# WATER RESOURCES REPORT

for

# Terra Ridge North / Terra Ridge Filing No. 1 Minor Subdivision

EPC Parcel #: 5129300002

December 2022 (revised June 2023)

**Prepared By:** 



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# TERRA RIDGE NORTH / TERRA RIDGE FILING NO. 1 MINOR SUBDIVISION EPC Parcel # 5129300002

# WATER RESOURCES REPORT

December 2022 (revised June 2023)

Prepared for:

Shay Miles 10805 Milam Road Colorado Springs, CO 80908

Prepared by:

JDS-Hydro Consultants, a Division of RESPEC 5540 Tech Center Drive, Suite 100 Colorado Springs, CO 80919

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### 1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The purpose of this report is to address the specific water needs of a proposed subdivision of Parcel # 5129300002 in El Paso County, CO.

**EXECUTIVE SUMMARY**: The water rights and augmentation plan in place for the existing parcel are adequate to meet the needs of thirteen (13) residential lots proposed for the subdivision on a 300-year basis.

### 2.0 PROJECTED LAND USES

### 2.1 Projected Land Uses

This property owner proposes to subdivide the existing 39.72-acre parcel, known as Terra Ridge North, into eleven (11) lots numbered 1-11. Please refer to the *Land Use Exhibit* in *Appendix A* depicting the proposed subdivision. These eleven lots will operate under the recently approved decree number 22CW3066. In addition, the property owner also proposes to vacate and replat the two (2) existing lots to the south, known as Terra Ridge Filing No. 1. These two lots, encompassing 12.86 acres, are numbered as lots #5A and #6Am are also shown in the *Land Use Exhibit* in *Appendix A*. These replatted lots will continue to operate under Court Case 96CW68, which was approved on March 6, 1997

### 3.0 WATER NEEDS AND PROJECTED DEMANDS

### 3.1 Water Demand Summary

The proposed 39.72-acre Terra Ridge North subdivision will be subdivided into eleven (11) residential lots, ranging from 2.5 acres to 6.12 acres. Each lot will use approximately 0.825 AF/year, with 0.26 AF/year per lot for indoor use, 0.522 <u>AF/year</u> for irrigation, and 0.044 AF/year for up to four horses per lot. The total amount of water used per year for the subdivision can be up to 9.08 AF/year. This estimate is based information provided in Chapter 8 of the *El Paso County Land Development Code* as well as *Section 8* of the *Findings and Order* located in **Appendix C**. The two (2) replatted lots located in Terra Ridge Filing No. 1 will continue to feature areas of 6.92 acres and 5.05 acres respectively. Under previously approved decree No. 96CW68, each lot is allowed to use <u>1.0 AF/year</u> annually, with 0.30 AF/year/residence dedicated to in-house uses, <u>0.65</u> <u>AF/year/residence</u> dedicated to irrigation, and 0.05 AF/year/residence dedicated to stock watering. Total annual water demand from the proposed development for all thirteen (13) lots is estimated to be <u>11.08 AF/year</u>. Water demands and wastewater loads are shown Table 3-1 below:

	Wastewater					
	Annual	Average		Domestic	Total Indoor,	ADF
# of	Indoor Use	Daily	Irrigation	Watering	Watering,	(@ 90%
SFE's	0.26 Indoor 0.0566 0.011 & Irrigation Indoor Use					
	(AF/YR/SFE)	(GPD)	(AF/1,000 SF)	(AF/Horse/Year)	(AF)	(GPD)
	Note 1		Note 2	Note 3		
11	2.860	2,553	5.740	0.484	9.08	2,297

### Table 3-1: Summary of Expected Water Demands & Wastewater Loads

Note 1: Per 8.4.7(B)(7)(d) of the EPC Land Development Code

Note 2: Per 8.4.7(B)(7)(d) of the EPC LDC, assuming 9,220 ft<sup>2</sup> of irrigation per lot

Note 3: Assuming four (4) horses per lot at 0.011 AF/year/horse

Wa	Wastewater					
	Annual	Average		Domestic	Total Indoor,	ADF
# of	Indoor Use	Daily	Irrigation	Watering	Watering,	(@ 90%
SFE's	0.30	Indoor Use	0.0500	0.0125	& Irrigation	Indoor Use
	(AF/YR/SFE)	(GPD)	(AF/1,000 SF)	(AF/Horse/Year)	(AF)	(GPD)
	Note 1		Note 2	Note 3		
2	0.60	536	1.30	0.1	2.00	482

Note 1: Per Section 10.B. of Decree 96CW68 / 96CW146

Note 2: Per Section 10.B. of Decree 96CW68 / 96CW146, assuming 13,000 ft<sup>2</sup> of irrigation per lot

Note 3: Assuming four (4) horses per lot at 0.0125 AF/year/horse

## 3.2 Unit Water User Characteristics

Unit water user characteristics are counted on a *single-family equivalent* (SFE) basis. All single-family homes are counted as one SFE, and user characteristics were based on information provided in the *El Paso County Land Development Code*, Chapter 8 or Decree 96CW68 / 96CW146

3.3 Demand versus Supply

An overall demand of  $\underline{11.08 \text{ acre-feet}}$  for the proposed subdivision is less than the amount of supply listed in the decrees, determinations, and *Findings of Fact* (provided in *Appendix C*) and is further discussed in Section 4.0 of this report.

### 4.0 WATER RIGHTS AND SUPPLY

### 4.1 Water Rights

Water rights, determinations, and replacement plan have been applied for as shown in *Appendix C*. Table 4-1 and 4-2 below summarizes the information from said water rights and approved determinations.

Land Formation/ Aquifer	Determination	Tributary Status	Area	Decreed Water 100-Year	Annual Allocation 100-Year	Annual Allocation 300-Year
			(Acres)	(AF)	(AF/Year)	(AF/Year)
Dawson Denver Arapahoe Laramie-Fox Hills	2022CW3066 2022CW3066 2022CW3066 2022CW3066	NNT NT NT NT	39.72 39.72 39.72 39.72	400.50 317.00 165.00 113.00	40.50 31.70 16.50 11.30	13.50 10.57 5.50 3.77
	I		Total L	egal Supply	100.00	33.34
					100-Year	300-Year

### Table 4-1: Water Rights Summary – Decree 22CW3066

Beneficial Uses: Domestic Indoor, Indoor & Outdoor Irrigation

Livestock

Table 4-1: Water Rights Summary – Decree 96CW68 / 96CW146
-----------------------------------------------------------

Land Formation/ Aquifer	Determination	Tributary Status	Area	Decreed Water 100-Year	Annual Allocation 100-Year	Annual Allocation 300-Year
			(Acres)	(AF)	(AF/Year)	(AF/Year)
Dawson Denver Arapahoe Laramie-Fox Hills	96CW68/146 96CW68/146 96CW68/146 96CW68/146	NNT NT NT NT	240 240 240 240	2,400 1,920 979 684	240.00 192.00 97.90 68.40	80.00 64.00 32.63 22.80
			Total L	egal Supply	598.30	199.43
					100-Year	300-Year

**Beneficial Uses:** Municipal, Domestic, Industrial, Commercial, Irrigation, Stock Watering, Recreational, Fish and Wildlife

Note that only the Dawson formation is to be used for the proposed lots in this subdivision. According to the decrees located in *Appendix C*, the following conditions are allowed for the subject property:

- Water in the Dawson may be withdrawn through the wells Decreed as Miles Wells 1-11 allowing up to eleven (11) parcels to be developed on the subject property. The two existing wells located on lots #5A and #6A may also be utilized under the previously approved decree 96CW68 / 96CW146
- There shall be one (1) Dawson aquifer well per lot.
- Each well must provide water to a house on the same lot, ensuring that during pumping, return flows from septic systems alone will always equal or exceed stream depletions in the same year.
- The type of restricted use to which the Dawson water pumped is for domestic use, indoor and outdoor irrigation, and up to four horses or equivalent livestock per residence.
- Under decree number 22CW3066, the acre-feet of water each Dawson aquifer well is allowed to divert on an annual basis shall be 0.825 AF/year up to a total of 9.08 AF/year for a total of 11 lots (for all lots located within Terra Ridge North). If less than 11 lots are developed, each lot is allowed its proportionate share as long as adequate return flows are achieved.

### 4.2 Adequacy of Water Rights

Current water rights are adequate for buildout demands of the eleven (11) lots in Terra Ridge North and the two replatted lots #5A and #6A in Terra Ridge Filing No. 1, and meet 2040 and 2060 buildout projections on a 300-year basis.

According to approved decree 22CW3066, the following pieces of information are applicable for the eleven planned lots located in Terra Ridge North (copy of decree is located in *Appendix C*):

- There are 13.50 AF/year available on a 300-year supply basis out of the Dawson Formation, which is greater that the estimated annual demand of 9.08 AF-year for all eleven (11) Dawson wells.
- Assuming a 0.26 AF/year domestic use per resident, with 90% return flows through the septic system per residence, this results in a total replacement volume of 2.574 AF/year total.
- The estimated maximum depletion to the alluvial aquifer from 300-years of pumping from the Dawson formation at 1.90 AF/year by year 300. The estimated annual return flows from each residence is in excess of the estimated depletions to the alluvium as shown in the Replacement Plan Application included in *Appendix C.*

According to previously approved decree 96CW68 / 96CW146, the following pieces of information are applicable for the two (2) replatted lots #5A and 6A located within Terra Ridge Filing No. 1 (copy of the decree is located in **Appendix C**):

- There are 80 AF/year available on a 300-year supply basis out of the Dawson Formation, which is greater that the estimated annual demand of 2.0 AF-year for the existing wells located on the two proposed lots to be replatted. The amount of water available for the existing Terra Ridge Filing No. 1 subdivision are sufficient to supply water to all 40 individual wells at 1.0 AF/year/residence.
- The existing and approved augmentation plan described in Decree 96CW68 / 96CW146 claims return flows to the alluvium through non-evaporative septic systems as well as other nontributary sources purchased from separate entities (i.e. Northgate Company). The approved augmentation plan describes return flows augmenting depletions to the alluvium in both the South Platte / Cherry Creek basin and Arkansas River / Monument Creek basin.

### Conclusion:

The current water rights and augmentation plan in place are adequate to meet the estimated overall demand and resulting alluvial depletions for all thirteen (13) lots in the proposed subdivision.

### 4.3 Description of Current Water Rights

The subject area's current water rights involve non-renewable supplies in the Denver Basin, further discussed below.

### Non-Renewable Denver Basin Supply

The Denver Basin is a vast, deep-rock aquifer that stretches from southeast of Colorado Springs to Greeley, and from the base of the front range to the eastern end of Elbert County. Rights granted in the Denver basin are based on the ownership of the surface property – the larger the parcel, the larger the allocation. This water can be deeper than typical residential wells, ranging up to 2,650 feet deep.

Denver Basin water is considered finite and therefore non-renewable. In the subject area, there are four main formations that make up the Denver Basin: Dawson, Denver, Arapahoe, and Laramie-Fox Hills (LFH), described from shallowest to deepest.

Adequate supplies for the proposed subdivision have been obtained and are described in decree 22CW3066 for the eleven lots located in Terra Ridge North, and in decree 96CW68 / 96CW146 for the two lots to be replatted in Terra Ridge Filing No. 1.

### 5.0 WATER SYSTEM FACILITIES AND PHYSICAL SUPPLY

### 5.1 Source of Supply

Supply for all thirteen (13) lots will be met with existing and future wells completed in the Dawson aquifer. These wells will be drilled, screened, test-pumped, and completed accordance with the Colorado Division of Water Resources rules and regulations.

### 5.2 Water Treatment

Water from a neighboring well less than 0.5 miles from the subdivision in the Dawson Aquifer was sampled on March 4, 2019, for constituents required by El Paso County regulations for a confined aquifer. Any desired treatment of existing and future wells will rely on the individual homeowners as this is not considered a *Community System* by the Colorado Department of Public Health and Environment.

### 5.3 Water Storage

Water storage (other than potential individual cisterns) will not be constructed. Therefore, a central water system with treatment and fire-flow capabilities will not be provided. The residents of each subdivided lot will be made aware of this since it will be included on the subdivision plat.

### 5.4 Distribution, Pumping, and Transmission Lines

Since there is no central water system proposed for this subdivision, no distribution, pumping, or transmission lines will be constructed.

### 5.5 Water Quality

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 well (well permit #53112-F) via an exterior water tap in a cellar before filtering and storage serving a residence at 15630 Fox Creek Lane. Water samples were obtained from this tap on March 4, 2019, with water quality testing performed by Colorado Analytical Laboratories and Hazen Laboratories, per the El Paso County Land Development Code section 8.4.7(B). Final results from this water quality testing can be found in *Appendix D*. All results except pH were found to be below primary and secondary Maximum Contaminant Limits (MCLs).

The Langlier Index value was recorded at -2.44 and a pH of 6.31 which indicates the possibility of corrosive water. The recommended pH range is 6.5 - 8.5. It is recommended that any homes or additions built in this minor subdivision use non-copper piping for water distribution from well to home and within the home.

Because of the absence of any and all evidence of fecal contamination in the form of E. coli or Total Coliform, or that all sampled and analyzed constituents were below all primary and secondary standards the proposed water source emanating from the Dawson Aquifer is deemed safe for public consumption.

### 6.0 EL PASO COUNTY MASTER PLANNING ELEMENTS

### 6.1 County Water Master Plan 2040 and 2060 Projections

The subject property lies within the El Paso County Water Master Planning area, Region #2.

### 6.2 Buildout (Including 2040 and 2060 Buildout):

Expected buildout of the entire property are thirteen (13) total lots ranging from 2.5 acres -6.12 acres. Demands for the entire subdivision are listed in Section 3.0 of this report.

### 6.3 Description of Long-Term Planning and Future Sources of Supply

Per El Paso County criteria, the 300-year supply of water for the subject property appears to be more than adequate for full buildout, which would include both the 2040 and 2060 scenarios. However, the proposed supply in the Dawson aquifer is based on non-renewable sources.

If needed beyond the 300-year supply, the subdivision has nontributary water rights in the Arapahoe and Laramie-Fox Hills formations. Please refer to the *Plan for Augmentation* in **Appendix C**.

