Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Arkose Formation. Overlying this formation are unconsolidated deposits of residual soils, man-made, and alluvial soils of the Quaternary Age. The residual soils are produced by the in-situ action of weathering of the bedrock on site. The alluvial soils were deposited by water in the major drainage on the site and as stream terrace deposits. Man-made soils exist as erosion berms. 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 ten soil types on the site (Figure 4). In general, they vary from loam, loamy sands, and sandy loam. The soils are described as follows:

Type	Description
1	Alamosa Loam, 1-3% slopes
15	Brussett Loam, 3 to 5% slopes
21	Cruckton Sandy Loam, 1 to 9% slopes
25	Elbeth Sandy Loam, 3 to 8% slopes
26	Elbeth Sandy Loam, 8 to 15% slopes
36	Holderness Loam, 8 to 15% slopes
67	Peyton Sandy Loam, 5-9% slopes
68	Peyton-Pring Complex, 3-8% slopes
71	Pring Coarse Sandy Loam, 3 to 8% slopes
92	Tomah-Crowfoot Loamy Sands, 3 to 8% slopes

Complete descriptions of each soil type are presented in Appendix D. The soils have generally been described to typically have slow to rapid permeabilities. The majority of the soils have moderate permeabilities. Limitations described for the soils include shrink-swell potential on Soil Type Nos. 15, 25, 26, and 36, slope on Soil Type Nos. 26 and 36, and the hazard of flooding on Soil Type No. 1. Soil Type No. 1 is mapped in the floodplain zone that is designated as open space. Roads may need to be designed to minimize frost-heave potential. 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 moderate erosion hazards.

5.3 Site Stratigraphy

The Eastonville Quadrangle Geology Map showing the site is presented in Figure 5 (Reference 4). The Geology Map prepared for the site is presented in Figure 6. Seven mappable units were identified on this site which are described as follows:

Qaf **Recent Artificial Fill of Holocene Age:** These are man-made fill deposits associated with erosion berms on-site.

Qal **Recent Alluvium of Late Holocene Age:** These materials consist of water deposited sands located along some of the minor drainages across the site.

Qp **Piney Creek Alluvium (Alluvium One and Two) of Early Holocene Age:** These materials consist of low stream-terrace deposits above the current stream channel. The materials typically consist of silty to well graded sand.

Qb **Broadway Alluvium (Alluvium Three) of Late Pleistocene Age:** These materials consist of middle steam terrace deposits. The materials typically consist of silty to clayey gravelly sands.

Qlo **Louviers Alluvium (Alluvium Four) Late Middle Pleistocene Age:** These materials consist of upper stream terrace deposits. The materials typically consist of light brown silty sands which contain an abundance of gravels.

Qsw **Sheetwash Deposits of Holocene to Late Pleistocene Age:** These materials consist of silty to clayey sands with some cobbles and boulders. The material was deposited by the action of sheetwash and gravity.

Qc/Tkd **Colluvium of Quaternary Age overlying Dawson Formation of Tertiary to Cretaceous Age:** The Dawson Formation typically consists 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, sandy clays and sandy silts.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Eastonville Quadrangle* distributed by the Colorado Geological Survey in 2012 (Reference 4), and the *Geologic Map of the Denver 1^0 x 2^0 Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 5). The Test Pits 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 6.

5.4 Soil Conditions

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

Soil Type 1 is a slightly silty to silty and clayey sand (SM-SW, SM, SC). This material was encountered in the test borings and in nine of the test pits. The sand was encountered at depths ranging from the existing surface to 12 to 15 feet bgs and extended to the termination of the Test Boring Nos. 2, 3 and 5 (20 feet). These soils were encountered at loose to medium dense states and at dry to moist conditions. Samples tested had 7 to 34 percent of the soil sized particles passing the No. 200 Sieve. Atterberg Limits Testing resulted in the sand being non-plastic. FHA Swell Testing on a sample of the sand resulted in an expansion of 30 psf, indicating a low expansion potential.

Soil Type 2 is a sandy clay (CL). This material was encountered in Test Pit No. 1 and Test Boring No. 2. The clays were encountered at depths of the existing surface grade in the test pit and at 19 feet in the test boring and extended to depths up to 8 feet bgs to the termination of the test boring (20 feet). The clays were encountered at firm consistencies and moist conditions. The sample tested had 75 percent of the soil sized particles passing the No. 200 sieve. Atterberg Limits Testing resulted in a liquid limit of 30 and a plastic index of 10.

Soil Type 3 is a silty to clayey sandstone and very clayey sandstone (SM, SC, SC-SM, CL-SC). This material was encountered Test Boring No. 4 and in Test Pit Nos. 2, 3, 6, 7 and 8. The

sandstone was encountered at depths ranging from 3 to 16 feet bgs and extended to the termination of the boring and pits (7 to 20 feet). The sandstone was encountered at very dense states and moist conditions. Samples tested had 14 to 54 percent of the soil sized particles passing the No. 200 sieve. Atterberg Limits Testing resulted in liquid limits of 21 to 31 and plastic indexes of 7 to 14. FHA Swell Testing resulted in an expansion pressure of 350 psf, indicating a low expansion potential. Highly expansive clayey sandstone and claystone are commonly interbedded in the sandstone in the area.

Soil Type 4 is a sandy claystone (CL). This material was encountered Test Boring No. 1 at 12 feet bgs and extended to the termination of the boring (20 feet). The claystone was encountered at hard consistencies and moist conditions. Samples tested had 73 percent of the soil sized particles passing the No. 200 sieve. Swell/Consolidation Testing resulted in a volume change of 2.5 percent, indicating a moderate to high expansion potential.

The Test Boring Logs 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 encountered in Test Boring No. 3 at 16.5 feet. Groundwater was not encountered in the remaining test borings which were drilled to 20 feet. Areas of seasonal and potentially seasonal shallow groundwater have been mapped in low-lying areas and in 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 Geology/Engineering Geology Map (Figure 6). 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 man-made fill deposits associated with erosion berms on-site.

Mitigation: The small erosion berms can easily be removed or penetrated by foundations. Should any uncontrolled fill be encountered beneath foundations, removal and recompaction at 95% of its maximum Modified Proctor Dry Density, ASTM D-1557 will be required.

Loose or Collapsible Soils

Loose soils were encountered in one of the test borings. Any loose or collapsible soils encountered beneath foundations or floor slabs will require mitigation.

Mitigation: Any loose or collapsible soils encountered beneath foundations or floor slabs should be overexcavated 2 to 3 feet, moisture-conditioned and recompacted. The soils should be recompacted to 95 percent of the soils maximum Modified Proctor Dry Density ASTM D-1557 at ± 2 percent of optimum moisture content. The reconditioned soils on this site should be observed and tested to verify adequate compaction. Areas requiring recompaction should be determined during the excavation observation.

Expansive Soils

Expansive soils were encountered in the test borings drilled and test pits excavated on–site. Expansive claystone is commonly encountered within the Dawson Formation. These occurrences are typically sporadic; therefore, none have been indicated on the maps. These expansive soils, if encountered beneath foundations, can cause differential movement in the structure foundation. These occurrences should be identified and mitigated 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. Another alternative in areas of highly expansive soils is the use of drilled pier foundation systems. Typical minimum pier depths are on the order of 25 feet or more and require penetration into the bedrock material a minimum of 4 to 6 feet, depending upon building loads. 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.

Slope Stability and Landslide Hazard

The majority of the slopes in the building areas on site are gently to moderately sloping and do not exhibit any past or potential unstable slopes or landslides. However, the steeply sloping areas along the drainage in the central portion of the site have been identified as potentially unstable slopes. Additionally, areas of downslope creep have been mapped on the site. These areas are identified on the Geology/Engineering Geology Map, Figure 6. The recommendations for these areas are as follows:

- *Potentially Unstable Slope Area*

  The area identified with this hazard is located along a portion of a minor drainage where cut banks have created potentially unstable slopes. Considerable care must be exercised in these areas not to create a condition which would tend to activate instability.

  Mitigation: Building should be avoided in these areas. The lots most significantly affected by potentially unstable slopes are Lots 55 and 56. The structures on these lots should be set back a minimum of 30 feet from the crest of these slopes. It appears there is sufficient room on the lots to avoid this hazard. Proper control of drainage at both the surface above the slope and the subsurface is extremely important. Areas of ponded water at the surface should be avoided. Utility trenches, basement excavations and other subsurface features should not be permitted to become water traps which may promote saturation of the subsurface materials. Drainage should not be permitted over the potentially unstable slope but directed

in a non-erosive manner away from the slope. Irrigation above these slopes should be kept to a minimum to prevent saturation of the subsurface soils. The use of xeriscape landscaping utilizing native plantings is recommended to reduce the need for irrigation.

- *Downslope Creep Area*

The areas identified with this hazard includes some of the steeper slopes on site, particularly in the northwest portion of the site. In these areas, we would anticipate lateral and vertical movement of the near surface soils in the downslope direction. These areas are acceptable as building sites with the following constraints on construction.