### 6.4 Water System Interconnects

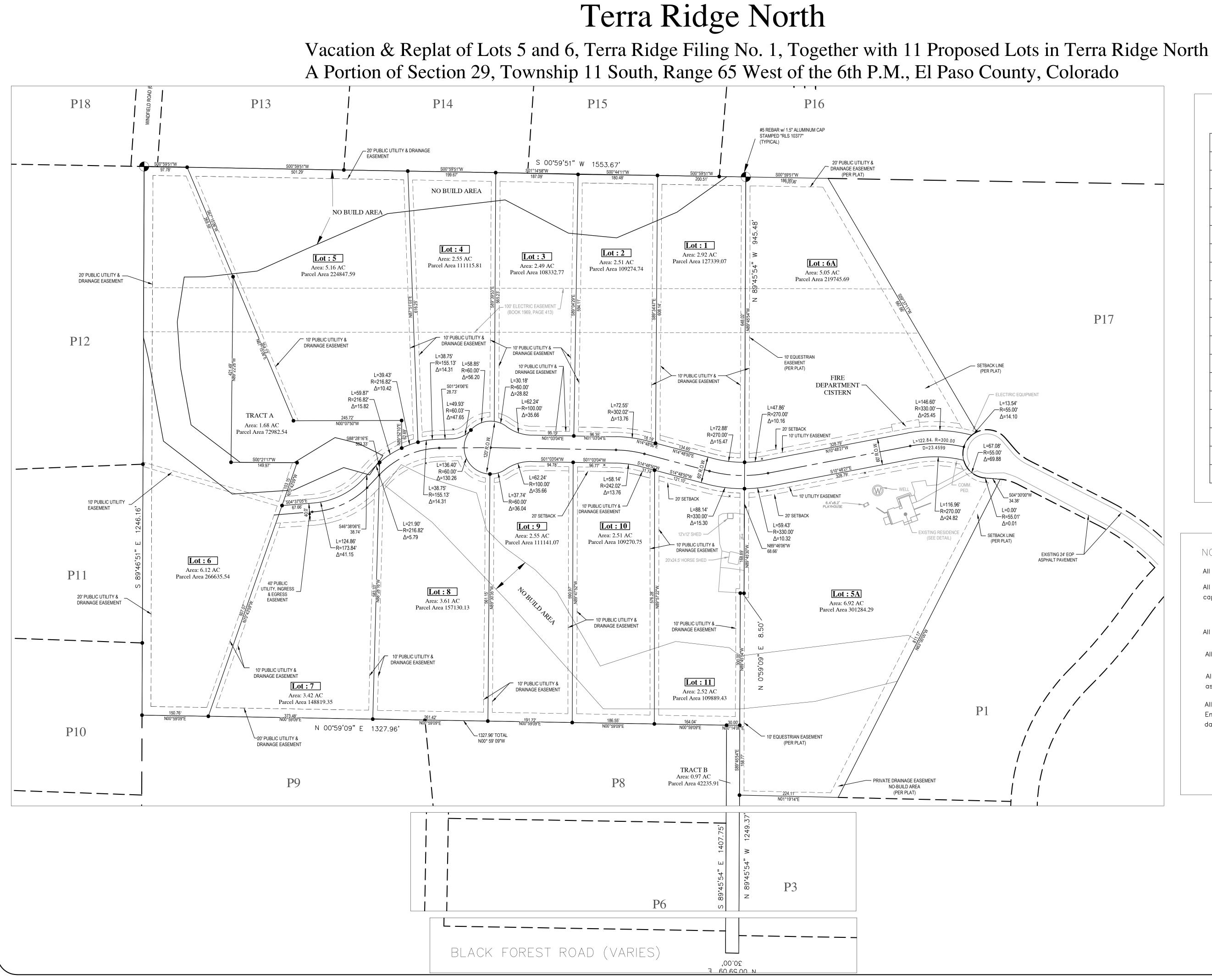
The closest source for a potential interconnect is Colorado Springs Utilities – approximately 4.75 miles to the southwest.

It is not anticipated (and Colorado Springs Utilities has not been contacted) that an interconnect is needed or warranted.

### 7.0 CONCLUSION

The subject property has adequate water supply to meet the needs of the proposed subdivision on a 300-year basis.

Appendix A



# Final Plat

P17

	As Replatted
	ADJACENT PROPERTY DESCRIPTION
P1	Not a part of this subdivision Robb Peters 5129302-004 Lot 4, Terra Ridge Fil. No 1 Zoneo RR-5
P2	Not a part of this subdivision Mark Davis 5129302-003 Lot 3, Terra Ridge Fil. No 1 Zoneo RR-5
P3	Not a part of this subdivision Justin Sumpter 5129302-002 Lot 2, Terra Ridge Fil. No 1 Zoneo RR-5
P4	Not a part of this subdivision Eric Mikuska 5129302-001 Lot 1, Terra Ridge Fil. No 1 Zoneo RR-5
P5	Not a part of this subdivision Diana Gard 5129301-008 Lot 8, Whispering Hills Estates Zoned RR-5
P6	Not a part of this subdivision Rhonda Barr 5129301-007 Lot 7, Whispering Hills Estates Zoned RR-5
P7	Not a part of this subdivision Christopher Humlice 5129301-006 Lot 6, Whispering Hills Estates Zoned RR-5
P8	Not a part of this subdivision David Khaliqi 5129301-005 Lot 5, Whispering Hills Ests Zone RR-5
P9	Not a part of this subdivision Todd Andrews 5129301-004 Lot 4, Whispering Hills Ests Zone RR-5
P10	Not a part of this subdivision Richard Martinez 5129004-013 Lot 8, Ridgeview Acres Zoned RR
P11	Not a part of this subdivision Temmer Family Tru 5129004-012 Lot 7, Ridgeview Acres Zoned RR
P12	Not a part of this subdivision Kimberly Tebrugge 5129004-011 Lot 6, Ridgeview Acres Zoned RR
P13	Not a part of this subdivision Roy & Julie Heare 5129005-002 Lot 148, Wildwood Village Unit 3
P14	Zoned RR-5 Not a part of this subdivision Joshua Trusievitz 5129005-001 Lot 149, Wildwood Village Unit 3
P15	Zoned RR-5 Not a part of this subdivision Paul Gavin 5129005-001 Lot 149, Wildwood Village Unit 3
P16	Zoned RR-5 Not a part of this subdivision Abraham Thompson 5129005-004 Lot 151, Wildwood Village Unit 4
P17	Zoned RR-5 Not a part of this subdivision Hugo Oregel 5129302-007 Lot 1, Terra Ridge Fil No. 2 Zoned
P18	RR-5 Not a part of this subdivision Ricardo Torres 5129004-001 Lot 147, Wildwood Village Unit N



All points found indicated by  $-- \bigoplus --$  are as shown on plat.

All points set indicated by --  $\Delta$  -- are rebar with attached Surveyor's cap mkd "PLS 23890" unless otherwise shown on plat.

All measured, used or pro-rated information indicated by S0°12'10"E-518.51'

All record information indicated by (S0°12'10"E-518.90').

All bearings are relative to the east line of JeniShay Farms as monumented and shown, and was asumed S00°12'10"E.

All reasearch for recorded easements or rights-of-way was done by EmpireTitle of Colorado Springs, LLC., File No. 54837ECS, dated: May 29, 2018.

Appendix B

### 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	1. NAME OF DEVELOPMENT AS PROPOSED <u>Terra Ridge North / Terra Ridge Filing No. 1</u>							
2. LAND USE ACTION	2. LAND USE ACTION <u>Title Vacation and Replat</u>							
3. NAME OF EXISTING PARC	EL AS RECORDED	Sche	edule No.: 5129300000	2				
SUBDIVISION	Terra Ridge FILIN	G <u>No. 1</u> BLOCK	<u>Vacant</u> Lot	<u>1 through 13</u>				
4. TOTAL ACERAGE <u>39.72</u> 5. NUMBER OF LOTS PROPOSED <u>13</u> PLAT MAPS ENCLOSED <b></b>								
6. PARCEL HISTORY - Please	attach copies of deeds, plats, or c	other evidence or documentation. (In subm	ittal package)					
A. Was parcel recorded with	county prior to June 1, 1972	?	YES 🖌 N	0				
B. Has the parcel ever been p	part of a division of land action	on since June 1, 1972?		YES 1	NO			
If yes, describe the previo	ous action Platted b	ut not recorded.						
7. LOCATION OF PARCEL - I	Include a map deliniating the pr	oject area and tie to a section corner. See	e Water Resources Re	port - Appendix A				
<u>NE 1/4</u> OF	SW 1/4 SECTION	29 <b>Township</b> <u>11</u>		C	N 🖌 S	RANGE <u>65</u>	E . W	
PRINCIPAL MERIDIAN:		✓ 6TH N.M.	UTE	COSTILLA				
8. PLAT - Location of all wells	on property must be plotted and	d permit numbers provided.						
Surveyors plat		YES NO		If not, scaled hand -drawn skete	ch	Y NO		
9. ESTIMATED WATER REQU	UIREMENTS - Gallons per Day	or Acre Foot per Year		10. WATER SUPPLY SOURC	E			
				EXISTING	J DEVELOPED	✓ NEW WELLS		
HOUSEHOLD USE # 1	of units	0.260 AF/SFE/YR	2.860 AF	WELLS SPR	RING	Proposed Aqu	ifers - (Check One)	
HOUSEHOLD USE # <sup>2</sup>	of units	0.300 AF/SFE/YR	<u>0.600</u> AF	WELL PERMIT NU	UMBERS	Alluvial	Upper Arapahoe	
COMMERCIAL USE	<u> </u>	<u> </u>	<u> </u>	<u>053112-F</u>	E	J Upper Dawson	Lower Arapahoe	
IRRIGATION <sup>3</sup>	0.0566 AF/1000SF	<u>5,125</u> GPD	<u>5.740</u> AF			Lower Dawson	Laramie Fox Hills	
IRRIGATION <sup>4</sup>	0.0500 AF/1000SF	<u>1,161</u> GPD	<u>1.300</u> AF			Denver	Dakota	
ANIMAL WATERING <sup>5</sup>	44 Horses	0.011 AF/Horse/Year	<u>0.484</u> AF	This existing well will be us	sed at the existing	Other		
ANIMAL WATERING <sup>6</sup>	8 Horses	0.013 AF/Horse/Year	<u>0.100</u> AF	Miles residence as sl		No new wells have been per submittal	mitted at the time of this	
				MUNICIPAL		WATER COURT DE	CREE CASE NUMBERS	
TOTAL		9,895 GPD	<b>11.08</b> AF *	ASSOCIATION		Lots 1 - 11 in T	erra Ridge North	
	of the EPC Land Devel	opment Code (Terra Ridge Nor					22CW3066	
2) Per Section 10.B. of				DISTRICT			ra Ridge Filing No. 1	
		ning 9,220 ft <sup>2</sup> of irrigation per l	ot	NAME: N/A			/ 96CW146	
4) Per Section 10.B. of	4) Per Section 10.B. of Decree 96CW68/146, assuming 13,000 ft <sup>2</sup> of irrigation per lot							
5) Assuming four (4) horses per lot at 0.011 AF/year/horse								
6) Assuming four (4) horses per lot at 0.0125 AF/year/horse SERVICE YES INC								
11. ENGINEER'S WATER SUPPLY REPORT VES NO If yes, please forward with this form. (This may be required before our review is completed)								
12. TYPE OF SEWAGE DISPOSAL SYSTEM								
SEPTIC TANK/LEACH FIELD CENTRAL SYSTEM - DISTRICT NAME:								
LAGOON     VAULT - LOCATION SEWAGE HAULED TO:								
ENGINEERED SYS	ENGINEERED SYSTEM (Attach a copy of engineering design)     OTHER:							

Appendix C

<b>22214841</b> 2	2 12/9/20;	22 12:55 PM
PGS 14	\$78.00	DF \$0.00
Electronically R	ecorded Official Records	El Paso County CC
Chuck Broerma	n, Clerk and Recorder	
TD1000 N		

DISTRICT COURT, WATER DIVISION 1, CO					
	FILED: December 9, 2022 11:40 AM NUMBER: 2022CW3066				
CONCERNING THE APPLICATION FOR WATER RIGHTS OF:	▲ COURT USE ONLY ▲				
SHAY MILES	Case No.: 22CW3066				
	(Ref. 18CW3226)				
IN EL PASO COUNTY	(consolidated with Division 2 Case No. 22CW3025 pursuant to Order of Panel on Multi-District Litigation 22MDL13)				
FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF REFEREE AND					
DECREE					

THIS MATTER comes before the Water Referee on the Application filed by Shay Miles on April 29, 2022. Having reviewed said application and other pleadings on file, and being fully advised on this matter, the Water Referee makes the following findings and orders:

### **FINDINGS OF FACT**

1. The Applicant in this case is Shay Miles, whose address is 15630 Fox Creek Lane, Colorado Springs, CO 80908 ("Applicant"). Applicant is the owner of the land totaling approximately 39.72 acres on which the structures sought to be adjudicated herein are and will be located, and are the owners of the place of use where the water will be put to beneficial use.

2. The Applicant filed this Application with the Water Courts for both Water Divisions 1 and 2 on June April 29, 2022. The Applications were referred to the Water Referees in both Divisions 1 and 2 on or about May 2, 2022.

3. The time for filing statements of opposition to the Application expired on the last day of June 2022. No Statements of Opposition were timely filed.

4. In accordance with the notice requirements of C.R.S. § 37-92-302, lienholders of the Applicant's property were sent a Letter of Notice dated May 5, 2022. A Certificate of Notice was filed with the District Court, Water Divisions 1 and 2, on May 11, 2022.

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5. On May 3, 2022, the Division 2 Water Court, on Motion from Applicant, ordered that consolidated publication be made by only Division 1. On or near the same day, the Water Court, Division 1, ordered that publication occur in *The Transcript* within El Paso County.

6. The Clerk of this Court has caused publication of the Application filed in this matter as provided by statute and the publication costs have been paid. On May 16, 2022 proof of publication in *The Transcript* was filed with Water Court Division 1. All notices of the Application have been given in the manner required by law.

7. A Motion for Consolidation of the Division 1 and Division 2 cases into Water Division 1 was filed with the Colorado Supreme Court on July 11, 2022. The Panel on Consolidated Multidistrict Litigation certified the Motion for Consolidation to the Chief Justice on July 12, 2022. Chief Justice, Brian D. Boatright, granted the Motion for Consolidation by Order dated August 11, 2022.

8. Pursuant to C.R.S. §37-92-302(4), the office of the Division Engineer for Water Division No. 1 filed its Summary of Consultation Report dated July 29, 2022, and a Response to the Summary of Consultation Report was filed by the Applicant on September 14, 2022. Both the Summary of Consultation Report and Response have been considered by the Water Referee in the entry of this Ruling.

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

### **GROUNDWATER RIGHTS**

10. The Applicant requested the confirmation of underground water rights adjudicated in Case No.18CW3226 for the Miles Wells Nos. 1 through 11, as constructed and as may be constructed to the Dawson aquifer, and additional or replacement wells associated therewith for withdrawal of Applicant's full entitlements of supply under the revised plan for augmentation decreed herein. The following findings are made with respect to such underground water rights:

11. The land overlying the groundwater and the groundwater rights subject to the adjudication in Case No. 18CW3226 is owned by the Applicant and consists of approximately 39.72 acres located in the SW¼ of Section 29, Township 11 South, Range 65 West of the 6<sup>th</sup> P.M., El Paso County, Colorado. Applicant intends to subdivide the property into up to eleven (11) lots. All groundwater subject to the revised plan for augmentation decreed herein shall be withdrawn from the overlying land.

12. <u>Miles Wells Nos. 1 through 11</u>: The Miles Wells Nos. 1 through 11 will be located on the Applicant's Property. Applicant is awarded the vested right to use the Miles

Wells Nos. 1 through 11, along with any necessary additional or replacement wells associated with such structures, for the extraction and use of groundwater from the notnontributary Dawson aquifer pursuant to the Revised Plan for Augmentation decreed herein. The State Engineer shall be bound by C.R.S. §37-90-137(4) and the Plan for Augmentation decreed herein in issuing well permits.

13. Of the statutorily described Denver Basin aquifers, the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers all exist beneath the Applicant's Property. The Dawson aquifer underlying the Applicant's Property contains not-nontributary water, while the water of the Denver, Arapahoe, and Laramie-Fox Hills aquifers underlying the Applicant's Property are nontributary. The quantity of water in the Denver Basin aquifers exclusive of artificial recharge underlying the Applicant's Property that the Applicants own as adjudicated in Case No. 18CW3226 is as follows:

AQUIFER	Annual Average Withdrawal 100 Years (Acre Feet)	Annual Average Withdrawal 300 Years (Acre Feet)	Total Withdrawal (Acre Feet)
Dawson (NNT)	40.5	13.50	4,050
Denver (NT)	31.7	10.57	3,170
Arapahoe (NT)	16.5	5.50	1,650
Laramie-Fox Hills (NT)	11.3	3.77	1,130

14. Pursuant to C.R.S.  $\S37-90-137(9)(c.5)(I)$ , the augmentation requirements for wells in the Dawson aquifer require the replacement to the affected stream systems of actual stream depletions on an annual basis, to the extent necessary to prevent injurious effect, based upon actual aquifer conditions. Applicant shall not be entitled to construct a well or use water from the not-nontributary Dawson aquifer except pursuant to an approved augmentation plan in accordance with C.R.S. \$37-90-137(9)(c.5), including as decreed herein as concerns the Dawson aquifer.

### **REVISED PLAN FOR AUGMENTATION**

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

16. Pursuant to C.R.S. §37-90-137(9)(c.5), the augmentation obligation for the Miles Wells Nos. 1 through 11, and any additional or replacement wells constructed to the Dawson aquifer requires the replacement of actual stream depletions to the extent necessary to prevent any injurious effect. The water rights to be used for augmentation

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during pumping are the septic return flows of the not-nontributary Miles Wells Nos. 1 through 11, to be pumped as set forth in this plan for augmentation. The water rights to be used for augmentation after pumping are a reserved portion of Applicant's nontributary water rights in the Arapahoe and Laramie-Fox Hills aquifers. Applicant shall provide for the augmentation of stream depletions caused by pumping the Miles Wells Nos. 1 through 11 as approved herein. Water use criteria as follows:

A. <u>Use</u>: The Miles Wells Nos. 1 through 11 each pump up to 0.825 acre-feet of water per year, for a maximum total of 9.08 acre-feet being withdrawn from the Dawson aquifer annually, though should fewer than eleven lots be developed on Applicant's Property, each well thereon shall be entitled to withdraw its proportional share of the total 9.08 acre-feet available, so long as there are adequate return flows to replace depletions from pumping. Households will utilize an estimated 0.20 acre-feet of water per year per residence, with remaining pumping entitlements available for other uses on the property, including, for example, irrigation of lawn and garden and the watering of up to four horses or equivalent livestock, per residence. The foregoing figures assume the use of eleven individual septic systems, with resulting return flows from each.

B. <u>Depletions</u>: Maximum stream depletions over the 300-year pumping period will amount to approximately twenty-one percent (21%) of pumping. Maximum annual depletions for total residential pumping from all wells are therefore 1.90 acre-feet in year 300 (being 21% of 9.08). Replacements will be made to replace depletions in the amounts shown on **Exhibit A**.

C. <u>Augmentation of Depletions During Pumping Life of Wells</u>: Pursuant to C.R.S. §37-90-137(9)(c.5), Applicant is required to replace actual stream depletions attributable to pumping of the maximum eleven residential Dawson aquifer wells. Applicant has determined that depletions during pumping will be effectively replaced by residential return flows from non-evaporative septic systems. The annual consumptive use for non-evaporative septic systems is 10% per year per residence. At a household use rate of 0.20 acre-feet per residence per year, total of 2.2 acre-feet (assuming eleven residences), 1.98 acre-feet is replaced to the stream system per year, utilizing non-evaporative septic systems. Thus, during pumping, stream depletions will be more than adequately augmented. Because return flows from the uses of the water are estimated rather than measured, return flows may be used only to replace depletions under this plan for augmentation, and may not be used, sold, traded, or assigned in whole or in part for any other purpose.

D. <u>Augmentation of Post Pumping Depletions</u>: This plan for augmentation shall have a pumping period of 300 years. For the replacement of any injurious post-pumping depletions which may be associated with the use of the Miles Wells Nos. 1 through 11, Applicant reserves the entirety of the nontributary Arapahoe (1,650 acre-feet) and Laramie-Fox Hills aquifers (1,130 acre-feet) (which are subject to the 2% relinquishment requirement) decreed in Case No. 18CW3226, for actual stream depletions replaced during the plan pumping period as necessary to replace any injurious

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post pumping depletions. Applicant also reserves the right to substitute other legally available augmentation sources for such post pumping depletions upon further approval of the Court under its retained jurisdiction. Even though this reservation is made, under the Court's retained jurisdiction, Applicant reserves the right in the future to prove that post pumping depletions will be noninjurious. The reserved nontributary Arapahoe and Laramie-Fox Hills groundwater will be used to replace any injurious post-pumping depletions. Upon entry of a decree in this case, the Applicant will be entitled to apply for new well permits for the Miles Wells Nos. 1 through 11 for the uses in accordance with this Application and otherwise in compliance with C.R.S. §37-90-137.

17. Because depletions occur to both the South Platte and Arkansas River systems under the State's groundwater flow model, the Application in this case was filed in both Water Divisions 1 and 2. The return flows set forth above as augmentation will accrue to only the South Platte River system where most of the depletions will occur and where the Applicant's Property is located. Under this augmentation plan, the total amount of depletions will be replaced to the South Platte River system as set forth herein, and the Court finds that those replacements are sufficient under this augmentation plan subject to Paragraphs 35-39 herein.

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

19. Applicant or his successors shall be required to initiate pumping from the Arapahoe and Laramie-Fox Hills aquifers for the replacement of post-pumping depletions when either: (i) the absolute total amount of water available from the Dawson aquifer allowed to be withdrawn under the plan for augmentation decreed herein (2,724 acrefeet) has been pumped; (ii) the Applicant or his successors in interest have acknowledged in writing that all withdrawals for beneficial use through the Miles Wells Nos. 1 through 11 have permanently ceased, or (iii) a period of 10 consecutive years where either no withdrawals of groundwater has occurred.

20. Accounting and responsibility for post-pumping depletions in the amount set forth herein shall continue for the shortest of the following periods: (i) the period provided

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by statute; (ii) the period specified by any subsequent change in statute; (iii) the period required by the Court under its retained jurisdiction; (iv) the period determined by the State Engineer; or (v) the period as established by Colorado Supreme Court final decisions. Should Applicant's obligation hereunder to account for and replace such post-pumping stream depletions be abrogated for any reason, then the Arapahoe and Laramie-Fox Hills aquifer groundwater reserved for such a purpose shall be free from the reservation herein and such groundwater may be used or conveyed by its owner without restriction for any post-pumping depletions.

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

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

23. It is determined that the timing, quantity and location of replacement water under the protective terms in this decree are sufficient to protect the vested rights of other water users and eliminate material injury thereto. The replacement water shall be of a quantity and quality so as to meet the requirements for which the water of senior appropriators has normally been used, and provided of such quality, such replacement water shall be accepted by the senior appropriators for substitution for water derived by the exercise of the Miles Wells Nos. 1 through 11. As a result of the operation of this plan for augmentation, the depletions from the Miles Wells Nos. 1 through 11 and any additional or replacement wells associated therewith will not result in material injury to the vested water rights of others.

### CONCLUSIONS OF LAW

24. The application for Revision of Plan for Augmentation was filed with the Water Clerks for Water Divisions 1 and 2, pursuant to C.R.S. §§37-92-302(1)(a) and 37-90-137(9)(c). These cases were properly consolidated before Water Division 1.

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

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

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

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

29. The Applicant's request for Revision of Plan for Augmentation is contemplated and authorized by law. If administered in accordance with this decree, this revised plan for augmentation will permit the uninterrupted diversions from the Miles Wells Nos. 1 through 11 without adversely affecting any other vested water rights in the Arkansas River and South Platte River or their tributaries and when curtailment would otherwise be required to meet a valid senior call for water pursuant to C.R.S. §§37-92-305(3),(5), and (8).

### IT IS THEREFORE ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

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

31. The Revision of Plan for Augmentation proposed by the Applicant is approved, subject to the terms of this decree.

32. The Applicant has furnished acceptable proof as to all claims and, therefore, the Revision of Plan for Augmentation Application, as requested by the Applicant, is granted and approved in accordance with the terms and conditions of this decree.

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Approval of this Application will not result in any material injury to senior vested water rights.

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

34. The State Engineer, the Division Engineer, and/or the Water Commissioner shall not curtail the diversion and use of water covered by the Miles Wells Nos. 1 through 11 so long as the return flows from the annual diversions associated with the Miles Wells Nos. 1 through 11 accrue to the stream system and the conditions contained herein are satisfied. To the extent that Applicant or one of his successors or assigns is ever unable to provide the replacement water required, then the Miles Wells Nos. 1 through 11 shall not be entitled to operate under the protection of this plan, and shall be subject to administration and curtailment in accordance with the laws, rules, and regulation of the State of Colorado. Pursuant to C.R.S. §37-92-305(8), the State Engineer shall curtail all out-of-priority diversions which are not so replaced as to prevent injury to vested water rights. In order for this plan for augmentation to operate, return flows from the septic systems discussed herein, as appropriate, shall at all times during pumping be in an amount sufficient to replace the amount of stream depletions. If for any reason sufficient return flows are not available to replace the actual depletions as shown on Exhibit A, the Applicant is required to pump water directly into the stream in the amount that has not been replaced by return flows. If such water is withdrawn from the Dawson aguifer well(s) operated under the augmentation plan the amount of water being pumped from the well(s) for other purposes must be reduced so that the allowed annual withdrawal from the well(s) is not exceeded. Such replacement must be made prior to the irrigation season for the following year.

35. The Court retains jurisdiction should the Applicant later seek to amend this decree by seeking to prove that post-pumping depletions are noninjurious, that the extent of replacement for post-pumping depletions is less than the amount of water reserved herein, and other post-pumping matters addressed in Paragraph 16.D.

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

37. As pertains to the Denver Basin groundwater supplies, the court shall retain continuing jurisdiction for so long as Applicant is required to replace depletions to the

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South Platte stream system, to determine whether the replacement of depletions to the South Platte stream system instead of the Arkansas stream system is causing material injury to water rights tributary to the Arkansas stream system.

38. Any person may invoke the Court's retained jurisdiction at any time that Applicant is causing depletions, including ongoing post-pumping depletions, to the Arkansas River system and is replacing such depletions to only the South Platte River system. Any person seeking to invoke the Court's retained jurisdiction shall file a verified petition with the Court setting forth with particularity the factual basis for the alleged material injury and to request that the Court reconsider material injury to petitioners' vested water rights associated with the above replacement of depletions under this decree, together with the proposed decretal language to effect the petition. The party filing the petition shall have the burden of proof going forward to establish a prima facie case based on the facts alleged in the petition and that Applicant's failure to replace depletions to the Arkansas River system is causing material injury to water rights owned by that party invoking the Court's retained jurisdiction, except that the State and Division Engineer may invoke the Court's retained jurisdiction by establishing a prima facie case that material injury is occurring to any vested or conditionally decreed water rights in the Arkansas River system due to the location of Applicant's replacement water. If the Court finds that those facts are established, the Applicant shall thereupon have the burden of proof to show (i) that petitioner is not materially injured, or (ii) that any modification sought by the petitioner is not required to avoid material injury to the petitioner, or (iii) that any term or condition proposed by Applicant in response to the petition does avoid material injury to the petitioner. The Division of Water Resources as a petitioner shall be entitled to assert material injury to the vested water rights of others.

39. Except as otherwise specifically provided in Paragraphs 35-38, above, pursuant to the provisions of C.R.S. §37-92-304(6), this revised plan for augmentation decreed herein shall be subject to the reconsideration of this Court on the question of material injury to vested water rights of others, for a period of three years, except as otherwise provided herein. Any person, within such period, may petition the Court to invoke its retained jurisdiction. Any person seeking to invoke the Court's retained jurisdiction shall file a verified petition with the Court setting forth with particularity the factual basis for requesting that the Court reconsider material injury to petitioner's vested water rights associated with the operation of this decree, together with proposed decretal language to effect the petition. The party filing the petition shall have the burden of proof of going forward to establish a prima facie case based on the facts alleged in the petition. If the Court finds those facts are established. Applicant shall thereupon have the burden of proof to show: (i) that the petitioner is not materially injured, or (ii) that any modification sought by the petitioner is not required to avoid material injury to the petitioner, or (iii) that any term or condition proposed by Applicant in response to the petition does avoid material injury to the petitioner. The Division of Water Resources as a petitioner shall be entitled to assert material injury to the vested water rights of others. If no such petition is filed within such period and the retained jurisdiction period is not extended by the Court

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in accordance with the revisions of the statute, this matter shall become final under its own terms.

40. Pursuant to C.R.S. §37-92-502(5)(a), the Applicant shall install and maintain such water measurement devices and recording devices as are deemed essential by the State Engineer or Division Engineers, and the same shall be installed and operated in accordance with instructions from said entities. Applicant is to install and maintain a totalizing flow meters on all Wells or any additional or replacement wells associated therewith. Applicant is also to maintain records and provide reports to the State Engineer or Division Engineers as instructed by said entities, on at least an annual basis. Applicant will be required to provide accounting as required by the State Engineer or Division Engineer. Such accounting must include the amount of water pumped by each Denver Basin well, the annual depletion, the amount of replacement water provided by each replacement source, the net impact on the stream and any other information required by the Division Engineer to properly administer the decree.

41. The entire length of open bore holes shall be geophysically surveyed prior to casing and copies of the geophysical log submitted to the Division of Water Resources. Applicant may provide a geophysical log from an adjacent well or test hole, pursuant to Rule 9A of the Statewide Rules and acceptable to the State Engineer, which fully penetrates the aquifer, in satisfaction of the above requirement.

42. Groundwater production shall be limited to the subject aquifers. Plain, unperforated casing must be installed and properly grouted to prevent withdrawal from or intermingling of water from zones other than those for which the well was designed.

43. Each well shall be permanently identified by its permit number, this Water Court Case Number, and the name of the producing aquifer on the above-ground portion of the well casing or on the pump house.

44. The vested water rights, water right structures, and revised plan for augmentation decreed herein shall be subject to all applicable administrative rules and regulations, as currently in place or as may in the future be promulgated, of the offices of Colorado State and Division Engineers for administration of such water rights, to the extent such rules and regulations are uniformly applicable to other similarly situated water rights and water users. The State Engineer shall identify in any permits issued pursuant to this decree the specific uses which can be made of the groundwater to be withdrawn, and shall not issue a permit for any proposed use, which use the State Engineer determines to be speculative at the time of the well permit application or which would be inconsistent with the requirements of this decree, any separately decreed plan for augmentation, or any modified decree and augmentation plan.