Mitigation: Building is possible in these areas if the following engineering and construction mitigation steps are taken: This type of movement will increase lateral pressures against foundation walls on the uphill side of structures. The design of foundations in these areas should account for this additional pressure. Additionally, the foundation should be designed to withstand pressures where steeper areas slope away from the foundation. Tie beams and buttresses are recommended to stiffen the foundation system.

Floodplain and Drainage Areas

Portions of the site associated with the West Kiowa Creek drainage are mapped within a floodplain zone according to the FEMA Map No. 08041CO350F, dated March 17, 1997 (Figure 7, Reference 6). Water was observed flowing in West Kiowa Creek. The floodplain areas have been designated as open space and/or can be avoided by construction. Additionally, areas of seasonal and potentially seasonal shallow groundwater were observed across the site. In these areas, we would anticipate the potential for periodically high subsurface moisture conditions and frost heave potential. These areas lie within low-lying areas along the drainage in the southeastern portion of the site and in the low-lying areas and minor drainages across the site. Water was not observed in any of the minor drainages at the time of our site investigation. These areas can likely be avoided or properly mitigated by development. The floodplain should be avoided by construction unless site-specific floodplain determination and drainage studies are performed. The potential exists for high groundwater levels during high moisture periods and should structures encroach on these areas the following precautions should be followed.

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 8. Some of the minor drainage swales can be avoided or regraded. The main drainage that bisects the site is designated as open space and will be avoided. Any grading in these areas should be done to direct surface flow around construction to avoid areas of ponded water. Finished floors must be located at least one foot above floodplain levels. Specific drainage studies and exact floodplain locations are beyond the scope of this report.

6.1 Relevance of Geologic Conditions to Land Use Planning

We understand that the development will be rural residential lots and a commercial lot. 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 avoided or properly mitigated during construction on each lot. Other hazards on site may be satisfactorily mitigated through proper engineering design and construction practices or avoidance.

The upper materials are typically at medium dense to dense states. Areas of loose soils were encountered that may require recompaction. The medium dense to dense 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 beneath foundations or slabs, will require removal of the upper 2 to 3 feet of material and recompaction. Expansive soils, although sporadic, were encountered. Expansive clayey sandstone and claystone are common in the Dawson Formation, and may require mitigation. Foundations anticipated for the site are standard spread footings possibly in conjunction with overexcavation in areas of expansive soils or loose soils. Areas of artificial fill, if encountered beneath foundations will require penetration or recompaction. Areas containing arkosic sandstone will have high allowable bearing conditions. Expansive layers may also be encountered in the soil and bedrock on this site. Expansive soils, if encountered, will require special foundation design and/or overexcavation. These soils will not prohibit development.

A potentially unstable slope exists along portions of the site where the drainages have eroded cut banks. A 30-foot building setback is recommended from the crest of the potentially unstable slope. Septic fields should not be located within the building setback as well. The slopes primarily affect Lots 55 and 56. It appears there is sufficient room on the lots to avoid the potentially unstable slopes. Additionally, minor areas of downslope creep have been mapped on the site. Many of these areas can be avoided by construction, however, Lot 45 may be affected. These areas are acceptable as building sites with mitigation for the sloping conditions taken into consideration. Additional reinforcement may be necessary in the foundation to account for additional pressures due to sloping conditions. Tie-beams and/or buttresses may be necessary, depending on site conditions and grading plans.

Areas of seasonal shallow groundwater and potentially seasonal shallow groundwater were encountered on site. Additionally, portions of the site have been mapped in a floodplain zone associated with West Kiowa Creek. The floodplain area is in the designated open space area and can be avoided by development. Water was observed in the West Kiowa Creek floodplain, however, water was not observed in the minor drainages on-site during our site investigation. Due to the size of the lots and the proposed development, the majority of these areas can be avoided by construction on the lots. The lot boundaries in the area of Lots 15 and 135 may require adjustments to accommodate the minor drainage that bisects the lots. Regrading can also mitigate some minor drainages on some of the lots. Structures should not block drainages. Any site grading should be done in such a manner as to not create areas of ponded water around structures or septic fields. Finished floor levels must be a minimum of one foot above the floodplain level. Septic fields should not be located in drainage areas due to the potential for periodic high groundwater conditions. Specific floodplain locations and drainage studies are beyond the scope of this report.

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 ON-SITE WASTEWATER TREATMENT

The site was evaluated for individual and commercial on-site wastewater treatment systems in accordance with El Paso Land Development Code. Ten (10) tactile test pits were performed on the property. The test pits were located in potential locations of future systems. The approximate locations of the percolation tests are indicated on Figure 3, on the Geology/Engineering Geology Map, Figure 6, and on the Septic Suitability Map, Figure 9. A table showing the results of the Tactile Test Pits is presented in Table 2. Test Pit Logs are included in Appendix B.

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3) has been mapped with ten soil descriptions. The Soil Survey Map (Reference 2) is presented in Figure 4, and the Soil Survey Descriptions are presented in Appendix D. The soils are described as having slow to rapid percolation rates. The majority of the soils have been described with moderate permeabilities.

Soils encountered in the tactile test pits consisted of loamy sand, sandy clay loam and sandy clay. Bedrock was not encountered in the test pits which were excavated to 7 to 8 feet. The limiting layers encountered in the test pits are the sandy loam (Soil Type 2), and sandy clay (Soil Type 4A) which corresponds to LTAR values of 0.80 to 0.15 gallons per day per square foot. The conditions encountered in the Test Pit Nos. 1 through 4 and 6 through 8 will require a designed system. Additional investigation may identify areas where suitable for conventional systems could be used.

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 and State Guidelines and properly maintained. Based on the testing performed as part of this investigation designed systems will likely be required for the majority of the lots. A Septic Suitability Map is presented in Figure 9. Areas where OWTS sites are not recommended are indicated on Figure 9. Individual soil testing is required on the lots prior to construction. 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 drainages, floodplains or ponded areas and 25 feet from dry gulches.

8.0 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 7), the area is mapped with floodplain, valley fill and upland deposits. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties* distributed by the Colorado Geological Survey (Reference 8), areas of the site are mapped with upland and floodplain deposits: sand and probable aggregate resource (U3, U4 and F4). According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 9), the area of the site has been mapped as "Good" for industrial minerals. However, considering the 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 9), 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 the site (Reference 9).

The site has been mapped as "Fair" for oil and gas resources (Reference 9). 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.

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 and weathered bedrock materials 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 minor constraints on development and construction of the site. The majority of these conditions can be avoided by construction. Others 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 and septic systems 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 Proterra Properties, LLC 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 PROTERRA PROPERTIES
PROJECT McCUNE RANCH
JOB NO. 181459

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	2	2-3			12.1	NV	NP				SM	SAND, SILTY
1	3	10			6.5			<0.01			SM-SW	SAND, SLIGHTLY SILTY
1	5	5			17.3						SM	SAND, SILTY
1	TP-3	2-3			23.7						SM	SAND, SILTY
1	TP-4	5-6			15.3						SM	SAND, SILTY
1	TP-5	2-3			19.2						SM	SAND, SILTY
1	TP-7	2-3			33.5						SM	SAND, SILTY
1	TP-9	5-6			21.3				30		SM	SAND, SILTY
1	TP-10	2-3			32.0						SM	SAND, SILTY
2	TP-1	5-6			74.8	30	10				CL	CLAY, SANDY
3	TP-2	5-6			14.0	30	9				SM	SANDSTONE, SILTY
3	TP-8	5-6			21.1	33	14				SC	SANDSTONE, CLAYEY
3	TP-6	5-6			54.2				350		CL-SC	SANDSTONE, VERY CLAYEY
3	4	20			18.6	21	7	<0.01			SC-SM	SANDSTONE, SILTY, CLAYEY
4	1	15	13.4	120.4	73.2	35	13	<0.01		2.5	CL	CLAYSTONE, SANDY

Table 2: Summary Tactile Test Pit Results

Test Pit No.	USDA Soil Type	LTAR Value	Depth to Bedrock (ft.)	Depth to Seasonally Occurring Groundwater (ft.)
1	4A*	0.15*	N/A	N/A
2	3A*	0.30*	3*	N/A
3	3A*	0.30*	3*	N/A
4	4A*	0.15*	N/A	N/A
5	1	0.80	N/A	N/A
6	4A*	0.15*	3.5*	7'
7	4A*	0.15*	3.5*	7'
8	4A*	0.15*	3*	6'
9	3	0.35	N/A	N/A
10	3	0.35	N/A	N/A

*- Conditions that will require an engineered OWTS

FIGURES

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VICINITY MAP
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

DRAWN:	DATE:	CHECKED:	DATE:
LLL	9/21/18		

JOB NO.: 181459

FIG NO.: 1

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USGS MAP
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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LLL	9/21/18		

JOB NO.: 181459

FIG NO.: 2

LEGEND:

- TB- APPROXIMATE TEST BORING LOCATION AND NUMBER
- TP- APPROXIMATE TEST PIT LOCATION AND NUMBER
- P2 - APPROXIMATE TEST PIT LOCATION AND NUMBER

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SITE PLAN/TEST BORING LOCATION MAP
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17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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DATE	9/21/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	3

N

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SOIL SURVEY MAP
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FIG NO.: 4

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EASTONVILLE QUADRANGLE GEOLOGIC MAP
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EL PASO COUNTY, CO.
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FIG NO.: 5

LEGEND:

Qaf - Artificial Fill of Holocene Age:
artificial fill associated with erosion berms

Qal - Recent Alluvium of Holocene Age:
recent alluvium located in several of the minor drainages on-site

Qp - Piney Creek Alluvium Two of Early Holocene Age:
low stream terrace deposits above current stream channel

Qb - Broadway Alluvium of Late Pleistocene Age:
stream terrace deposited sands

Qlo - Louviers Alluvium of Late Middle Pleistocene Age:
stream terrace deposited sands

Qsw - Sheetwash of Holocene to Late Pleistocene Age:
silty to clayey sand sheetwash deposits

Qc/TKda - Colluvium of Quaternary Age overlying Dawson Formation of Tertiary to Cretaceous Age:
colluvium and residual soils overlying arkosic sandstone with interbedded fine-grained sandstone, siltstone and claystone

dsc - downslope creep area

fp - floodplain

pu - potentially unstable slope

psw - potentially seasonal shallow groundwater area

sw - seasonal shallow groundwater area

w - flowing water

⊕ - approximate test boring location

⊕ - approximate test pit location

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GEOLOGY/ENGINEERING GEOLOGY MAP
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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DATE	9/21/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	6

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
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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DATE	9/21/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	7

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:
	9/26/18	DS	

JOB NO.: 18159

FIG NO.: 8

LEGEND:

- AREAS THAT ARE NOT SUITABLE FOR ON-SITE WASTE WATER TREATMENT SYSTEMS

*- WATER WELLS MUST BE A MINIMUM OF 100 FT FROM OWTS ABSORPTION FIELDS

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SEPTIC SUITABILITY MAP
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EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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DATE	9/27/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	9

APPENDIX A: Site Photographs

1

Looking southwest from the northern portion of the site.

September 12, 2018

2

Looking south from the northern portion of the site.

September 12, 2018

Job No. 181459

3

Looking west from the northern portion of the site.

September 12, 2018

4

Looking east along drainage in the northern portion of the site.

September 12, 2018

Job No. 181459

5

Looking south from the western portion of the site.

September 12, 2018

6

Looking north along small drainage in the western portion of the site.

September 12, 2018

Job No. 181459

7

Looking northeast from the central portion of the site.

September 12, 2018

8

Looking east towards W. Kiowa Creek in the central portion of the site.

September 12, 2018

Job No. 181459

9

Looking north from the southwestern portion of the site.

September 12, 2018

10

Looking east from the southwestern portion of the site.

September 12, 2018

Job No. 181459

11

Looking west from the southeastern portion of the site.

September 12, 2018

12

Looking northwest from the southeast portion of the site.

September 12, 2018

Job No. 181459

13

Looking north along drainage in the northeastern portion of the site.

September 15, 2018

14

Looking south from the southeastern portion of the site.

September 15, 2018

Job No. 181459

APPENDIX B: Test Boring Logs and Test Pit Logs

TEST BORING NO 1
DATE DRILLED 9/18/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 9/19/18						
SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST			■	29	3.7	1
	5		■	17	4.7	1
SAND, CLAYEY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST	10		■	15	11.1	1
CLAYSTONE, SANDY, TAN, HARD, MOIST	15		■	50 / 11"	12.4	4
	20		■	50 / 7"	12.8	4

TEST BORING NO 2
DATE DRILLED 9/18/2018
CLIENT PROTERRA PROPERTIES
LOCATION McCUNE RANCH

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 17.5', 9/19/18						
SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, DRY TO MOIST			■	12	1.5	1
	5		■	16	2.4	1
	10		■	24	3.3	1
	15		■	25	3.1	1
CLAY, SANDY, BROWN, FIRM, MOIST	20		■	13	13.2	2

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TEST BORING LOG

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		h	9/28/18

JOB NO.: 181459
FIG NO.: B-1

TEST BORING NO 3
DATE DRILLED 9/18/2018
Job # 181459

REMARKS

WATER @ 16.5', 9/19/18

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY TO SLIGHTLY SILTY, FINE TO COARSE GRAINED, TAN, DENSE TO MEDIUM DENSE, DRY TO WET				
		■	35	1.7	1
5		■	16	3.0	1
10		■	28	3.9	1
15		■	24	3.6	1
20		■	17	10.7	1

TEST BORING NO 4
DATE DRILLED 9/18/2018
CLIENT PROTERRA PROPERTIES
LOCATION McCUNE RANCH

REMARKS

DRY TO 20', 9/19/18

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST				
		■	29	2.5	1
5		■	26	5.0	1
10		■	16	3.7	1
15		■	27	6.9	1
	SANDSTONE, SILTY, CLAYEY, FINE TO COARSE GRAINED, TAN, VERY DENSE, MOIST				
20		■	50 / 10"	6.2	3

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TEST BORING LOG

DRAWN:	DATE:	CHECKED: L	DATE: 9/28/18

JOB NO.: 181459
FIG NO.: B-2

TEST BORING NO 5
DATE DRILLED 9/18/2018
Job # 181459

REMARKS

DRY TO 20', 9/19/18

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			5	3.8	1
5			5	6.0	1
10			14	6.2	1
15			10	8.1	1
20			27	7.8	1

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

TEST BORING NO.
DATE DRILLED
CLIENT PROTERRA PROPERTIES
LOCATION McCUNE RANCH

REMARKS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5					
10					
15					
20					

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TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459
FIG NO.: 6-3

TEST PIT NO. 1
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown						
sandy clay loam, light brown	1–5			bl	m	3
sandy clay, light brown	5–8			gr	w	4A

TEST PIT NO. 2
DATE EXCAVATED 9/12/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown						
sandy loam, fine to coarse light brown	1–3			gr	m	2
weathered to formational silty sandstone	3–7			ma		3A

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	9/21/18

JOB NO.: 181459
FIG NO.: B-4

TEST PIT NO. 3
DATE EXCAVATED 9/12/2018
Job # 181459

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

TEST PIT NO. 4
DATE EXCAVATED 9/12/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
sandy loam fine to coarse grained, tan	2			gr	m	2
	3					
sand, fine to coarse grained, tan	4			sg		1
	5					
	6					
	7					
sandy clay, tan to gray	8			ma		4A
*signs of seasonally occuring groundwater at 7'	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	9/21/18

JOB NO. 181459
FIG NO. B-5

TEST PIT NO. 5
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
loamy sand, fine to coarse grained, tan	2			sg		1
	3					
sand, fine to coarse grained, tan	4			sg		1
	5					
	6					
	7					
	8					
	9					
	10					

TEST PIT NO. 6
DATE EXCAVATED 9/12/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown	1					
sandy clay loam, tan	2					3
	3					
weathered to formational clayey sandstone, tan to gray	4					4A
*signs of seasonally occurring groundwater at 7'	5					
	6					
	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	9/21/18

JOB NO.: 181459
FIG NO.: B-6

TEST PIT NO. 7
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
sandy loam, fine to coarse grained, tan	2			gr	w	2A
	3					
weathered to formational silty sandstone, tan	4			ma		3A
	5					
foramtional clayey sandstone, fine to coarse grained, gray	6			ma		4A
*signs of seasonally occurring groundwater at 6'	7					
	8					
	9					
	10					

TEST PIT NO. 8
DATE EXCAVATED 9/15/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown	1					
gravelly sandy clay loam, tan	2			gr	w	3A
	3					
weathered to formational clayey sandstone, fine to coarse grained, tan to gray	4			ma		4A
	5					
*signs of seasonally occurring groundwater at 6'	6					
	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: LCL	DATE: 9/21/18

JOB NO.: 181459
FIG NO.: B-7

TEST PIT NO. 9
DATE EXCAVATED 9/15/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown						
sandy clay loam, tan	1–4			gr	m	3
sandy loam, fine to medium grained, tan	5–8			gr	w	2A

TEST PIT NO. 10
DATE EXCAVATED 9/15/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown						
sandy clay loam, tan	1–4			gr	m	3
sandy loam, fine to medium grained, tan	5–8			gr	w	2A

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

<u>Soil Structure Grade</u>
weak - w
moderate - m
strong - s
loose - l

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TEST PIT LOG

DRAWN	DATE	CHECKED	DATE
		LLL	9/21/18

JOB NO. 181459
FIG NO. B-8

APPENDIX C: Laboratory Test Results

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	2	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.3%
20	77.4%
40	49.0%
100	20.0%
200	12.1%