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

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Dated: November 8, 2022

John S. Cowan Water Referee Water Division One

### DECREE

The court finds that no protest was filed in this matter. The foregoing ruling is confirmed and approved and is made the judgment and decree of this Court.

Date: December 9, 2022

Todd L. Taylor<sup>#</sup> Water Judge Water Division One

Table 1: Estimated Groundwater Volumes for Terra Ridge North Subdivisk				
Location:	Ne 1/4 of SW 1	1/4 of Section 29, Township 11 S, Range 65 W		
Address:	15630 Fox Cre	ek Lane, Colorado Springs, CO 80908		
Case Number:		18CW3226		
Elevation:		7,177 ft		
Sarface Area:	ace Area: 52.63 Acres - Total			
Surface Area (Dev	elopment):	39.72 Acres (Lots 2-12)		
Number of lots:		<ol> <li>In development (13 total)</li> </ol>		
Designated Basin:		None		
Management Distri	ict:	None		

Aquifer	Surface Area (Acres)	Nes Sand (ft) <sup>s</sup>	Avg. Specific Vield (%)	Total Approp. Volume (AF)	100-year Ann. Aprop. (AE/yr)	300-усог Ана. Аргор. (АУ/ут)
Upper Dawson (NNT)	39.72	510.00	20.00%	4051.44	40.51	13.505
Denver (NT)	39.72	470.00	17.00%	3173.63	31.74	10.579
Upper Arapahoe (NT)	39.72	245.00	17.00%	1654.34	l6.54	5.514
Laramie-Fex Hills (NT)	39.72	190.00	15.00%	1132.02	11.32	3.773

Note 1: Estimated saturated thickness taken from SB-S Bedrock Aquifer Evaluation Determination Tool for the Denver Basin.

Table 2: Estimated Annual Water Use and Pumping Rates - Dawson Aquifer

Appendix B: Estimated Annual Water Use and Pumping Rates

Usc	Constant	increment					
Eleven Wells							
Donnestic Indoor	0.260	AFrycar					
Imigation	0.521	AFryear					
Stock Watering <sup>2</sup>	0.044	AFrycar					
Total Well Demand	0.825	AFfyeanflot					
Note 1: Assume 5,050 6 <sup>2</sup> at 0.4666 per 1,040 6 <sup>2</sup> irrigation.							
Nois 2: Assume 4 horses at \$\$15 Althorse/year							

Total Annual Usage (11 wells total) 9.080 AF/year

### Estimated Return Flows through Septic (domestic use only)

Percent of domestic	90.00%	of Residence
Volume return	2.574	AFryear

Table 3: AUG-3 Denver Basin Depletion Model - Maximum Depletions Using SB 5-year\_Timestep\_2019 Model for wells outside of Desginated Basins Danson Aquifer - Not-Nontributary

Pomping Interval	Formation	Total DepL	Total Depl. (%	Year of Mas.	Div. 1 Depletion	Div. 2 Depletion	Designated
a mentonelli umeccean	La Cataller Chéron	(AF/yr)	of Pamping)	Depletion	(AF/yr)	(AFfor)	Basia (AF/yr)
			Moyear pu	oping period			
Pumping Period	Dawson (NNT)	1.913	21.06%	300	1.030	0.715	0.168
Model Period	Dawson (NNT)	1.913	21.06%	300	1.030	0.715	0.168

	Depletion	Annual		Depletion	Annaal		Depletion	Annual		Depletion	Arruat
	as a % of	Deptetion		as a % of	Depletion		as a % of	Depletion		as a % of	Depletion
Year	Pumping	(AF/YR)	Year	Pumping	(AF/YR)	Year	Pumping	(AF/YR)	Year	Pumping	(AF/YR
5	0.41	0.037	255	18.05	1.639	505	18.44	1.674	755	13.67	1.241
10	0.79	0.072	260	18.39	1.670	510	18.34	1.665	760	13.59	1.234
15	1.13	0.103	265	18.73	1.700	515	18.23	1.655	765	13.51	1.227
20	1.45	0.132	270	19.07	1.731	520	18.13	1.646	770	13.42	1.219
25	1.77	0.160	275	19.40	1.762	525	18.02	1.637	775	13.34	1.211
30	2.08	0.189	280	19.74	1.792	530	17.92	1.627	780	13.28	1.204
35	2.39	0.2:17	285	20.08	1.823	535	17.82	1.618	785	13.18	1.197
40	2.71	0.246	290	20.41	1.853	540	17.72	1.609	790	13.10	1.190
45	3.03	0.275	295	20.74	1.883	545	17.62	1.600	795	13.02	1.182
50	3.36	0.305	300	21.06	1.913	550	17.51	1.590	800	12.94	1.175
55	3.69	0.335	305	20.98	1.905	555	17.41	1.581	805	12.66	1.168
60	4.02	0.385	310	20.92	1.900	560	17.31	1.571	810	12.79	1.161
65	4.36	0.396	315	20.90	1.898	565	17.20	1.562	815	12.71	1.154
70	4.71	0.427	320	20.90	1.898	570	17.11	1.553	820	12.63	1.147
75	5.05	0.459	325	20.91	1.899	575	17.00	1.544	825	12.56	1.140
80	5.40	0.491	330	20.91	1.899	580	16.90	1.534	830	12.48	1.133
85	5.76	0.523	335	20.91	1.899	585	16.80	1.526	835	12.41	1.127
90	6.12	0.555	340	20.91	1.899	590	16.70	1.516	840	12.34	1.120
95	6.4B	0.588	345	20.90	1.898	595	16.60	1.508	845	12.28	1.113
100	6.84	0.621	350	20.89	1.897	600	16.50	1.498	850	12.18	1.106
105	7.20	0.654	355	20.86	1.894	605	16.40	1.489	855	12.11	1.100
110	7.57	0.687	360	20.83	1.892	610	16.30	1.480	860	12.04	1.093
115	7.93	0.720	365	20.80	1.889	615	16.21	1.471	865	11.97	1.087
120	8.30	0.753	370	20.75	1.884	620	16.11	1.463	870	11.90	1.080
125	8.67	0.787	375	20.71	1.881	625	16.01	1.454	875	11.82	1.074
130	9.04	0.821	380	20.66	1.876	630	15.92	1.445	880	11.75	1.067
135	9.41	0.854	385	20.60	1.871	635	15.82	1.437	885	11.68	1.061
140	9.77	0.887	390	20.54	1.865	640	15.73	1.428	890	11.61	1.054
145	10.15	0.922	395	20.47	1.859	645	15.63	1.419	895	11.55	1.048
150	10.52	0.955	400	20.40	1.852	650	15.53	1.411	900	11.47	1.042
155	10.88	0.988	405	20.33	1.846	655	15.44	1.402	905	11.40	1.035
160	11.26	1.022	410	20.25	1.839	660	15.34	1.393	910	11.34	1.029
165	11.63	1.056	415	20.17	1.831	665	15.26	1.385	915	11.27	1.023
170	11.99	1.089	420	20.09	1.824	670	15.16	1.376	920	11.20	1.017
175	12.36	1.122	425	20.00	1.816	675	15.07	1.369	925	11.14	1.011
180	12.73	1.156	430	19.92	1.808	680	14.98	1.360	930	11.07	1.005
185	13.09	1.188	435	19.83	1.800	685	14.69	1.352	935	11.00	0.999
190	13.45	1.221	440	19.73	1.792	690	14.79	1.343	940	10.94	0.993
195	13.81	1.254	445	19.64	1.783	695	14.71	1.335	945	10.68	0.987
200	14.17	1.287	450	19.55	1.775	700	14.62	1.327	950	10.81	0.982
205	14.54	1.320	455	19.45	1.766	705	14.53	1.319	955	10.75	0.976
210	14.89	1.352	460	19.35	1.757	710	14.44	1.311	960	10.68	0.970
215	15.25	1.384	465	19.25	1.748	715	14.35	1.303	965	10.62	0.964
220	15.61	1.4.17	470	19.15	1.739	720	14.27	1.295	970	10.56	0.958
225	15.96	1.449	475	19.05	1.730	725	14.18	1.287	975	10.49	0.953
230	16.31	1.481	480	18.95	1.721	730	14.09	1.279	980	10.43	0.947
235	16.66	1.513	485	18.85	1.712	735	14.01	1.272	985	10.37	0.942
240	17.01	1.545	490	18.75	1.702	740	13.92	1.264	990	10.31	0.936
245	17.35	1.576	495	18.65	1.693	745	13.64	1.256	995	10.24	0.930

Created by Douglas E. Schwenke, P.E. on April 29, 2022 Values for Depletion as a % of Pumping' (q/Q) are not calculated when the pumping rate (Q) is changed to anything but zero.