Atterberg Limits	
Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

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	9/27/18

JOB NO.: 181459

FIG NO.: C-1

UNIFIED CLASSIFICATION	SM-SW	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	3	JOB NO.	181459
DEPTH (FT)	10	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	89.3%
10	61.3%
20	41.2%
40	27.9%
100	10.5%
200	6.5%

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	9/27/18

JOB NO.: 181459

FIG NO.: C-2

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	5	JOB NO.	181459
DEPTH (FT)	5	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	96.9%
20	72.1%
40	52.2%
100	27.4%
200	17.3%

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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LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-3

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-3	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.3%
10	63.9%
20	43.5%
40	35.2%
100	27.0%
200	23.7%

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	9/27/18

JOB NO.: 181459

FIG NO.: C-4

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-4	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.8%
10	86.7%
20	67.2%
40	47.4%
100	22.9%
200	15.3%

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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LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-5

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-5	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	90.8%
20	69.8%
40	52.5%
100	27.1%
200	19.2%

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	9/27/18

JOB NO.: 181459

FIG NO.: C-6

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-7	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.5%
10	98.3%
20	89.5%
40	75.8%
100	46.1%
200	33.5%

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: LLL	DATE: 9/27/18

JOB NO.: 181459

FIG NO.: L-7

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-9	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.2%
20	91.2%
40	70.6%
100	32.9%
200	21.3%

Atterberg Limits	
Plastic Limit	
Liquid Limit	
Plastic Index	
Swell	
Moisture at start	12.7%
Moisture at finish	22.9%
Moisture increase	10.1%
Initial dry density (pcf)	98
Swell (psf)	30

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LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-8

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-10	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.4%
20	88.9%
40	70.0%
100	42.6%
200	32.0%

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	9/27/18

JOB NO.: 181459

FIG NO.: C-9

UNIFIED CLASSIFICATION	CL	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	2	PROJECT	McCUNE RANCH
TEST BORING #	TP-1	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.8%
20	98.4%
40	95.4%
100	86.5%
200	74.8%

Atterberg Limits	
Plastic Limit	20
Liquid Limit	30
Plastic Index	10

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: LLL	DATE: 9/27/18

JOB NO.: 181459

FIG NO.: C-10

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	TP-2	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.2%
4	93.4%
10	61.2%
20	35.3%
40	24.0%
100	15.6%
200	14.0%

Atterberg Limits	
Plastic Limit	21
Liquid Limit	30
Plastic Index	9

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	9/27/18

JOB NO.: 181459

FIG NO.: C-11

UNIFIED CLASSIFICATION	SC	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	TP-8	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.2%
10	74.0%
20	50.4%
40	37.7%
100	25.8%
200	21.1%

Atterberg Limits	
Plastic Limit	19
Liquid Limit	33
Plastic Index	14

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	9/27/18

JOB NO.: 181459

FIG NO.: C-12

UNIFIED CLASSIFICATION	CL-SC	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	TP-6	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.5%
20	95.4%
40	86.1%
100	67.1%
200	54.2%

Atterberg Limits	
Plastic Limit	
Liquid Limit	
Plastic Index	
Swell	
Moisture at start	8.4%
Moisture at finish	20.4%
Moisture increase	12.0%
Initial dry density (pcf)	101
Swell (psf)	350

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LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-13

UNIFIED CLASSIFICATION	SC-SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	4	JOB NO.	181459
DEPTH (FT)	20	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.1%
10	75.3%
20	56.1%
40	44.6%
100	26.0%
200	18.6%

Atterberg Limits	
Plastic Limit	14
Liquid Limit	21
Plastic Index	7

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	9/27/18

JOB NO.: 181459

FIG NO.: C-14

UNIFIED CLASSIFICATION	CL	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	4	PROJECT	McCUNE RANCH
TEST BORING #	1	JOB NO.	181459
DEPTH (FT)	15	TEST BY	BL

U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	97.7%
20	92.3%
40	88.0%
100	79.8%
200	73.2%

Atterberg Limits	
Plastic Limit	22
Liquid Limit	35
Plastic Index	13

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	9/27/18

JOB NO.: 181459

FIG NO.: C-15

CONSOLIDATION TEST RESULTS

TEST BORING #	1	DEPTH(ft)	15
DESCRIPTION	CL	SOIL TYPE	4
NATURAL UNIT DRY WEIGHT (PCF)			120
NATURAL MOISTURE CONTENT			13.4%
SWELL/CONSOLIDATION (%)			2.5%

JOB NO. 181459
CLIENT PROTERRA PROPERTIES
PROJECT McCUNE RANCH

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

SWELL CONSOLIDATION
TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459
FIG NO.: C-16

CLIENT	PROTERRA PROPERTIES	JOB NO.	181459
PROJECT	McCUNE RANCH	DATE	9/24/2018
LOCATION	McCUNE RANCH	TEST BY	BL

BORING NUMBER	DEPTH, (ft)	SOIL TYPE NUMBER	UNIFIED CLASSIFICATION	WATER SOLUBLE SULFATE, (wt%)
TB-1	15	4	CL	<0.01
TB-3	10	1	SM-SW	<0.01
TB-4	20	3	SC-SM	<0.01

QC BLANK PASS

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

LABORATORY TEST
SULFATE RESULTS

DRAWN:	DATE:	CHECKED:	DATE: 9/28/18

JOB NO.: 181459

FIG NO.: C-17

APPENDIX D: Soil Survey Descriptions

El Paso County Area, Colorado

1—Alamosa loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3670
Elevation: 7,200 to 7,700 feet
Farmland classification: Prime farmland if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

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

Description of Alamosa

Setting

Landform: Flood plains, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 6 inches: loam
Bt - 6 to 14 inches: clay loam
Btk - 14 to 33 inches: clay loam
Cg1 - 33 to 53 inches: sandy clay loam
Cg2 - 53 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Very slightly saline to strongly saline (2.0 to 16.0 mmhos/cm)
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: Mountain Meadow (R048AY241CO)
Hydric soil rating: Yes

Minor Components

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 15, Oct 10, 2017

El Paso County Area, Colorado

15—Brussett loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 367k
Elevation: 7,200 to 7,500 feet
Frost-free period: 115 to 125 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

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

Description of Brussett

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits

Typical profile

A - 0 to 8 inches: loam
BA - 8 to 12 inches: loam
Bt - 12 to 26 inches: clay loam
Bk - 26 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 5 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): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

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 15, Oct 10, 2017

El Paso County Area, Colorado

21—Cruckton sandy loam, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 367s
Elevation: 7,200 to 7,600 feet
Mean annual precipitation: 16 to 18 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 110 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Cruckton

Setting

Landform: Flats, hills
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose

Typical profile

A - 0 to 11 inches: sandy loam
Bt - 11 to 28 inches: sandy loam
C - 28 to 60 inches: loamy coarse sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 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 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Minor Components

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 15, Oct 10, 2017

El Paso County Area, Colorado

25—Elbeth sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 367x
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Elbeth

Setting

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

Typical profile

A - 0 to 3 inches: sandy loam
E - 3 to 23 inches: loamy sand
Bt - 23 to 68 inches: sandy clay loam
C - 68 to 74 inches: sandy clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 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

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

26—Elbeth sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 367y
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Elbeth

Setting

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

Typical profile

A - 0 to 3 inches: sandy loam
E - 3 to 23 inches: loamy sand
Bt - 23 to 68 inches: sandy clay loam
C - 68 to 74 inches: sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 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 15, Oct 10, 2017

El Paso County Area, Colorado

36—Holderness loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 3689
Elevation: 7,200 to 7,400 feet
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Holderness

Setting

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

Typical profile

A - 0 to 9 inches: loam
Bt - 9 to 43 inches: clay loam
C - 43 to 60 inches: gravelly sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

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 15, Oct 10, 2017

El Paso County Area, Colorado

67—Peyton sandy loam, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369d
Elevation: 6,800 to 7,600 feet
Mean annual air temperature: 43 to 45 degrees F
Frost-free period: 115 to 125 days
Farmland classification: Not prime farmland

Map Unit Composition

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

Description of Peyton

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 and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 12 inches: sandy loam
Bt - 12 to 25 inches: sandy clay loam
BC - 25 to 35 inches: sandy loam
C - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
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 15, Oct 10, 2017

El Paso County Area, Colorado

68—Peyton-Pring complex, 3 to 8 percent slopes

Map Unit Setting

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

Map Unit Composition

Peyton and similar soils: 40 percent
Pring and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peyton

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 and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 12 inches: sandy loam
Bt - 12 to 25 inches: sandy clay loam
BC - 25 to 35 inches: sandy loam
C - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 3 to 5 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): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

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

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 15, Oct 10, 2017

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

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 15, Oct 10, 2017

El Paso County Area, Colorado

92—Tomah-Crowfoot loamy sands, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 36b9
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Tomah and similar soils: 50 percent
Crowfoot and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomah

Setting

Landform: Alluvial fans, hills
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose and/or residuum weathered from arkose

Typical profile

A - 0 to 10 inches: loamy sand
E - 10 to 22 inches: coarse sand
C - 48 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Description of Crowfoot

Setting

Landform: Alluvial fans, hills

Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 12 inches: loamy sand
E - 12 to 23 inches: sand
Bt - 23 to 36 inches: sandy clay loam
C - 36 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 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 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
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 15, Oct 10, 2017

Appendix F

JDS-HYDRO CONSULTANTS, INC.
545 EAST PIKES PEAK AVENUE, SUITE 300
COLORADO SPRINGS, COLORADO 80903
(719) 227-0072

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

PT McCUNE, LLC

WINSOME SUBDIVISION

EXISTING WELL LOCATIONS

REVISIONS:

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

Project No.: 255.02
Date: 12/05/18
Design: DES
Drawn: GUS
Check: DES

SHEET OF

2018/12/06 9:51 AM By: GUS J:\JDS-Hydro\Project Files\255 ProTerra Properties\255.02 McCune Ranch Water And Wastewater Report\Drawings\Working\25502_Adjacent_Properties.dwg

Your search returned no results. Please try searching again.