4/29/20/22

Ref No.         Model Period (yeers)         700           RP.M.         3724         Asprilles         Appleard Name         5hy Miles         500           RP.M.         16 Muscial         Model Period (yeers)         300         300         300           Afyrit         300         Number of Yeers of Benuching         300         300         300           Afyrit         303         303         Number of Yeers of Benuching         300         300           Afyrit         2724         1000 Year         Model         Number of Yeers of Benuching         300           Afyrit         2724         Total Volume (ar-sh)         3724         300         300           Afyrit         2724         Total Volume (ar-sh)         32724         300         300           Afyrit         2724         Total Volume (ar-sh)         300         300         300           Afyrit         Agriter Mill Sort         Logal Volume (ar-sh)         300         300         300           Streams         000th Year         Agriter Mill Sort         Agriter Mill Sort         Maximum Maximum Maximum Maximum Maximum Maximum Maximum (ar-sh)         40           Streams         0.00         0.01         1.01         Model         Maximum Maximu	Summary Table 1	able 1			Summary Table 2			
Int Name         Step Miles         Applicant Name         Specific Name           (0. V. Riccolig No.)         180/V.32.86         No.				Model Period (years)	700			
(0. or Receipting, and State of Purphy)         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300         (300 <th>Applebrand Plane</th> <th>Stery Miles</th> <th></th> <th>Appleters Memo</th> <th>Shay Miles</th> <th></th> <th></th> <th></th>	Applebrand Plane	Stery Miles		Appleters Memo	Shay Miles			
rol Years of Pumping         300         301         Number of Years of Pumping           Or Mane (ac-h)(rr)         2/3         0.03         Tool Nuburne (ac-h)(rr)           Or Mane (ac-h)(rr)         2/3         EEC 23 T15 R65 M         Tool Nuburne (ac-h)(rr)           Or Mane (ac-h)(rr)         2/3         EEC 23 T15 R65 M         Logal for Nuburne (ac-h)(rr)           Or Mane (ac-h)(rr)         EEC 23 T15 R65 M         Logal for Nuburne (ac-h)(rr)         Logal for Nuburne (ac-h)(rr)           Or Mane (ac-h)(rr)         EEC 23 T15 R65 M         Model         Model         Model           Or Mane (ac-h)(rr)         DA(R)         Model         Model         Model           Merini         000h Year Stream (ac-h)(rr)         Model         Model         Model           Micri R         Model         Model         Model         Model         Model           Merini         000h Year Stream (ac-h)(rr)         Model         Model         Model         Model           Micri R         Model         Model         Model         Model         Model         Model           Micri R         Model	Case No. or Receipt No.	18CW3226		Case No. or Receipt No.	18CM358			
g β.4 de (ar>h/h)         203         0.03         0.03         0.03         0.03         0.03         0.04 hr         0.00	Aunther of Years of Pumping	300		Number of Years of Pumping	300			
Utime (ac-N)         27:34         Total Volume (ac-N)           or Mi Scribons         DACC         Model         Total Volume (ac-N)           or Mi Scribons         DACC         Model         Model           or Mi Scribons         DACC         Model         Acuities           or Mi Scribons         DACC         Model         Acuities           MeMi         DAC         Model         Acuities           MeMi         Acuities         Acuities         Acuities           MeMi         ac-Myst)         Mo         Model         Streams           MeMi         0001         1.001         Model         Streams           MeMi         0.00         0.01         1.01         Model           MeMi         0.00         0.01         0.01         Model           MeMi         0.00         0.00         0.00         Model           MeMi         0.00         0.00         0.00         Model           MeMi         0.00         0.00         0.00         0.00           MeMi         0.00         0.00         0.00         0.00           MeMi         Model         0.00         0.00         0.00           MeMi	Pumping Rate (ac-8 jm)	908		Pumping Rate (soft)n)	8.08			
or All Sacilianis         Sections         Sections           or All Sacilianis         DAVESON         Model           From DepVEOIN         DAVESON         Model           From DepVEOIN         DAVESON         Aquider           From DepVEOIN         Aquider         Model           From DepVEOIN         04046400         Aquider           Streams         100th Year         qr0           Streams         100th Year         qr0           Streams         0.00         1.00           Attract         0.00         0.00           RUM-WRE BRANCH         0.10         1.06           RUM-WRE BRANCH         0.00         0.01           No         0.01         0.01         0.	Total Volume (ac41)	27.24		Total Volume (ac-#)	2724			
DA02         DA02         Model           IO0th Year Stream Depletion         Aquider         Aquider           IO0th Year Stream Depletion         Aquider         Aquider           Streams         100th Year Stream Depletion         Aquider           Streams         100th Year Stream         Aquider           RUM-Wear Streams         100th Year (Mainer Streams)         Aquider           RUM-Wear Streams         0.01         1.05         Movilia           RUM-Wear Streams         0.01         1.05         Movilia           RUM-Wear Streams         0.01         1.05         Movilia           REV         0.00         0.01         1.05         Movilia           REV         0.00         0.01         0.01         1.01           Mer OFER         0.00         0.01         0.01         0.01           Mer OFER         0.00         0.01         0.01         0.01           Movide         0.00         0.00         0.00         0.00           Mer OFER         0.00         0.00         0.00         0.00           Mer OFER         0.00         0.00         0.00         0.00           Mer OFER         0.00         0.00         0.00	Legator At Sections	SEC 29 T115 R65W		Legal for All Sections	Ľ.			
IDO/H         Depletion         Aquider           100th         Year         Streams         Perition           8reams         100th         Year         Streams           8reams         0 apletion         (n)         106           8reams         0 10         1.06         MONIMENT           0.0         0.0         0.0         EAST FLUM-WASE BRANCH           VERSION         0.0         0.0         EAST FRUM-MASE BRANCH           VI         0.0         0.0         0.0         EAST FRUM-MASE BRANCH           VI         0.0         0.0         0.0         EAST FRUM-MASE BRANCH           VI         0.0         0.0         0.0         EAST FRUM-MASE BRANCH <td>Attracted to the second s</td> <td>DVCC</td> <td></td> <td>(Alade)</td> <td>DA02</td> <td></td> <td></td> <td></td>	Attracted to the second s	DVCC		(Alade)	DA02			
In Stream Depletion         and         Streams           100h Yaar         0         and         Streams           0         0         0         0         Streams         Streams           0         0         0         Streams	Aquities	DANISON		Aquilitier	DANSON			
100h Year         qM         Streams           Capletion         M         M         Streams           (ac-Nbyr)         M         M         Streams           (ac-Nbyr)         M         M         Streams           (ac-Nbyr)         M         M         Streams           (ac-Nbyr)         0.0         1.06         MONUMENT           0.00         0.01         EAST FLUK-NMSE ERF.ANCH         I           0.00         0.01         I.11         WEST FLUK-NMSE ERF.ANCH         I           0.01         0.03         3.35         EART.PM         I         I           0.02         0.03         0.03         I         I         I           0.02         0.03         0.04         I         I         I           0.03         0.04         I         I         I	100th Year Stream	m Depletion			num Stream Deple	stion		
Order Frame (arc-41)pr)         q10 (arc-41)pr)         Galaction (arc-41)pr)         q10 (b)         Streams (arc-41)pr)           0         0         1.06         0.01         EAST PLUNI-WSE BRANCH         1           0         0.00         0.01         EAST PLUNI-WSE BRANCH         1         1           0         0.00         0.01         EAST PLUNI-WSE BRANCH         1         1           0         0.00         0.01         ILI WENT CHEBRY         1         1           0         0.01         0.01         WANNE CREEK         1         1           0         0.01         0.01         WENNING CREEK         1         1           0         0.01         1.11         WENT HIGG CREEK         1         1           0         0.01         1.11         WENT HIGG CREEK         1         1           0         0.01         0.01         1.11         WENT HIGG CREEK         1         1           0         0.02         0.03         8.400 HIGC         1         1         1           0         0.03         EA ACK S2UHRFUL-UESCOE         1         1         1         1           0         0.03         EA ACK S2UHRFUL-UESCOE		4 APRIL VAL			Max. Depletion	Yaar	Max. Ooplellon	Year
Localization         (a)           (a)         1.06         MOMUMENT           0.00         0.01         EAST RLUM-WAS BRANCH           0.00         0.01         EAST RLUM-WAS ERANCH           0.01         0.00         RUNNING CREEK           0.01         0.01         EAST FALUE           0.01         0.01         EAST FALUE           0.01         0.01         BANUT           0.01         0.03         335           0.01         0.06         CHERRY           0.01         0.06         CHERRY           0.01         0.06         CHERRY           0.01         0.06         CHERRY           0.02         0.03         EAST CHERRY           0.03         EAST CHERRY         CHERRY           0.03         0.04         CHERRY           0.03         EAST CHERRY         CHERRY           0.03         EAST CHERRY         CHERRY           0.03         CHERRY         CHERRY           0.03	81111111111111111111111111111111111111	Turan Team	ę,	Contraction of Contra	during	duning	duning	during
Q. 10         1.06         MCMUMENT         C.           Q. 00         Q.01         EAST FRUMMENT         C.           Q. 00         Q.01         EAST FRUMMENT         C.           Q. 00         Q.01         EAST FRUMMENT         C.           Q. 01         1.11         EAST FRUMMENT         C.           Q. 01         1.11         EAST FRUMMENT         C.           Q. 01         0.01         0.01         EAST CREPERY           Q. 01         0.03         3.35         EAST CREPERY           Q. 01         0.09         CHEPRY         C.           Q. 01         0.09         CHEPRY         C.           Q. 01         0.09         EAST CREPERY         C.           Q. 02         0.09         EAST CREPERY         C.           Q. 03         3.35         EAST CREPERY         C.           Q. 03         0.03         EAST CREPERY         C.           Q. 03         0.03         EAST CREPERY         C.           Q. 04         C.         C.         C.         C.           Q. 03         0.03         EAST CREPERY         C.         C.           Q. 03         0.03         EAST CREPERY		(ac-4/hr)	Ē		model period	model	pernping parted	Bundhund
0.00         0.01         EAST FRUMENT ME BRANCH         0           0.00         0.01         FUNNING CREEK         0         0           0.00         0.00         RUNNING CREEK         0         0           0.00         0.00         RUNNING CREEK         0         0           0.01         1.11         EAST CHERRY         0         0           0.01         0.03         5.5         EAST CHERRY         0           0.01         0.06         CHERRY         0         0           0.01         0.06         CHERRY         0         0           0.02         0.03         5.5         EAST CHERRY         0         0           0.03         0.05         EAST CHERRY         0         0         0         0         0           0.03         0.05         EAST CHERRY         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0	a afteria la activit	0.10	1.08		1980-1990)N   A GAS	0-00-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0	i Manana ini.	Demona Series
0.00         0.00         RUMMING CREEK         0.00           0.10         1.11         WEST CHERRY         0.00           0.10         1.11         WEST CHERRY         0.00           0.10         0.13         KET CHERRY         0.00           0.01         0.06         CHERRY         0.00           0.02         0.18         KRUDHA         0.00           0.02         0.18         KRUDHA         0.00           0.03         KRUDHA         0.00         0.00           0.04         0.05         KRUDHA         0.00           0.03         KRUDHA         0.00         0.00           0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00         0.00           0.00         0.00         0.00         0.00         0.00           0.01         0.01         0.01         0.01         0.01         0.01           0.01         0.01         0.01         0.01         0.01         0.01           0.02         0.03         0.04         0.04         0.04         0.01           0.03         0.04         0.04         0.04         0.04 </td <td>EAST FRUM WAE BRANCH</td> <td>289</td> <td>001</td> <td>EAST PLUM-WEE BRANCH</td> <td>0.13</td> <td>52</td> <td>0.04</td> <td>808</td>	EAST FRUM WAE BRANCH	289	001	EAST PLUM-WEE BRANCH	0.13	52	0.04	808
0.10         1.11         WEST CHERRY         0.10         0.11         WEST CHERRY         0.00         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01         0.01 <td>RUNNING ORDEK</td> <td>89</td> <td>000</td> <td>RUNING CREEK</td> <td>002</td> <td>880</td> <td>0.01</td> <td>300</td>	RUNNING ORDEK	89	000	RUNING CREEK	002	880	0.01	300
0.30         3.35         EAST CHERRY         0.30         0.35         EAST CHERRY         0.00         0.01         0.000         0.01         0.000         0.01         0.000         0.01         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000         0.000	WEST CPEERY	0.10	111	WEST CHERRY	0.36	999		300
0.01         0.06         CHERRY         0.01         0.06         CHERRY           0.02         0.18         MOVMA         0.05         MOVMA         0.05         MOVMA           0.05         0.16         0.16         SANDTOTIV2         0.00         EXADTOTIV2         0.00         EXADTOTIV2         0.00         EM SCURPEREL-UESCODE         0.00         0.00         EM SCURPEREL-UESCODE         0.00         0.00         EM SCURPEREL-UESCODE         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00         0.00	EAST CHERRY	6.0	335	EAST CHERRY	057	8		300
0.02         0.18         NPD-WA           0.05         0.18         KENTDE           0.06         0.48         KENDDR2           0.00         0.46         SAND-TV2           0.00         0.00         EK SANDY           0.00         0.00         EK SANDY           0.00         0.00         EK SANDY           0.00         0.03         EK ACK SOUNTER-LUESCODE           0.00         0.03         EK ACK SOUNTER-LUESCODE           0.00         0.03         EX ACK SOUNTER-LUESCODE           0.01         0.03         EX ACK SOUNTER-LUESCODE           0.02         0.03         EX ACK SOUNTER-LUESCODE           0.03         EX ACK SOUNTER-LUESCODE         EX ACK SOUNTER-LUESCODE           0.03         EX ACK SOUNTER-LUESCODE         EX ACK SOUNTER-LUESCODE           0.03         EX ACK SOUNTER-LUESCODE         EX ACK SOUNTER-LUESCODE           0.03         0.04         A.53         SOUNTER-LUESCODE           0.03         0.04         A.53         SOUNTER-LUESCODE	OHERRY	0.01	000	CHERRY	0.13	570	2010	300
0.05         0.58         NETTLE           0.04         0.46         SWID-DIV2           0.00         0.00         EX-ADIY           0.01         0.00         EX-ADIY           0.01         0.01         EX-ADIY           0.02         6.84         Total           0.11         4.53         South Plante Alo Designated Eastin Streams)           0.13         0.19         2.10         Annumestes (No Designated Eastin Streams)	RICHAR	2010	0.13	MACIN	021	9 <b>2</b> 5	0.14	300
0.04         0.46         SavID-DIV/2           0.00         0.00         EMS SAvID/Y           0.00         0.00         EMS SAVID/Y           0.00         0.00         EMS SAVID/Y           0.00         0.03         EM ACK SOLIMITEL-UESCODE           0.01         0.03         EM ACK SOLIMITEL-UESCODE           0.02         0.03         Flame           0.03         6.44         1.041           0.13         0.41         4.53           0.10         2.10         Antimised Eastin Streams)           0.13         0.13         Antimised Eastin Streams)	KEITLE	0.05	0.58	WEILITE	0.15	315	0.14	300
0.00         0.00         BMS SAMDY           0.00         0.03         ELACK SOUMPREL-UESCOE           0.02         0.03         ELACK SOUMPREL-UESCOE           0.03         6.4         Togat           0.041         4.53         South Plane #to Designated Eastin Streams)           0.19         2.10         Ansimise (No Designated Eastin Streams)           0.19         2.10         Ansimise (No Designated Eastin Streams)	SAND-DN/2	0.04	046	SAND-DN/2	027	375	0.24	300
0.00         0.03         ELACK SOUMPTEL-UESCOE           0.62         6.84         Total           0.62         6.84         Total           0.61         6.84         Total           0.62         6.84         Total           0.62         6.84         Total           0.61         4.53         South Plane No Designated Eastin Streams)           0.19         2.10         Anteness (No Designated Eastin Streams)           0.19         2.10         Anteness (No Designated Eastin Streams)	ENG SANDY	00	000	ENG SAMDY	000	1000	000	300
0.62         6.84         Total           Remish         0.41         4.53         South Plane (No Designated Eastin Streams)           mish         0.19         2.10         Antenesses (No Designated Eastin Streams)           mish         0.19         2.10         Antenesses (No Designated Eastin Streams)	BLACK SCURFEL-UESCOB	00	003	BLACK SOURTEL-UESODE	0.04	469	60.0	300
Remish 0.41 4.53 South Plane (No Designated Eastin Streams) mish 0.19 2.10 Anticensis (No Designated Eastin Streams) 0.01 Anticensis (No Designated Eastin Streams)	Toolaa	0 CC	6.84	Total	1.81	DOC	1.81	ok
Reams         0.41         4.5.3         South Plane #10 Elevitimed Elevitim Streams}           misit         0.19         2.10         Antimized (No Designated Elevitim Streams)           misit         0.19         2.10         Antimized (No Designated Elevitim Streams)								
013) 0.19 2.10 Arkansas (No Designated Eash Sinasma) 0.19 0.00 0.00 0.00 0.00 0.00 0.00 0.00		0.41	4.53	South Plane Alo Designand Basin Streams)	103	900	60°1	300
[1] [2] [2] [2] [2] [2] [2] [2] [2] [2] [2		610	210	Arkenses (No Designated Easth Streams)	820	996	1410	300
	Designetied Besin	0.02	021	<u>ರಿ ನಾತ್ರಿದಾ ಸೌಕಾದ ಭೇನಾತಿಗಾ</u>	025	510	0.17	300

 Designation
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FILED IN	COMBINED COURTS
FREMONT	COUNTY, COLORADO

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DISTRICT COURT, WATER DIVISION 2, COLORADO

Case No. 96CW68

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DISTRICT COURT, WATER DIVISION 1, COLORADO Case No. 96CW146 FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT AND DECREE

CONCERNING THE APPLICATION FOR WATER RIGHTS OF TERRA FIVE DEVELOPMENT, LLC, AND NORTHGATE COMPANY, 10 2792 Terre five Div Aug IN EL PASO COUNTY.

THIS MATTER having come before the Water Judge upon the application of Willard E. Neugebauer, Cornerstone Development, LLC, and Northgate Company, for groundwater rights and approval of plan for augmentation (Terra Five Development, LLC, subsequently purchased the Subject Property). The Water Judge, having considered the pleadings, the stipulations of the parties, and the evidence presented, and being fully advised in the premises, it is hereby the Judgment and Decree of the Court.

### FINDINGS OF FACT

1. Name and Address of Applicants. Terra Five Development, LLC, 8987 Village Pine Circle, Franktown, Colorado 80116 (303) and Northgate Company, 3720 Sinton Road, Colorado Springs, Colorado 80907. As used below, "Applicant" refers only to Terra Five Development, LLC, and its successors and assigns, including the Property Owners Association described in paragraph 13, and "Applicants" refers to the same, including the Northgate Company.

2. <u>History of Case</u>. The Applicant is represented by Holly I. Holder, P.C. The applications for underground water rights and approval of a plan for augmentation were filed in Case No. 96CW68 in Water Division 2 and in Case No. 96CW146 in Water Division 1 in June, 1996. Statements of opposition were filed City of

Decree 96CW68 and 96CW146

Colorado Springs in Case No. 96CW68 and the City of Thornton in Case No. 96CW146. The Objectors have stipulated to the entry of this decree. No other statements of opposition have been filed and the time for filing such statements has expired. A motion to consolidate the cases was filed before the Panel on Consolidated Multidistrict Litigation in Case No. 96MDL18, and an order consolidating the cases in Water Division 2 was entered on February 19, 1997. An Order rereferring the cases to the Water Judge for Water Division 2 was entered on March 3, 1997.

3. <u>Subject matter jurisdiction</u>: Timely and adequate notice of the applications were published as required by statute, and the Court has jurisdiction over the subject matter of this proceeding and over the parties affected hereby, whether they have appeared or not.

### APPROVAL OF GROUNDWATER RIGHTS

4. Aquifers and location of ground water: Applicant seeks a decree for rights to all ground water recoverable from the not nontributary Dawson and nontributary Denver, Arapahoe and Laramie-Fox Hills aquifers underlying approximately 240 acres of land, located in the parts of Section 29 and Section 32, T11S, R65W, 6th P.M., as more particularly described and shown on Attachment A hereto ("Subject Property"). The Subject Property is not located within the boundaries of a designated ground water basin.

5. Well locations, pumping rates and annual amounts: The ground water may be withdrawn at rates of flow necessary to efficiently withdraw the amounts decreed herein so long as the permitted rates are not exceeded. The ground water will be withdrawn through any number of wells necessary, to be located at any location on the Subject Property, so long as each well is located within 200 feet of its permitted location, in the following annual amounts.

Aquifer	Amount
Dawson	240.0 acre-feet(NNT)
Denver	192.0 acre-feet(NT)
Arapahoe	97.9 acre-feet(NT)
Laramie-Fox Hills	68.4 acre-feet(NT)

The amounts conform with the values and amounts referenced in the State Engineer's Determination of Facts dated October 4, 1996.

6. Proposed Use: The water withdrawn from the subject aquifers will be used, reused, successively used, and after use leased, sold, or otherwise disposed of for the following beneficial purposes: municipal, domestic, industrial, commercial, irrigation, stock watering, recreational, fish and wildlife, and any other beneficial purpose, both on and off the Subject Property. Said water will be produced for immediate application to said uses, for storage and subsequent application to said uses, for exchange purposes, for replacement of depletions resulting from the use of water from other sources, and for augmentation purposes.