Parcel 1
Owner: Daniel Grothe
Schedule No.: 4100000431

Parcel 2
Owner: David King
Schedule No.: 4100000432

Parcel 3
Owner: Matt Gowler
Schedule No.: 5100000494

Parcel 4
Owner: McCune Ranch, LLC
Schedule No. : 5100000493

Disclaimer

We have made a good-faith effort to provide you with the most recent and most accurate information available. However, if you need to use this information in any legal or official venue, you will need to obtain official copies from the Assessor's Office. Do be aware that this data is subject to change on a daily basis. If you believe that any of this information is incorrect, please call us at (719) 520-6600.

LAND SURVEY PLAT

PART OF SECTIONS 18 & 19, T. 11 S, R. 64 W, 6TH P.M. & PART OF SECTIONS 13 & 24, T. 11 S, R. 65 W, 6TH P.M. & COUNTY OF EL PASO, STATE OF COLORADO

LEGEND

- PARCEL BOUNDARY
- SECTION LINE
- RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER LINE
- SET 5/8"x18"REBAR W/ PLASTIC CAP LS# 30127
- FOUND PIN W/ CAP LS# ILLEGIBLE
- SET 3/4"x30"REBAR W/ 2-1/2" ALUM CAP LS# 30127
- FOUND ALUMINUM MONUMENT AT SECTION CORNER (OR AS NOTED)

DISCLAIMER: PLEASE NOTE THAT SURVEYING IS AN INEXACT SCIENCE AND IS SUBJECT TO A CERTAIN DEGREE OF INACCURACY AND OPINION.

BASIS OF BEARINGS:

CONSIDERING THE WEST LINE OF THE NW1/4 OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST TO HAVE AN ASSUMED BEARING OF S00°31'12"W AND MONUMENTED AS SHOWN HEREON.

"NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon."

PROPERTY DESCRIPTION

PARCEL 1:
A PARCEL OF PROPERTY LOCATED IN THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 11 SOUTH, RANGE 64 WEST AND THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 18 AND CONSIDERING THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 18 TO BEAR N00°00'21"E WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE N00°00'21"E ALONG SAID WEST LINE, A DISTANCE OF 110.00 FEET TO THE POINT OF BEGINNING; THENCE S89°15'16"E, A DISTANCE OF 1153.66 FEET TO A POINT ON THE EAST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE N00°34'33"E ALONG SAID EAST LINE, A DISTANCE OF 1213.80 FEET TO THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE N89°18'27"W ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18 A DISTANCE OF1165.73 FEET TO THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE S89°20'25"W ALONG THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 271.27 FEET; THENCE S00°34'43"W, A DISTANCE OF 1206.07 FEET; THENCE S89°15'17"E, A DISTANCE OF 283.33 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18 AND THE POINT OF BEGINNING, SAID PARCEL CONTAINING 40.00 ACRES MORE OR LESS, COUNTY OF EL PASO, STATE OF COLORADO.

TOGETHER WITH A 30.00 FOOT WIDE ACCESS EASEMENT (RECORDED BY SEPARATE DOCUMENT)

PARCEL 2:
A PARCEL OF PROPERTY LOCATED IN THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 11 SOUTH, RANGE 64 WEST AND IN THE WEST HALF OF THE WEST HALF OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH PM, COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SECTION 19 AND CONSIDERING THE WEST LINE OF SAID SECTION 19 TO BEAR S00°31'12"W WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE S00°31'12"W ALONG SAID WEST LINE, A DISTANCE OF 1402.00 FEET; THENCE S89°15'18"E, A DISTANCE OF 1158.32 FEET TO A POINT ON THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19; THENCE N00°17'06"E ALONG SAID EAST LINE, A DISTANCE OF 1402.20 FEET TO THE NORTHEAST CORNER OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19; THENCE N00°34'33"E ALONG THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 18, A DISTANCE OF 109.82 FEET; THENCE N89°15'16"W, A DISTANCE OF 1153.66 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE S00°00'21"W ALONG SAID WEST LINE, A DISTANCE OF 110.00 FEET TO THE NORTHWEST QUARTER OF SAID SECTION 19 AND THE POINT OF BEGINNING,
SAID PARCEL CONTAINING 40.10 ACRES MORE OR LESS,
COUNTY OF EL PASO, STATE OF COLORADO.

TOGETHER WITH AND SUBJECT TO A 30.00 FOOT WIDE ACCESS EASEMENT (RECORDED BY SEPARATE DOCUMENT)

PARCEL 3:
A PARCEL OF PROPERTY LOCATED IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 11 SOUTH, RANGE 65 WEST AND THE NORTHEAST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 24 AND CONSIDERING THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 24 TO BEAR S00°31'12"W WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE S00°31'12"W ALONG SAID EAST LINE, A DISTANCE OF 1402.00 FEET; THENCE N89°15'17"W, A DISTANCE OF 769.17 FEET; THENCE N00°34'43"E, A DISTANCE OF 2706.21 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89°20'25"E ALONG SAID NORTH LINE, A DISTANCE OF 483.41 FEET; THENCE S00°34'43"W, A DISTANCE OF 1206.07 FEET; THENCE S89°15'17"E, A DISTANCE OF 283.33 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE S00°00'21"W ALONG SAID EAST LINE, A DISTANCE OF 110.00 FEET TO THE NORTHEAST CORNER OF SAID SECTION 24 AND THE POINT OF BEGINNING, SAID PARCEL CONTAINING 40.00 ACRES MORE OR LESS, COUNTY OF EL PASO, STATE OF COLORADO.

TOGETHER WITH A 30.00 FOOT WIDE ACCESS EASEMENT (RECORDED BY SEPARATE DOCUMENT)

PARCEL 4:
A PARCEL OF PROPERTY LOCATED IN SECTIONS 13 & 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AND IN THE WEST HALF OF THE WEST HALF OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 18 AND CONSIDERING THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 18 TO BEAR N89°14'45"W WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE N89°14'45"W ALONG SAID SOUTH LINE, A DISTANCE OF 1287.55 FEET TO THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 19; THENCE S00°17'06"W ALONG THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19, A DISTANCE OF 1402.20 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID EAST LINE S00°17'06"W, A DISTANCE OF 3828.66 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF COUNTY ROAD 50; THENCE ALONG SAID SOUTH RIGHT OF WAY LINE S89°55'06"W, A DISTANCE OF 1174.64 FEET TO A POINT ON THE EAST LINE OF SAID SECTION 24; THENCE CONTINUING ALONG SAID NORTH RIGHT OF WAY LINE S89°3015"W, A DISTANCE OF 5238.49 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE N00°14'17"E ALONG SAID WEST LINE, A DISTANCE OF 2596.92 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 24; THENCE N00°14'25"E ALONG THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2636.99 FEET TO THE NORTHWEST CORNER OF SAID SECTION 24; THENCE N89°21'38"E ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2633.02 FEET TO THE SOUTH QUARTER CORNER OF SAID SECTION 13; THENCE N00°10'29"E, A DISTANCE OF 1321.95 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89°20'26"E ALONG THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 1873.37 FEET; THENCE S00°34'43"W, A DISTANCE OF 2706.21 FEET; THENCE S89°15'17"E, A DISTANCE OF 769.17 FEET TO A POINT ON THE WEST LINE OF SAID SECTION 19; THENCE S89°15'18"E, A DISTANCE OF 1158.32 FEET TO THE POINT OF BEGINNING, SAID PARCEL CONTAINING 766.66 ACRES MORE OR LESS, COUNTY OF EL PASO, STATE OF COLORADO.