### 7. Final average annual amounts of withdrawal:

A. Final determination of the applicable average saturated sand thicknesses and resulting average annual amounts available to Applicant will be made pursuant to the retained jurisdiction of this Court, as described in paragraph 26 below. The court shall use the acre-foot amounts in paragraph 5 herein in the interim period, until a final determination of water rights is made.

B. The allowed annual amount of ground water which may be withdrawn through the wells specified above and any additional wells, pursuant to 37-90-137(10), C.R.S., may exceed the average annual amount of withdrawal decreed herein for that aquifer, as long as the total volume of water withdrawn through such wells and any additional wells therefor subsequent to the date of this decree does not exceed the product of the number of years since the date of the issuance of any well permits or the date of this decree, whichever is earliest in time, multiplied by the average annual amount of withdrawal decreed herein for that aquifer, as specified above or as determined pursuant to the retained jurisdiction of the Court. However, amounts set forth in well permits will not be exceeded.

### 8. Source of ground water and limitations on consumption:

A. The ground water to be withdrawn from the Denver, Arapahoe and Laramie-Fox Hills aquifers is "nontributary groundwater" as defined in 37-90-103(10.5), C.R.S., and in the Denver Basin Rules, the withdrawal of which will not, within 100 years, deplete the flow of a natural stream, including a natural stream as defined in 37-82-101(2) and 37-92-102(1)(b), C.R.S., at an annual rate greater than 1/10 of 1% of the annual rate of withdrawal. The ground water to be withdrawn from the Dawson aquifer is "not nontributary" as defined in 37-90-137(9)(c), C.R.S. and such water may be withdrawn pursuant to the plan for augmentation approved herein.

B. Applicant may not consume more than 98% of the annual quantity of water withdrawn from the nontributary Denver, Arapahoe and Laramie-Fox Hills aquifers. The relinquishment of 2% of the annual amount of water withdrawn to the stream system, as required by the Denver Basin Rules effective January 1, 1986, may be satisfied by any method selected by the Applicant and accepted as satisfactory to the State Engineer, so long as Applicant can demonstrate that an amount equal to 2% of such withdrawals (by volume) have been relinquished to the stream system.

C. There is unappropriated groundwater available for withdrawal from the subject aquifers beneath the Subject Property, and the vested water rights of others will not be materially injured by such withdrawals as described herein. Withdrawals hereunder are allowed on the basis of an aquifer life of 100 years, assuming no substantial artificial recharge within 100 years. No material injury to vested water rights of others will result from the issuance of permits for wells which will withdraw nontributary groundwater or the exercise of the rights and limitations specified in this decree.

### 9. Additional wells and well fields:

A. Applicant may construct additional and replacement wells in order to maintain levels of production, to meet water supply demands or to recover the entire amount of groundwater in the subject aquifers underlying the Subject Property. As

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additional wells are planned, applications shall be filed in accordance with 37-90-137(10), C.R.S.

B. Two or more wells constructed into a given aquifer shall be considered a well field. In effecting production of water from such well field, Applicant may produce the entire amount which may be produced from any given aquifer through any combination of wells within the well field.

C. In considering applications for permits for wells or additional wells to withdraw the groundwater which is the subject of this decree, the State Engineer shall be bound by this decree and shall issue said permits in accordance with provisions of 37-90-137(10), C.R.S.

D. In the event that the allowed average annual amounts decreed herein are adjusted pursuant to the retained jurisdiction of the Court, Applicant shall obtain permits to reflect such adjusted average annual amounts prior to withdrawing the adjusted amounts. Subsequent permits for any wells herein shall likewise reflect any such adjustment of the average annual amounts decreed herein.

E. The water in the Dawson aquifer is not nontributary and up to 40 acre-feet per year and no more than 12,000 acre-feet total may be withdrawn pursuant to the augmentation plan decreed herein.

### APPROVAL OF PLAN FOR AUGMENTATION

### 10. Description of Plan for Augmentation:

A. Structures to be augmented: Up to 40 individual wells in the not nontributary Dawson aquifer decreed herein. The wells will withdraw Dawson aquifer groundwater at rates of flow not to exceed 15 gpm or an annual amount of 1 acre-foot annually per well. The maximum total annual withdrawal shall be limited to 40 acre-feet per year under this decree.

B. Consumptive Use: This plan for augmentation provides for sewage treatment on approximately 20 of the lots by nonevaporative septic systems and on approximately 20 of the lots by evaporative type systems (if necessary based on actual soil

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### Decree 96CW68 and 96CW146

conditions). Inhouse use for the 40 lots is estimated to be 12 acre-feet annually (0.30 acre-feet per lot). Consumptive use for inhouse uses is estimated to be 10% of use for lots utilizing non-evaporative septic systems or approximately 0.03 acre-feet annually per lot. Evaporative type systems will consume 100% of inhouse use. Before any other type of sewage treatment is proposed in the future, including incorporation of the lots into a central sewage collection and treatment system, Applicant, or its successors and assigns, will amend this decree prior to such change and thereby provide notice of the proposed change to other water users by publication in the resume for Water Division 1 and Water Division 2.

Outside irrigation shall be limited to an average of 13,000 square feet per lot based on a use of 0.65 acre-feet per lot (26 acre-feet per year total), for an irrigation consumptive use of approximately 20.8 acre-feet annually (0.52 acre-feet per lot). Each well will water up to four horses (0.05 acre-feet per year) and consumptive use associated with stockwatering is assumed to be 100% of use. Total annual consumptive use for the 40 lots is estimated to be a maximum of 29.4 acre-feet per year (6.6 acrefeet for inhouse use based on 20 nonevaporative and 20 evaporative septic systems, 20.8 acre-feet for irrigation use, and 2 acre-feet for stockwatering use).

C. Water rights to be used for augmentation:

1. Applicant has contracted with Northgate Company for the purchase of 1 acre-foot of nontributary water from well U.D. No. 1-17798-F, from the Dawson aquifer decreed for use for domestic, municipal, commercial, industrial and irrigation purposes. Northgate Company's Well U.D. No. 1-17798-F is further described as :

Well U.D. No. 1-17798-F <sup>7</sup> } Decreed: December 30, 1976 Case No. W-8269-76, 80CW369, and 84CW621 Court: Water Division 1 Type of water right: Nontributary well Legal description of the structure: Located in the NE¼ of the NE¼, of Section 17, Township 11 South, Range 66 West of the 6th P.M., El Paso County at a point 100 feet South and 75 feet West of the Northeast Corner of said Section 17.

Nontributary Dawson Arkose aquifer Source: Pumping rate: 0.167 cfs (75 qpm) with an annual limitation of 121 acre-feet. domestic, municipal, commercial, industrial, and Decreed uses: irrigation. Owned by Northgate Company, 3720 Sinton Road, Suite 106D, Colorado Springs, Colorado 80907

Northqate Company also owns rights to Denver aquifer water Applicant understands that Northgate Company described below. may choose to substitute this water at some time in the future for the water from Well U.D. No. 1-17798-F, and such substitution is approved subject to continued compliance with the terms of this decree.

Northgate Well A-D-3 Decreed: November 23, 1983 82CW295 and 87CW193 Case No.: Court: Water Division 1 Type of water right: nontributary well Legal description of the structure:

In the SW1/4 of the NW1/4 of Section 20, Township 11 South, Range 66 West of the 6th P.M., El Paso County, Colorado, at a point NWSWAN approximately 1640 feet south of the north section line and 460 feet east of the west section line of said Section 20. Decreed uses: Municipal, domestic, commercial, industrial, irrigation, recreational including fishery and wildlife, fire protection, stockwatering, and the maintenance of adequate storage systems and reserves.

Source: Nontributary Denver aquifer

0.222 cfs, 50 acre-feet annually. Pumping rate:

The point of release to the Arkansas River drainage is to an unnamed tributary of Jackson Creek at a point from which the northwest corner of Section 20, T11S, R66W, bears North 12 degrees West, a distance of 1600 feet, more or less.

Should the Northgate Company source of water fail for 2. any reason, Applicant may use 40 acre-feet per year of its nontributary Arapahoe and/or Laramie-Fox Hills aquifer decreed herein or any other legally available augmentation supply that is in sufficient quantity, quality, time and place to meet the requirements of this decree. Applicant shall give notice to the State Engineer and the parties herein identifying such other

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legally available augmentation supply, its nature, quantity, quality, and method of delivery. The parties receiving such notice shall have 60 days to file objections with the Court to such proposed other legally available augmentation supply. The Court retains jurisdiction in this matter to determine if the supply is adequate. Applicant shall reserve in any deeds of the property, 12,000 acre-feet total of its nontributary Arapahoe and Laramie-Fox Hills groundwater for possible use in this augmentation plan; and shall convey by recorded deed the reserved nontributary Arapahoe and Laramie-Fox Hills aquifer water described above to the Property Owners Association to be created in connection with subdivision of the property pursuant to paragraph 13 below.

3. During the pumping phase, Applicant will also utilize return flows from the not nontributary rights as described in paragraph 10.B above to replace depletions to the Cherry Creek drainage only.

D. Replacement during pumping: During 300 years of pumping, Applicant will replace depletions to the affected stream systems in an amount of water equal to the actual depletions pursuant to §37-90-137(9)(c). A graph showing the estimated stream depletions is attached hereto as Attachment B.

i. South Platte/Cherry Creek.

In the 300th year, depletions to the South Platte/Cherry Creek stream system is approximately 12.64% of the Dawson aquifer water withdrawn from the wells. Return flows from the use of the water on at least 20 lots utilizing non-evaporative septic systems accrue to the Cherry Creek stream system and those return flows in combination with return flows from irrigation use are sufficient to replace to Cherry Creek actual depletions caused by pumping of up to 40 acre-feet per year from the Dawson aquifer wells while the wells are being pumped. Because return flows from all uses are estimated rather than measured, Applicant agrees that such return flows shall be used only to replace depletions under this plan for augmentation, and will not be sold, traded or assigned in whole or in part for any other purpose.

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### ii. Arkansas River/Monument Creek

In the 300th year, depletions to the Arkansas River/Monument Creek stream system is approximately 8.18% of the Dawson aquifer water withdrawn from the wells. Replacements in an amount equal to these percentages shall be made to Monument Creek via the Northgate water supply for at least the first 138 years of pumping. Applicant will replace depletions associated with pumping from years 138 to 300 by utilizing nontributary groundwater, or any other legally available augmentation supply that is in sufficient quantity, quality, time and place to meet the requirements to the stream system.

Postpumping Depletion Augmentation: Assuming maximum Ε. pumping of 40 acre-feet per year from the Dawson aquifer for three hundred years, the maximum depletion to Monument Creek from pumping of the wells will be approximately 8.71% of pumping or 3.48 acre-feet in the 351st year and the maximum depletion to Cherry Creek from pumping of the wells will be approximately 12.64% of pumping or 5.0 acre-feet in the 300th year. Year to year depletions shall be calculated according to the State Engineer's model and the stream depletion curve attached as Attachment B, and replacements will be made to Monument Creek as described above and to Cherry Creek on the Subject Property. It is the Applicant's position that depletions which occur after pumping ceases are not injurious, pursuant to Danielson v. Castle Meadows, 791 P.2d 1106 (Colo. 1990), State Engineer v. Castle Meadows, 856 P.2d 496 (Colo. 1993), and State Engineer v. Yale Investments, Inc., 886 P.2d 689 (Colo. 1994). Nevertheless, in order to meet a schedule for plat approval in the County and obtain favorable referral to the County from the State Engineer on the water supply, Applicant has purchased 1 acre-foot per year of water from the Northgate Company which will be reserved for and will provide augmentation water to replace depletions during at least the first 138 years of pumping to the Arkansas River System. Applicant shall replace depletions from year 138 to 300 and post-pumping depletions to Monument Creek and post-pumping depletions to Cherry Creek by pumping of the reserved nontributary Arapahoe and/or Laramie-Fox Hills aquifer water to those stream systems, or by utilizing any other legally available augmentation supply that is in sufficient quantity, quality, time and place to meet the requirements to either stream system of this decree, directly to the stream to meet the requirements of

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this decree. The Court retains continuing jurisdiction in this matter to determine if the supply is adequate.

F. Applicant shall replace post-pumping depletions for the shortest of the following periods: the period provided by C.R.S. 37-90-137(9)(c); the expressed period specified by the Colorado Legislature, should it specify one and providing the Applicant obtain water court approval for such modification; the period determined by the State Engineer, should he choose to set such a period and have jurisdiction to do so; the period established through rulings of the Colorado Supreme Court on relevant cases, or until Applicant petitions the water court and after notice to parties in the case and proves that he has complied with any statutory requirement.

11. Administration of Plan for Augmentation.

A. <u>Reporting Frequency</u>. Applicant shall report to the Division Engineers for both Water Division 1 and Water Division 2 no later than January 30 of each year on an accounting form acceptable to the Division Engineer for Water Division No. 1. The annual reporting shall include the number of wells operating in the development, the number of wells utilizing nonevaporative and evaporative type septic systems, the area irrigated on each lot, and the number of stock watered by each well.

B. <u>Meters</u>. All well withdrawals from structures described in this decree will be metered and collected by the Property Owners Association, which will summarize and forward the data to the Division Engineer for Water Division 1 and 2 and the Water Commissioner by the 30th of January for each year.

C. <u>Timing of Replacements</u>. Applicant agrees to make the replacements required hereunder when required by the Division Engineer for Water Division No. 1 and 2 pursuant to the chart as shown on Attachment B.

D. <u>Curtailment</u>. Pursuant to 37-92-305(8), C.R.S., the State Engineer shall curtail all out-of-priority diversions, the depletions from which are not so replaced as to prevent injury to vested water rights. 12. Applicant and its successors in interest shall pay the cost imposed by operation of this augmentation plan, and the Northgate Company contract(s) so long as an obligation for augmentation of depletions exists.

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13. Property Owners Association: Upon subdivision of the property, Applicant shall create a Property Owners Association which all purchasers of lots shall be required to join. Applicant shall assign to the property owners association Applicant's interest and rights and responsiblities in and under the Northqate Contract and this plan for augmentation; Applicant shall also assign to the the Property Owners Association the amount of 12,000 acre-feet of their Arapahoe and Laramie-Fox Hills aquifer water as decreed herein. Applicant shall also create restrictive covenants upon and running with the property, which shall obligate the individual purchasers and the Property Owners Association to carry out the requirements of the Northgate Contract and of this decree. This decree and the restrictive covenants shall be recorded in the real property records of El Paso County so that a title examination of the property, or any part thereof, shall reveal to all future purchasers the existence of this decree and the restrictive covenants.

### 14. Retained jurisdiction for plan for augmentation:

A. Pursuant to 37-92-304(6), C.R.S. the Court retains continuing jurisdiction over the plan for augmentation decreed herein for reconsideration of the question whether the provisions of this decree are necessary and/or sufficient to prevent injury to vested water rights of others. The Court also has jurisdiction for the purposes of determining compliance with the terms of the augmentation plan.

B. Any person seeking to invoke the retained jurisdiction of the Court shall file a verified petition with the Court. The petition to invoke retained jurisdiction or to modify the Decree shall set forth with particularity the factual basis upon which the requested decretal language to effect the petition. The party lodging the petition shall have the burden of going forward to establish <u>prima facie</u> facts alleged in the petition. If the court finds those facts to be established, Applicant shall thereupon have the burden of proof to show: (1) that any modification sought by Applicant will avoid injury to other appropriators, or (2) that any modification sought by Objector is not required to avoid injury to other appropriators or (3) that any term or condition proposed by Applicant in response to the Objectors' petition does avoid injury to other appropriators.

#### CONCLUSIONS OF LAW

15. The Water Court has jurisdiction over this proceeding pursuant to 37-90-137(6), C.R.S. This Court concludes as a matter of law that the application herein is one contemplated Section 37-90-137(4), C.R.S. The application for a by law. decree confirming Applicant's right to withdraw and use all unappropriated ground water from the nontributary aquifers beneath the property as described herein pursuant to 37-90-137(4), C.R.S., should be granted, subject to the provisions of this decree. The application for a decree confirming Applicant's right to withdraw and use ground water from the Dawson aquifer should be granted pursuant to 37-90-137(4) and (9)(c), C.R.S., subject to the provisions of this decree. The withdrawal of up to 40 acre-feet annually of the Dawson aquifer water in accordance with the terms of this decree will not result in material injury to vested water rights of others.

16. This plan for augmentation satisfies the requirements of 37-90-137(9)(c), C.R.S. for replacement of actual depletions to the affected stream systems for withdrawals of up to 40 acrefeet per year and no more than 12,000 acrefeet total from the Dawson aquifer.

17. The rights to ground water determined herein shall not be administered in accordance with priority of appropriation. Such rights are not "conditional water rights" as defined by 37-92-103(6), C.R.S., requiring findings of reasonable diligence are not applicable to the ground water rights determined herein. The determination of ground water rights herein need not include a date of initiation of the withdrawal project. <u>See</u> 37-92-305(11), C.R.S

#### JUDGMENT AND DECREE

The Findings of Fact and Conclusions of Law set forth above are hereby incorporated into the terms of this Ruling and Decree as if the same were fully set forth herein.

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18. Full and adequate notice of the application was given and the Court has jurisdiction over the subject matter, and over the parties whether they have appeared or not.

19. For purposes of jurisdiction in this case, § 37-92-302(2), C.R.S., does not require that the application be supplemented with a well permit or evidence of its denial.

20. The Applicant may withdraw the subject ground water herein through wells to be located anywhere on the Subject Property, in the average annual amounts and at the estimated average rates of flow specified herein, subject to paragraph 5 above, and the retained jurisdiction by this Court.

21. Applicant may withdraw up to 40 acre-feet per year and no more than 12,000 acre-feet total of not nontributary ground water from the Dawson aquifer under the plan for augmentation decreed herein pursuant to § 37-90-137(9)(c), C.R.S.

22. Applicant has complied with all requirements and met all standards and burdens of proof, including but not limited to \$\$37-90-137(9)(c), 37-92-103(9), 37-92-302, 37-92-304(6), 37-92-305(1), (2), (3), (4), (6), (8) and (9), C.R.S., to adjudicate their plan for augmentation, and are therefore entitled to a decree confirming and approving their plan for augmentation as described in the findings of fact.

23. Pursuant to Section 37-92-305(5), C.R.S., the replacement water herein shall be of a quality so as to meet the requirements for which the water of the senior appropriator has normally used.

24. The plan for augmentation as described in the findings of fact, is hereby approved, confirmed and adjudicated, including and subject to the terms and conditions specified herein.

25. No owners of, or person entitled to use water under a vested water right or decreed conditional water right will be injured or

injuriously affected by the operation of the plan for augmentation as decreed herein.

### 26. Retained Jurisdiction:

A. The Court retains jurisdiction as necessary to adjust the average annual amounts of groundwater available under the property to conform to actual local aquifer characteristics as determined from adequate information obtained from wells, pursuant to § 37-92-305(11), C.R.S. Within 60 days after completion of any well decreed herein, or any test hole(s), Applicant or any successor in interest to these water rights shall serve copies of any geophysical or other log(s) obtained from such well or test hole(s) upon the State Engineer.

B. At such time as adequate data is available, any person including the State Engineer may invoke the Court's retained jurisdiction to make a finding and determination of water rights availability. Within four months of notice that the retained jurisdiction for such purpose has been invoked, the State Engineer shall use the information available to him to make a final finding and determination of water rights availability. The State Engineer shall submit such finding to the Water Court and to the Applicant.

C. If no protest to such finding is made within 60 days, the Final Determination of Water Rights shall be incorporated into the decree by the Water Court. In the event of a protest, or in the event the State Engineer makes no determination within four months, such final determination shall be made by the Water Court after notice and hearing.

### 27. Continuing Jurisdiction.

A. Pursuant to § 37-92-304(6), C.R.S. the court retains continuing jurisdiction over the plan for augmentation decreed herein for reconsideration of the question whether the provisions of this decree are necessary and/or sufficient to prevent injury to vested water rights of others. The court also retains continuing jurisdiction for the purposes of determining compliance with the terms of the augmentation plan, or for the purpose of amending this decree to provide for a different type of wastewater treatment, pursuant to paragraph 10.B above.

Decree 96Cw68 and 96CW146

ENTERED this (1) day of Marly 1997 , John E. Anderson, III Water Judge Water Division 2

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THE FOREGOING IS HEREBY APPROVED AS TO CONTENT AND FORM AND APPROVED FOR ENTRY BY THE WATER JUDGE.

HOLLY I. HOLDER, P.C.

Date: 3.5-0

By Marin

Holly (). Holder, #10216 Margaret O'Donnell, #21145 518 - 17th Street, #1500 Denver, Colorado 80202 (303) 534-6315

ATTORNEYS FOR APPLICANT

ANDERSON, DUDE, PIFHER & LEBEL, P.C.

Date:

Ву\_\_\_\_\_

William Kelly Dude, #13208 104 S. Cascade Ave., #204 P.O. Box 240 Colo. Sprgs., CO 80901-0240 (719) 632-3545

ATTORNEYS FOR OBJECTOR CITY OF COLORADO SPRINGS

THE FOREGOING IS HEREBY APPROVED AS TO CONTENT AND FORM AND APPROVED FOR ENTRY BY THE WATER JUDGE.

HOLLY I. HOLDER, P.C.

Date: 3.5-9

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By MALLAL

Holly (j). Holder, #10216 Margaret O'Donnell, #21145 518 - 17th Street, #1500 Denver, Colorado 80202 (303) 534-6315

ATTORNEYS FOR APPLICANT

ANDERSON, DUDE, PIFHER & LEBEL, P.C.

By

William Kelly Dude, #13208 104 S. Cascade Ave., #204 P.O. Box 240 Colo. Sprgs., CO 80901-0240 (719) 632-3545

ATTORNEYS FOR OBJECTOR CITY OF COLORADO SPRINGS

Date: 3.6.91

Attachment A(

A TRACT OF LAND BEING A PORTION OF SECTIONS 29 AND 32, TOWNSHIP 11 SOUTH, RANGE 85 WEST OF THE SOUTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

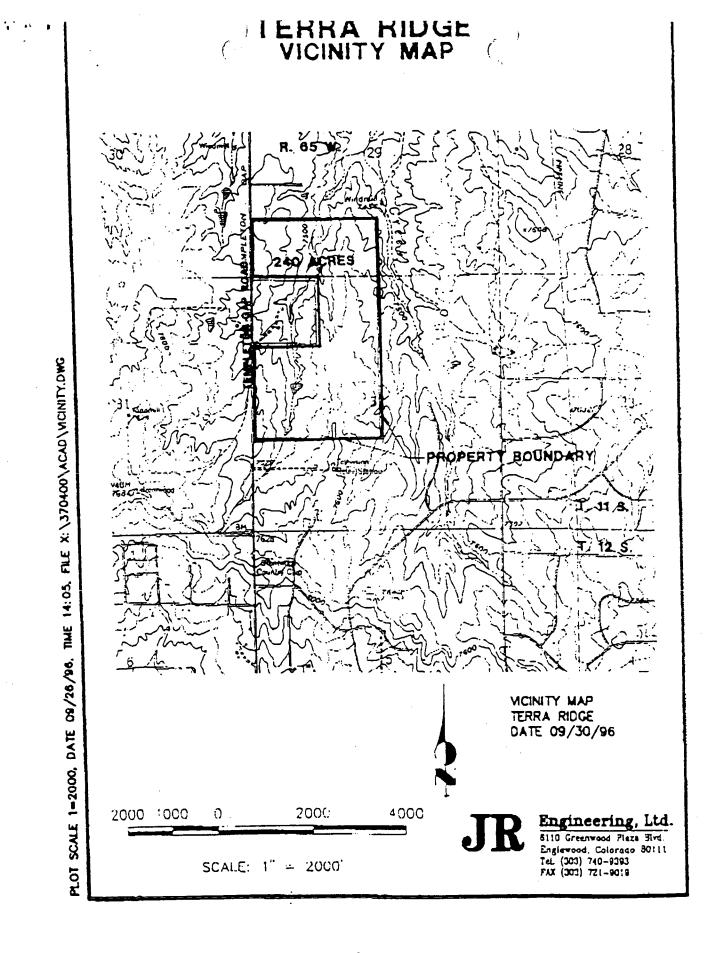
BASIS OF BEARINGS:

THE WEST LINE OF SECTION 32, TOWNSHIP 11 SOUTH, RANGE 85 WEST OF THE SOUTH PRINCIPAL MERIDIAN, BEING MONUMENTED AT THE SOUTHWEST CORNER OF SAID SECTION 32 BY A 3-1/4" ALLIMINUM SURVEYOR'S CAP STAMPED "EL PASO COUNTY DPU LS 17496" AND AT THE NORTHWEST CORNER OF SAID SECTION 32 BY A NO. 8 REBAR AND 3-1/4" ALLIMINUM SURVEYOR'S CAP STAMPED "JR ENG LTD FLS 10377" IS ASSUMED TO BEAR NOO" 58"34"E, A DISTANCE OF 5312.20 FEET.

COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 29; THENCE S89"4703"E AND ON THE SOUTH LINE OF SAID SECTION 29, A DISTANCE OF 30.00 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF BLACK FOREST ROAD, SAID POINT BEING THE POINT OF BEGINNING; THENCE NO0"59"OF"E, ON SAID EASTERLY RIGHT-OF-WAY LINE, A DISTANCE OF 1298.06 FEET TO A POINT ON THE SOUTHERLY LINE OF A TRACT OF LAND DESCRIBED IN BOOK 6916 AT PAGE 619, RECORDS OF EL PASO COUNTY, COLORADO; THENCE EASTERLY ON THE SAID SOUTHERLY LINE, THE FOLLOWING THREE (3) COURSES:

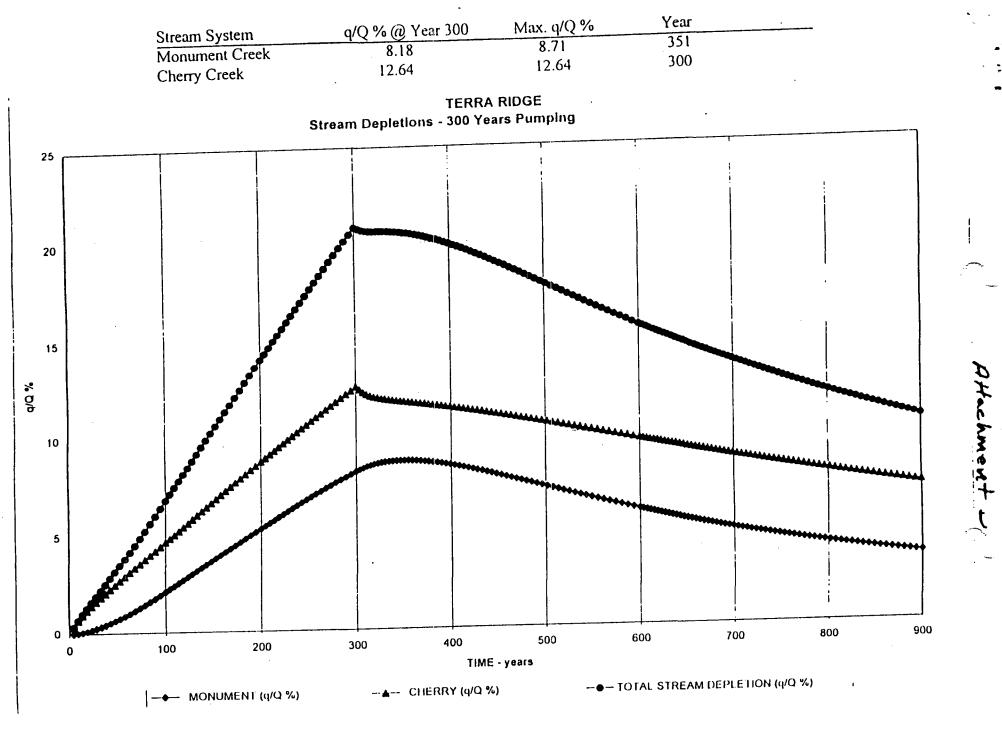
- 1. 589 4554 E, A DISTANCE OF 1678.14 FEET;
- 2. SOO'STOTW, A DISTANCE OF 8.50 FEET;
- 3. S89" 45"54"E. A DISTANCE OF 945.48 FEET TO A POINT ON THE WESTERLY LINE OF WILDWOOD VILLAGE UNIT 4, RECORDED IN PLAT BOOK M-3 AT PAGE 48, RECORDS OF EL PASO COUNTY, COLORADO;

THENCE SOO" 59'S1"W, ON SAID WESTERLY LINE, A DISTANCE OF 1288.89 FEET TO THE SOUTH QUARTER CORNER OF SAID SECTION 29; THENCE SO1" 02'35"W AND ON THE WESTERLY LINE OF SAID WILDWOOD VILLAGE UNIT 4 AND THE WESTERLY LINE OF WILDWOOD RANCH ESTATES FILING NO. 3, RECORDED IN PLAT BOOK G-2 AT PAGE 77, RECORDS OF EL PASO COUNTY, COLORADO; A DISTANCE OF 3257.88 FEET TO THE NORTHEASTERLY CORNER OF A TRACT OF LAND DESCRIBED IN BOOK 5760 AT PAGE 872, RECORDS OF EL PASO COUNTY, COLORADO; THENCE NB9'52'25"W, ON THE NORTHERLY LINE OF SAID TRACT, A DISTANCE OF 2519.61 FEET TO A POINT ON THE EASTERLY RIGHT-OF-WAY LINE OF BLACK FOREST ROAD; THENCE N60'58'34"E, ON SAID RIGHT-OF-WAY LINE, A DISTANCE OF 1790.82 FEET; THENCE S89'47'03"E, A DISTANCE OF 1206.03 FEET; THENCE N60' 58'34"E, A DISTANCE OF 1206.03 FEET; THENCE N60' 58'34"E, ON THE SOUTH LINE OF SAID SECTION 29; THENCE N89'47'03"W, ON SAID SOUTH LINE. A DISTANCE OF 1206.03 FEET; TO THE POINT OF BEGINNING; COUNTY OF XL PASO, STATE OF COLORADO



A-Z

Figure 2 - Vicinity Map



11/27/96

JR Engineering, Ltd.