CERTIFICATE OF SURVEY:

This is to certify to McCune Ranch LLC that on October 20, 2017 a survey was made under my direct supervision, of the hereon described property situated in El Paso County, Colorado. The survey was made on the ground using the normal standard of care of Professional Land Surveyors practicing in El Paso County, Colorado, and that this plat accurately represents said survey. The location and dimensions of all easements and rights of way in evidence or known to me and encroachments by or on the premises are accurately shown. This survey does not constitute a title search by High Prairie Survey Co., Inc. of the property shown and described hereon to determine:

1. Ownership of the tract of land.
2. Compatibility of this description with those of adjacent tracts of land.
3. Rights of way, easements and encumbrances of record affecting this tract of land. This survey was performed without the benefit of a title insurance commitment or a title insurance policy. A title insurance commitment or a title insurance policy may disclose facts not reflected on this survey. Corner monuments were set, or found and accepted as indicated hereon.

COLORADO LICENSED KEITH WESTFALL 30127 PLS LAND SURVEYOR

Keith Westfall, Colorado PLS #30127
For and on behalf of
High Prairie Survey Co.

CERTIFICATE OF DEPOSIT:

Deposited this _____ day of _____, 20_____, in the County Surveyor's land survey plats/right-of-way surveys at reception number _____, in the office of the El Paso County Clerk and Recorder.

Signed _____

REFERENCE DWG:	DATE:	REVISIONS:

High Prairie Survey Co.
LAND SURVEYING CONSTRUCTION STAKING
OIL AND GAS SURVEYING
303-621-8672 FAX 303-621-7749
P.O. BOX 384
KIOWA, COLORADO 80117

SCALE	DATE	DRAWN BY
1"=500'	03/22/2018	D. COTTER

TITLE
LAND SURVEY PLAT
PART OF SEC.S 18 & 19, T11S, R64W, 6TH P.M.
PART OF SEC.S 13 & 24, T11S, R65W, 6TH P.M.
EL PASO COUNTY, STATE OF COLORADO

CLIENT
McCUNE RANCH LLC

SHEET 1 OF 1

JOB NUMBER
17239-LSP

Appendix G

WATER QUALITY RESULTS - SUMMARY TABLE

NATIONAL PRIMARY DRINKING WATER REGULATIONS

CONTAMINANT	MCL or TT	GOWLER WELL	Above / Below
Acrylamide	TT		Not Tested
Alachlor	0.002	BDL	Below
Aldicarb		BDL	NA
Aldicarb sulfone		BDL	NA
Aldicarb sulfoxide		BDL	NA
Aldrin		BDL	NA
Alpha/photon emitters	15 pCi/L		Not Tested
Antimony	0.006	BDL	Below
Arsenic	0.01	BDL	Below
Asbestos (fibers >10 micrometers)	7 million fibers per Liter (MFL)		Not Tested
Atrazine	0.003	BDL	Below
Barium	2	0.122	Below
Benzene	0.005	BDL	Below
BenZo(a)pyrene (PAHs)	0.0002	BDL	Below
Beryllium	0.004	BDL	Below
Beta photon emitters	4 MILLIREMS PER YEAR		Not Tested
Bicarbonate		89.8 mg/L	NA
Bromate	0.01		Not Tested
Bromobenzene		BDL	NA
Bromochloromethane		BDL	NA
Bromodichloromethane		BDL	NA
Bromoform		BDL	NA
Butachlor		BDL	NA
n-Butylbenzene		BDL	NA
sec-Butylbenzene		BDL	NA
tert-Butylbenzene		BDL	NA
Cadmium	0.005	BDL	Below
Calcium		67.8 mg/L	NA
Carbaryl		BDL	NA
Carbofuran	0.04	BDL	Below
Carbonate		BDL	NA
Carbon tetrachloride	0.005	BDL	Below
Chloramines (as Cl_2)	MRDL=4.0		Not Tested
Chlordane	0.002	BDL	Below
Chlorine (as Cl_2)	MRDL=4.0		Not Tested
Chlorine dioxide (as $Cl0_2$)	MRDL=0.8		Not Tested
Chlorite	1.0		Not Tested
Chlorobenzene	0.1		Not Tested
Chlorodibromomethane		BDL	NA
Chloroethane		BDL	NA
Chloroform		BDL	NA
Chloromethane		BDL	NA
o-Chlorotoluene		BDL	NA
p-Chlorotoluene		BDL	NA
Chromium (total)	0.1	BDL	Below
Copper	1.3	0.0183	Below
Chryptosporidium	TT		Not Tested
Cyanide (Total)	0.02	BDL	Below
2,4-D	0.07	BDL	Below
Dalapon	0.2	BDL	Below
Dibromochloropropane	0.0002	BDL	Below
Dibromomethane		BDL	NA
Dicamba		BDL	NA
m-Dichlorobenzene		BDL	NA
o-Dichlorobenzene	0.6	BDL	Below
Para-Dichlorobenzene	0.075	BDL	Below
Dichlorodifluoromethane		BDL	NA
1,1-Dichloroethane		BDL	NA
1,2-Dichloroethane	0.005	BDL	Below
1,1-Dichloroethylene	0.007	BDL	Below
cis-1,2-Dichloroethylene	0.07	BDL	Below
trans-1,2, Dichloroethylene	0.1	BDL	Below
Dichloromethane	0.005	BDL	Below
1,2-Dichloropropane	0.005	BDL	Below
1,3-Dichloropropane		BDL	NA
1,1-Dichloropropene		BDL	NA
1,3-Dichloropropene		BDL	NA
Dieldrin		BDL	NA
Di(2-ethylhexyl) adipate	0.4	BDL	Below
Di(2-ethylhexyl) phthalate	0.006	BDL	Below
Dinoseb	0.007	BDL	Below
Dioxin (2,3,7,8-TCDD)	0.0000003		Not Tested
Diquat	0.02	BDL	Below
Endothall	0.1	BDL	Below
Endrin	0.002	BDL	Below
Epichlorohydrin	TT		Not Tested
Ethylbenzene	0.7	BDL	Below
Ethylene dibromide	0.00005	BDL	Below
Fecal coliform and E. coli	MCL		Not Tested
Fluoride	4.0	0.34	Below
Fluorotrichloromethane		BDL	NA
Giardia lamblia	TT		Not Tested
Glyphosate	0.7	BDL	Below
Gross Alpha (incl. Uranium)	15	3.6	Below
Gross Beta		8.3	NA
Haloacetic acids (HAA5)	0.06		Not Tested
Heptachlor	0.0004	BDL	Below
Heptachlor epoxide	0.0002	BDL	Below
Heterotrophic plate count (HPC)	TT		Not Tested
Hexachlorobenzene	0.001	BDL	Below
Hexachlorobutadiene		BDL	NA
Hecachlorocyclopentadiene	0.05	BDL	Below
3-Hydroxycarbofuran		BDL	NA
Isopropylbenzene		BDL	NA
p-Isopropyltoluene		BDL	NA
Lead	0.015	0.0005	Below
Langolier Index		-1.02	NA
Legionella	TT		Not Tested
Lindane	0.0002	BDL	Below
Mercury (inorganic)	0.002	BDL	Below
Methomyl		BDL	NA
Methoxychlor	0.04	BDL	Below
Metolachlor		BDL	NA
Metribuzin		BDL	NA
Monochlorobenzene	0.1	BDL	Below
Naphthalene		BDL	NA
Nickel		BDL	NA
Nitrate (measured as Nitrogen)	10	BDL	Below
Nitrite (measured as Nitrogen)	1.0	BDL	Below
Oxamyl (Vydate)	0.2	BDL	Below
Pentachlorophenol	0.001	BDL	Below
pH		7.15	NA
Phosphate (ortho)			NA
Picloram	0.5	BDL	Below
Polychlorinated biphenyls (PCBs)	0.0005	BDL	Below
Propachlor		BDL	NA
n-Propylbenzene		BDL	NA
Radium 226 Radium 228	5	8.3	Above
Radon		1650	NA
Selenium	0.05	BDL	Below
Simazine	0.004	BDL	Below
Sodium		9.4	NA
Styrene	0.1	BDL	Below
1,1,1,2 - Tetrachloroethane		BDL	NA
1,1,2,2-Tetrachloroethane		BDL	NA
Tetrachloroethylene	0.005	BDL	Below
Thallium	0.002	BDL	Below
Toluene	1.0	BDL	Below
Total Alkalinity		89.8 mg/L	NA
Total Coliforms	5.00%		Not Tested
Total Trihalomethanes (TTHMs)	0.08	BDL	Below
Toxaphene	0.003	BDL	Below
2,4,5-TP (Silvex)	0.05	BDL	Below
1,2,3-Trichlorobenzene		BDL	NA
1,2,4-Trichlorobenzene	0.07	BDL	Below
1,1,1-Trichloroethane	0.2	BDL	Below
1,1,2-Trichloroethane	0.005	BDL	Below
Trichloroethylene	0.005	BDL	Below
1,2,4-Trimethylbenzene		BDL	NA
Turbidity	TT		Not Tested
Uranium	0.03	0.0002	Below
Vinyl chloride	0.002	BDL	Below
Viruses (enteric)	TT		Not Tested
Xylenes (total)	10	BDL	Below

SECONDARY DRINKING WATER STANDARDS

CONTAMINANT	SMCL	GOWLER WELL	Above / Below
Aluminum	0.2		Not Tested
Chloride	250		Not Tested
Color	15		Not Tested
Copper	1.3	0.0183	Below
Corrosivity	Non-corrosive		Not Tested
Hydroxide	0.1	BDL	Below
Fluoride	2.0		Not Tested
Foaming agents	0.5		Not Tested
Iron	0.3	BDL	Below
Manganese	0.05	0.1171	Above
Odor	3 TON		Not Tested
pH	6.5 - 8.5 units	7.15 units	Below
Silver	0.1		Not Tested
Sulfate	250		Not Tested
Temperature	N/A	11 °	Below
Total Dissolved Solids (TDS)	500	154	Below
Zinc	5		Not Tested

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

Lab Control ID: 19M01215
Received: Feb 08, 2019
Reported: Mar 05, 2019
Purchase Order No.
None Received

Customer ID: 20040H
Account ID: Z01034

Stuart Nielson
Colorado Analytical Laboratories, Inc.
PO Box 507
240 South Main Street
Brighton, CO 80601

ANALYTICAL REPORT

Report may only be copied in its entirety.
Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory

By:_____
Jessica Axen
Analytical Laboratories Director

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

Lab Control ID: 19M01215
Received: Feb 08, 2019
Reported: Mar 05, 2019
Purchase Order No.
None Received

Customer ID: 20040H
Account ID: Z01034

ANALYTICAL REPORT

Stuart Nielson
Colorado Analytical Laboratories, Inc.

Lab Sample ID	19M01215-001
Customer Sample ID	**190208005-01** - Gowler Well sampled on 02/07/19 @ 0946 by Stephanie Shwenke

Parameter	Units	Code	Result	Precision* +/-	Detection Limit	Method	Analysis Date / Time	Analyst
Gross Alpha	**pCi/L**	**T**	3.6	2.1	0.1	SM 7110 B	2/18/19 @ 0800	SS
Gross Beta	**pCi/L**	**T**	8.3	2.7	3.7	SM 7110 B	2/18/19 @ 0800	SS
Radium-226	**pCi/L**	**T**	2.2	0.7	0.1	SM 7500-Ra B	2/19/19 @ 0827	SA
Radium-228	**pCi/L**	**T**	6.1	1.0	0.2	EPA Ra-05	2/22/19 @ 0955	JR
Radon	**pCi/L**	**T**	1650	45	13.0	SM 7500-Rn B	2/8/19 @ 1527	SA

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

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

Codes: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Residual (AR) = As Received < = Less Than

Samples received with air bubbles. Radon results may be biased low.

Drinking Water Chain of Custody

19m01215

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	Company Name: Same As Report To	PWSID: JDS Hydro
Contact Name: Stuart Nielson	Contact Name: _____	System Name: Private Well
Address: 240 S. Main St.	Address:	System Address:
City: Brighton State: CO Zip: 80601	City: State: Zip:	City: State: Zip:
Phone: 303-659-2313 Fax: 303-659-2315	Phone: Fax:	County:
Email: stuartnielson@coloradolab.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208005

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
					PHASE I, II, V Drinking Water Analyses (check analysis)																					Subcontract Analyses				
02/07/19	0946	190208005-01 Gowler Well	6		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐
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Instructions: Send via Fed Ex SD to Hazen Research
Fedex - 4716 7432 4832
Bottles have 0942, 0946, and Radon 1011
2.8
Rec'd pres

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:
SAdams	2/8/19 1030		2-8-19 1457				

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

Bill To: Doug Schwenke
Company: JDS Hydro Consultants
545 E. Pikes Peak Ave
Suite 300

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	**89.8 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Calcium as CaCO3	**67.8 mg/L**	EPA 200.7	0.1	2/13/19	MBN
Carbonate	**< 0.1 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Hydroxide	**< 0.1 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Langelier Index	**-1.02 units**	SM 2330-B		2/13/19	SAN
pH	**7.15 units**	SM 4500-H-B	0.01	2/7/19	Sampler
Temperature	**11 °C**	SM 4500-H-B	1	2/7/19	Sampler
Total Alkalinity	**89.8 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Total Dissolved Solids	**154 mg/L**	SM 2540-C	5	2/13/19	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

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:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Drive Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0017 Fax: 719-471-3161	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number

Cooler well

ARF

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

Date	Time	Client Sample ID / EP Code	No. of	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
2/7/19	9:50	#11	1																		X									
2/7/19	10:11	#12	2																											
2/7/19	10:16	#13	3						X																				X	
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
2/7/19	[illegible]	#16	2								X																			
2/7/19	10:21	#17	1		X																									
		Trip blank																												
		Field blank																												

Subcontract Analyses

Page 2 of 3

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:00	[signature]	2/8/19 9.30				

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: Same	PWSID: Private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Dr. Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0012 Fax: 719-471-3401	Phone: Fax:	County: El Paso County
Email: dschwenke@jdshydro.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number Gowler Well

ARF

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

Date	Time	Client Sample ID / EP Code	No. o	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)	Cyanide	Subcontract Analyses: Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:42	#1	3																								X	X		
2/7/19	9:46	#2	1																							X				
2/7/19	9:54	#3	2							X																				
2/7/19	9:55	#4	1											X																
2/7/19	[illegible]	#5	1										X																	
2/7/19	10:02	#6	1					X																						
2/7/19	9:54	#7	1									X																		
2/7/19	9:44	#8	1																											
2/7/19	9:48	#9	1																						X					X
2/7/19	9:48	#10	1															X	X	X		X								

Page 3 of 3

Instructions: Field pH = 7.15 Field temp = 11.3°C

C/S Info:

Seals Present Yes ☒ No ☐ Headspace Yes ☐ No ☐

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:20am	[signature]	2/8/19 9:30				

Colorado Analytical
LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Dibromochloropropane	< 0.02 ug/L	EPA 504.1	0.02 ug/L	2/13/19	SPF	0.2
Ethylene dibromide	< 0.01 ug/L	EPA 504.1	0.01 ug/L	2/13/19	SPF	0.05
Aldrin	< 0.05 ug/L	EPA 505	0.05 ug/L	2/13/19	SPF	
Chlordane	< 0.2 ug/L	EPA 505	0.2 ug/L	2/13/19	SPF	2
Dieldrin	< 0.05 ug/L	EPA 505	0.05 ug/L	2/13/19	SPF	
Endrin	< 0.01 ug/L	EPA 505	0.01 ug/L	2/13/19	SPF	2
Heptachlor epoxide	< 0.02 ug/L	EPA 505	0.02 ug/L	2/13/19	SPF	0.2
Hexachlorobenzene	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	1
Hexachlorocyclopentadiene	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	50
Lindane	< 0.02 ug/L	EPA 505	0.02 ug/L	2/13/19	SPF	0.2
Methoxychlor	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	40
Polychlorinated biphenyl's	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	0.5
Toxaphene	< 1 ug/L	EPA 505	1 ug/L	2/13/19	SPF	3
2,4,5-TP	< 0.2 ug/L	EPA 515.4	0.2 ug/L	2/15/19	mbs	50
2,4,-D	< 0.1 ug/L	EPA 515.4	0.1 ug/L	2/15/19	mbs	70
Dalapon	< 1.0 ug/L	EPA 515.4	1.0 ug/L	2/15/19	mbs	200
Dicamba	< 0.5 ug/L	EPA 515.4	0.5 ug/L	2/15/19	mbs	
Dinoseb	< 0.2 ug/L	EPA 515.4	0.2 ug/L	2/15/19	mbs	7
Pentachlorophenol	< 0.04 ug/L	EPA 515.4	0.04 ug/L	2/15/19	mbs	1
Picloram	< 0.1 ug/L	EPA 515.4	0.1 ug/L	2/15/19	mbs	500

Abbreviations/ References:

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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: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Alachlor	**< 0.2 ug/L**	EPA 525.2	0.2 ug/L	2/14/19	LEH	2
Atrazine	**< 0.1 ug/L**	EPA 525.2	0.1 ug/L	2/14/19	LEH	3
Benzo(a)pyrene	**< 0.02 ug/L**	EPA 525.2	0.02 ug/L	2/14/19	LEH	0.2
Butachlor	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Di(2-ethylhexyl)adipate	**< 0.6 ug/L**	EPA 525.2	0.6 ug/L	2/14/19	LEH	400
Di(2-ethylhexyl)phthalate	**< 0.6 ug/L**	EPA 525.2	0.6 ug/L	2/14/19	LEH	6
Heptachlor	**< 0.04 ug/L**	EPA 525.2	0.04 ug/L	2/14/19	LEH	0.4
Metolachlor	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Metribuzin	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Propachlor	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Simazine	**< 0.07 ug/L**	EPA 525.2	0.07 ug/L	2/14/19	LEH	4
3-Hydroxycarbofuran	**< 0.5 ug/L**	EPA 531.1	0.5 ug/L	2/14/19	MBS	
Aldicarb	**< 0.6 ug/L**	EPA 531.1	0.6 ug/L	2/14/19	MBS	
Aldicarb sulfone	**< 1.0 ug/L**	EPA 531.1	1.0 ug/L	2/14/19	MBS	
Aldicarb sulfoxide	**< 0.7 ug/L**	EPA 531.1	0.7 ug/L	2/14/19	MBS	
Carbaryl	**< 0.5 ug/L**	EPA 531.1	0.5 ug/L	2/14/19	MBS	
Carbofuran	**< 0.9 ug/L**	EPA 531.1	0.9 ug/L	2/14/19	MBS	40
Methomyl	**< 0.5 ug/L**	EPA 531.1	0.5 ug/L	2/14/19	MBS	
Oxamyl	**< 1.0 ug/L**	EPA 531.1	1.0 ug/L	2/14/19	MBS	200
Glyphosate	**< 6.0 ug/L**	EPA 547	6.0 ug/L	2/17/19	Outside Lab	700

Abbreviations/ References:

ML = Minimum Level = LRL = RL
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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

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Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Endothall	**< 9 ug/L**	EPA 548.1	9 ug/L	2/12/19	mbs	100
Diquat	**< 0.4 ug/L**	EPA 549.2	0.4 ug/L	2/12/19	Sean	20
1,1,1,2-Tetrachloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,1,1-Trichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	200
1,1,2,2-Tetrachloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,1,2-Trichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
1,1-Dichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,1-Dichloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	7
1,1-Dichloropropene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2,3-Trichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2,3-Trichloropropane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2,4-Trichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	70
1,2,4-Trimethylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2-Dichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
1,2-Dichloropropane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
1,3,5-Trimethylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,3-Dichloropropane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,3-Dichloropropene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Benzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Bromobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Bromochloromethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	

Abbreviations/ References:

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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

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Bromodichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Bromoform	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Bromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Carbon Tetrachloride	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Chlorodibromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Chloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Chloroform	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Chloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
cis-1,2-Dichloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	70
Dibromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Dichlorodifluoromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Dichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Ethylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	700
Fluorotrichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Hexachlorobutadiene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Isopropylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
m-Dichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Monochlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	100
Naphthalene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
n-Butylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
n-Propylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
o-Chlorotoluene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	

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

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
o-Dichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	600
Para-Dichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	75
p-Chlorotoluene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
p-Isopropyltoluene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
sec-Butylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Styrene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	100
tert-Butylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Tetrachloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Toluene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	1000
Total Trihalomethanes	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	80
trans-1,2-Dichloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	100
Trichloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Vinyl chloride	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	2
Xylenes (total)	**1.0 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	10000

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

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:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Drive Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0017 Fax: 719-471-3140	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number

Gooler Well

ARF

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

Date	Time	Client Sample ID / EP Code	No. of	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
2/7/19	7:50	#11	1																		X									
2/7/19	10:11	#12	2																											
2/7/19	10:16	#13	3						X																				X	
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
2/7/19	[illegible]	#16	2								X																			
2/7/19	10:21	#17	1		X																									
		Trip blank																												
		Field blank																												

Subcontract Analyses

Page 6 of 7

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Delivered Via: Fed Ex C/S Charge ☒ K

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:[illegible]	[signature]	2/8/19 9.30				

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: Same	PWSID: Private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Dr. Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0012 Fax: 719-471-3401	Phone: Fax:	County: El Paso County
Email: dschwenke@jdshydro.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number Gowler Well

ARF

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

Date	Time	Client Sample ID / EP Code	No. o	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)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:42	#1	2																											
2/7/19	9:46	#2	1																								X	X		
2/7/19	9:54	#3	2							X																X				
2/7/19	9:55	#4	1											X																
2/7/19	[illegible]	#5	1										X																	
2/7/19	10:02	#6	1					X																						
2/7/19	9:59	#7	1									X																		
2/7/19	9:44	#8	1																											
2/7/19	9:48	#9	1																											X
2/7/19	9:48	#10	1															X	X	X		X			X					

Subcontract Analyses

Instructions: Field pH = 7.15 Field temp = 11.3°C

C/S Info:

Seals Present Yes ☒ No ☐ Headspace Yes ☐ No ☐

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:00am	[signature]	2/8/19 9:30				

Colorado Analytical
LABORATORIES, INC.

Analytical Results

TASK NO: 190208008

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

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

Task No.: 190208008
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/11/19
Matrix: Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time		Test	Result	Method	Date Analyzed
190208008-01	#17 Gowler Well	2/7/19	10:21 AM	Total Coliform	**Absent**	SM 9223	2/9/19
				E-Coli	**Absent**	SM 9223	2/9/19

Abbreviations/ References:

Absent = Coliform Not Detected
Present = Coliform Detected - Chlorination Recommended
Date Analyzed = Date Test Completed
SM = "Standard Methods for the Examination of Water and Wastewater"; APHA; 19th Edition; 1995

DATA APPROVED FOR RELEASE BY

240 South Main Street / Brighton, CO 80601-0507 / 303-659-2313
Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507 / Fax: 303-659-2315

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:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 8510 Tech Center Drive Suite 100	Address:	Address: 11745 Gleason Drive
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: [illegible] Fax: [illegible]	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208008

Task Number: Gauler well

ARF

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

Date	Time	Client Sample ID / EP Code	No.	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
[illegible]	[illegible]	#11	1																		X									
2/7/19	[illegible]	#12	2																										X	
2/7/19	10:11	#13	3						X						X															
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
[illegible]	[illegible]	#16	2								X																			
2/7/19	10:21	#11	1		X																									
		Trip blank																												
		Field blank																												

Page 2 of 2

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Delivered Via: Fed Ex C/S Charge ☒

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/8/19 [illegible]	[signature]	2/8/19 9:30				

Colorado Analytical
LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Fluoride	**0.34 mg/L**	EPA 300.0	0.09 mg/L	2/8/19	SEA	4
Nitrate Nitrogen	**< 0.05 mg/L**	EPA 300.0	0.05 mg/L	2/8/19	SEA	10
Nitrite Nitrogen	**< 0.03 mg/L**	EPA 300.0	0.03 mg/L	2/8/19	SEA	1
Cyanide-Total	**< 0.005 mg/L**	EPA 335.4	0.005 mg/L	2/13/19	LJG	0.02
Total						
Iron	**< 0.005 mg/L**	EPA 200.7	0.005 mg/L	2/12/19	MBN	0.3
Sodium	**9.4 mg/L**	EPA 200.7	0.1 mg/L	2/13/19	MBN	N/A
Antimony	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.006
Arsenic	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.01
Barium	**0.122 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	2
Beryllium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.004
Cadmium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.005
Chromium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.1
Copper	**0.0183 mg/L**	EPA 200.8	0.0008 mg/L	2/13/19	DBM	1.3
Lead	**0.0005 mg/L**	EPA 200.8	0.0001 mg/L	2/13/19	DBM	0.015
Manganese	**0.1171 mg/L**	EPA 200.8	0.0008 mg/L	2/13/19	DBM	0.05
Mercury	**< 0.0001 mg/L**	EPA 200.8	0.0001 mg/L	2/12/19	DBM	0.002
Nickel	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	N/A
Selenium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.05

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

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Total						
Thallium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.002
Uranium	**0.0002 mg/L**	EPA 200.8	0.0002 mg/L	2/13/19	DBM	0.03

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

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:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Drive Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-277-0017 Fax: 719-471-3140	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number

Cooler well

ARF

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

Date	Time	Client Sample ID / EP Code	No. of	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
2/7/19	9:50	#11	1																		X									
2/7/19	10:11	#12	2																										X	
2/7/19	10:16	#13	3						X																					
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
2/7/19	[illegible]	#16	2								X																			
2/7/19	10:21	#17	1		X																									
		Trip blank																												
		Field blank																												

Subcontract Analyses

Page 3 of 4

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Delivered Via: Fed Ex C/S Charge ☒ K

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:[illegible]	[signature]	2/8/19 9.30				

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: Same	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Dr. Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0012 Fax: 719-471-3400	Phone: Fax:	County: El Paso County
Email: dschwenke@jdshydro.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number Gowler Well ARF

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

Date	Time	Client Sample ID / EP Code	No. o	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)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:42	#1	2																								X	X		
2/7/19	9:46	#2	1																							X				
2/7/19	9:54	#3	2							X																				
2/7/19	9:55	#4	1											X																
2/7/19	[illegible]	#5	1										X																	
2/7/19	10:02	#6	1					X																						
2/7/19	9:59	#7	1									X																		
2/7/19	9:44	#8	1																											X
2/7/19	9:46	#9	1																						X					
2/7/19	9:48	#10	1															X	X	X		X								

Page 4 of 4

Instructions: Field pH = 7.15 Field temp = 11.3°C

C/S Info:

Seals Present Yes ☒ No ☐ Headspace Yes ☐ No ☐

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

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:00am	[signature]	2/8/19 9:30				