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### TERRA RIDGE SUBDIVISION STREAM DEPLETIONS

		0110							
5	10	15	20	25	30	35	40	45	50
0.013	0.042	0.088	0.149	0.222 0.306		0.399	0.501	0.610	0.725
55	60	65	70	75	80	85	90	95	100
		1.103	1.240	1.380	1.523	1.670	1.819	1.972	2.126
ł	<b>_</b>				· <u>···</u>				
105	110	115	120	125	130	135	140	145	150
2.284	2.439	2.597	2.758	2.918	3.079	3.240	3.404	3.565	3.727
				-					
155	160	165	170	175	180	185	190	195	200
3.887	4.048	4.208	4.369	4.529	4.687	4.846	5.003	5.159	5.314
	<u></u>	•	A						
205	210	215	220	225	230	235	240	245	250
5.469	5.622	5.775	5.926	6.074	6.225	6.373	6.520	6.664	6.808
	<u> </u>	<u></u>	<b>.</b>	<u> </u>					
255	260	265	270	275	280	285	290	295	300
6.951		7.232	7.371	7.508	7.644	7.781	7.914	8.046	8.177
	0.013 55 0.846 105 2.284 155 3.887 205 5.469 255	0.013       0.042         55       60         0.846       0.972         105       110         2.284       2.439         155       160         3.887       4.048         205       210         5.469       5.622         255       260	5         10         15           0.013         0.042         0.088           55         60         65           0.846         0.972         1.103           105         110         115           2.284         2.439         2.597           155         160         165           3.887         4.048         4.208           205         210         215           5.469         5.622         5.775           255         260         265	5         10         15         20           0.013         0.042         0.088         0.149           55         60         65         70           0.846         0.972         1.103         1.240           105         110         115         120           2.284         2.439         2.597         2.758           155         160         165         170           3.887         4.048         4.208         4.369           205         210         215         220           5.469         5.622         5.775         5.926           255         260         265         270	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.013         0.042         0.088         0.149         0.222         0.306           55         60         65         70         75         80           0.846         0.972         1.103         1.240         1.380         1.523           105         110         115         120         125         130           2.284         2.439         2.597         2.758         2.918         3.079           155         160         165         170         175         180           3.887         4.048         4.208         4.369         4.529         4.687           205         210         215         220         225         230           5.469         5.622         5.775         5.926         6.074         6.225           255         260         265         270         275         280	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

5.18 4

Appendix D

Compound	Result	Detection Limit	MCL
	37.8		IVICL
Bicarbonate (mg/L as CaCO3)		0.1	
Calcium (mg/L as CaCO3)	32.1		
Carbonate (mg/L as CaCO3)	<0.1	0.1	
Hydroxide (mg/L as CaCO3)	<0.1	0.1	
Langelier Index	-2.44		
pH	6.31	0.1	6.5 - 8.5
Temperature °C	13	0.1	
Total Alkalinity (mg/L as CaCO3)	37.8	0.1	
Total Dissolved Solids (mg/L)	68	5	500
Nitrate as N (mg/L)	1.81	0.05	10
Nitrite as N (mg/L)	<0.03	0.03	1
Total (mg/L)			
Cyanide	< 0.005	0.005	0.02
Iron	<0.005	0.005	0.3
Sodium	9.2	0.1	
Antimony	< 0.001	0.001	0.006
Arsenic	<0.001	0.001	0.01
Barium	0.41	0.001	2
Beryllium	< 0.001	0.001	0.004
Cadmium	< 0.001	0.001	0.005
Chromium	< 0.001	0.001	0.1
Copper	0.0695	0.0008	1.3
Lead	0.0011	0.0001	0.015
Manganese	<0.0008	0.0008	0.05
Mercury	< 0.0001	0.0001	0.002
Nickel	< 0.001	0.001	
Selenium	0.002	0.001	0.05
Thallium	< 0.001	0.001	0.002
Uranium	< 0.0002	0.0002	0.03
EPA/State Required SOCs	all ND		
EPA/State Required VOCs	all ND		
Gross Alpha (pCi/L)	1	0.1	15
Gross Beta (pCi/L)	<3.8	3.8	4 mrem/yr
Radium -226 (pCi/L)	0.8	0.2	
Radium - 228 (pCi/L)	2	0.3	
Combined Radium 226 + 228			5

Fox Creek Lane - Water Quality Results - Dawson Aquifer



### **Analytical Results**

TASK NO: 190306009

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

Task No.: 190306009 **Client PO: Client Project:** 

Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19

10:20 AM Lab Number: 190306009-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	37.8 mg/L as CaCO3	SM 2320-B	0.1	3/7/19	PJL
Calcium as CaCO3	32.1 mg/L	EPA 200.7	0.1	3/11/19	MBN
Carbonate	< 0.1 mg/L as CaCO3	SM 2320-B	0.1	3/7/19	PJL
Hydroxide	< 0.1 mg/L as CaCO3	SM 2320-B	0.1	3/7/19	PJL
Langelier Index	-2.44 units	SM 2330-B		3/14/19	SAN
pН	6.31 units	SM 4500-H-B	0.01	3/6/19	Sampler
Temperature	13 °C	SM 4500-H-B	1	3/6/19	Sampler
Total Alkalinity	37.8 mg/L as CaCO3	SM 2320-B	0.1	3/7/19	PJL
Total Dissolved Solids	68 mg/L	SM 2540-C	5	3/12/19	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

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**Analytical Results** 

TASK NO: 190306009

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

Task No.: 190306009 Client PO: Client Project:

Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19 10:20 AM

Lab Number: 190306009-01

est	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Dibromochloropropane	< 0.02 ug/L	EPA 504.1	0.02 ug/L	3/11/19	SPF	0.2
Ethylene dibromide	< 0.01 ug/L	EPA 504.1	0.01 ug/L	3/11/19	SPF	0.05
Aldrin	< 0.05 ug/L	EPA 505	0.05 ug/L	3/11/19	SPF	
Chlordane	< 0.2 ug/L	EPA 505	0.2 ug/L	3/11/19	SPF	2
Dieldrin	< 0.05 ug/L	EPA 505	0.05 ug/L	3/11/19	SPF	
Endrin	< 0.01 ug/L	EPA 505	0.01 ug/L	3/11/19	SPF	2
leptachlor epoxide	< 0.02 ug/L	EPA 505	0.02 ug/L	3/11/19	SPF	0.2
lexachlorobenzene	< 0.1 ug/L	EPA 505	0.1 ug/L	3/11/19	SPF	1
lexachlorocyclopentadiene	< 0.1 ug/L	EPA 505	0.1 ug/L	3/11/19	SPF	50
indane	< 0.02 ug/L	EPA 505	0.02 ug/L	3/11/19	SPF	0.2
lethoxychlor	< 0.1 ug/L	EPA 505	0.1 ug/L	3/11/19	SPF	40
olychlorinated biphenyl's	< 0.1 ug/L	EPA 505	0.1 ug/L	3/11/19	SPF	0.5
oxaphene	< 1 ug/L	EPA 505	1 ug/L	3/11/19	SPF	3
,4,5-TP	< 0.2 ug/L	EPA 515.4	0.2 ug/L	3/13/19	mbs	50
,4,-D	< 0.1 ug/L	EPA 515.4	0.1 ug/L	3/13/19	mbs	70
alapon	< 1.0 ug/L	EPA 515.4	1.0 ug/L	3/13/19	mbs	200
Dicamba	< 0.5 ug/L	EPA 515.4	0.5 ug/L	3/13/19	mbs	
linoseb	< 0.2 ug/L	EPA 515.4	0.2 ug/L	3/13/19	mbs	7
Pentachlorophenol	< 0.04 ug/L	EPA 515.4	0.04 ug/L	3/13/19	mbs	1
Picloram	< 0.1 ug/L	EPA 515.4	0.1 ug/L	3/13/19	mbs	500

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# **Analytical Results**

TASK NO: 190306009

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

Task No.: 190306009 Client PO: Client Project:

### Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19 10:20 AM

Lab Number: 190306009-01

est	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Alachlor	< 0.2 ug/L	EPA 525.2	0.2 ug/L	3/14/19	LEH	2
Atrazine	< 0.1 ug/L	EPA 525.2	0.1 ug/L	3/14/19	LEH	3
Benzo(a)pyrene	< 0.02 ug/L	EPA 525.2	0.02 ug/L	3/14/19	LEH	0.2
Butachlor	< 0.25 ug/L	EPA 525.2	0.25 ug/L	3/14/19	LEH	
Di(2-ethylhexyl)adipate	< 0.6 ug/L	EPA 525.2	0.6 ug/L	3/14/19	LEH	400
Di(2-ethylhexyl)phthalate	< 0.6 ug/L	EPA 525.2	0.6 ug/L	3/14/19	LEH	6
leptachlor	< 0.04 ug/L	EPA 525.2	0.04 ug/L	3/14/19	LEH	0.4
Metolachlor	< 0.25 ug/L	EPA 525.2	0.25 ug/L	3/14/19	LEH	
<i>N</i> etribuzin	< 0.25 ug/L	EPA 525.2	0.25 ug/L	3/14/19	LEH	
Propachlor	< 0.25 ug/L	EPA 525.2	0.25 ug/L	3/14/19	LEH	
Simazine	< 0.07 ug/L	EPA 525.2	0.07 ug/L	3/14/19	LEH	4
-Hydroxycarbofuran	< 0.5 ug/L	EPA 531.1	0.5 ug/L	3/12/19	MBS	
Idicarb	< 0.6 ug/L	EPA 531.1	0.6 ug/L	3/12/19	MBS	
Aldicarb sulfone	< 1.0 ug/L	EPA 531.1	1.0 ug/L	3/12/19	MBS	
Aldicarb sulfoxide	< 0.7 ug/L	EPA 531.1	0.7 ug/L	3/12/19	MBS	
Carbaryl	< 0.5 ug/L	EPA 531.1	0.5 ug/L	3/12/19	MBS	
Carbofuran	< 0.9 ug/L	EPA 531.1	0.9 ug/L	3/12/19	MBS	40
fethomyl	< 0.5 ug/L	EPA 531.1	0.5 ug/L	3/12/19	MBS	
Dxamyl	< 1.0 ug/L	EPA 531.1	1.0 ug/L		MBS	200
Blyphosate	< 6.0 ug/L	EPA 547	6.0 ug/L	3/15/19	Outside Lab	700

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# **Analytical Results**

TASK NO: 190306009

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

Task No.: 190306009 Client PO: Client Project:

Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19 10:20 AM

Lab Number: 190306009-01

lest	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Endothall	< 9 ug/L	EPA 548.1	9 ug/L	3/12/19	SPF	100
Diquat	< 0.4 ug/L	EPA 549.2	0.4 ug/L	3/8/19	Sean	20
1,1,1,2-Tetrachloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,1,1-Trichloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	200
1,1,2,2-Tetrachloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,1,2-Trichloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
1,1-Dichloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
I,1-Dichloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	7
1,1-Dichloropropene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,2,3-Trichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,2,3-Trichloropropane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,2,4-Trichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	70
1,2,4-Trimethylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,2-Dichloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
1,2-Dichloropropane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
1,3,5-Trimethylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
1,3-Dichloropropane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
,3-Dichloropropene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Benzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
Bromobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Bromochloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	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

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# **Analytical Results**

TASK NO: 190306009

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

Task No.: 190306009 Client PO: Client Project:

Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19 10:20 AM

Lab Number: 190306009-01

est	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Description			0.5	0/7/40		
Bromodichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L		LEH	
Bromoform	< 0.5 ug/L	EPA-524.2	0.5 ug/L		LEH	
Bromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L		LEH	
Carbon Tetrachloride	< 0.5 ug/L	EPA-524.2	0.5 ug/L		LEH	5
Chlorodibromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Chloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Chloroform	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Chloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
sis-1,2-Dichloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	70
Dibromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Dichlorodifluoromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Dichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
Ethylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	700
Iuorotrichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
lexachlorobutadiene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
sopropylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
n-Dichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Monochlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	100
laphthalene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
-Butylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
-Propylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
o-Chlorotoluene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	

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# **Analytical Results**

TASK NO: 190306009

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

Task No.: 190306009 Client PO: Client Project:

### Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19 10:20 AM

Lab Number: 190306009-01

lest	Result	Method	ML	Date Analyzed	Analyzed By	MCL
o-Dichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	600
Para-Dichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	75
p-Chlorotoluene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
p-lsopropyltoluene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
sec-Butylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Styrene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	100
ert-Butylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	
Tetrachloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
Toluene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	1000
Total Trihalomethanes	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	80
rans-1,2-Dichloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	100
Trichloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	5
/inyl chloride	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	2
Xylenes (total)	< 0.5 ug/L	EPA-524.2	0.5 ug/L	3/7/19	LEH	10000

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# **Analytical Results**

TASK NO: 190306009

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

Task No.:	190306009
Client PO:	
<b>Client Project:</b>	

### Date Received: 3/6/19 Date Reported: 3/19/19 Matrix: Water - Drinking

Customer Sample ID Miles Well

Sample Date/Time: 3/4/19 10:20 AM

Lab Number: 190306009-01

lest	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Nitrate Nitrogen	1.81 mg/L	EPA 300.0	0.05 mg/	L 3/7/19	JTF	10
Nitrite Nitrogen	< 0.03 mg/L	EPA 300.0	0.03 mg/	L 3/7/19	JTF	1
Cyanide-Total	< 0.005 mg/L	EPA 335.4	0.005 mg/	3/15/19	MAT	0.02
<u>otal</u>						
ron	< 0.005 mg/L	EPA 200.7	0.005 mg/		MBN	0.3
Sodium	9.2 mg/L	EPA 200.7	0.1 mg/	3/11/19	MBN	N/A
Antimony	< 0.001 mg/L	EPA 200.8	0.001 mg/l	3/6/19	DBM	0.006
Arsenic	< 0.001 mg/L	EPA 200.8	0.001 mg/l		DBM	0.01
Barium	0.041 mg/L	EPA 200.8	0.001 mg/l		DBM	2
Beryllium	< 0.001 mg/L	EPA 200.8	0.001 mg/l		DBM	0.004
Cadmium	< 0.001 mg/L	EPA 200.8	0.001 mg/l	3/6/19	DBM	0.005
Chromium	< 0.001 mg/L	EPA 200.8	0.001 mg/l	3/6/19	DBM	0.1
Copper	0.0695 mg/L	EPA 200.8	0.0008 mg/l	3/9/19	DBM	1.3
.ead	0.0011 mg/L	EPA 200.8	0.0001 mg/l	3/9/19	DBM	0.015
Manganese	< 0.0008 mg/L	EPA 200.8	0.0008 mg/l	3/9/19	DBM	0.05
fercury	< 0.0001 mg/L	EPA 200.8	0.0001 mg/l	3/6/19	DBM	0.002
lickel	< 0.001 mg/L	EPA 200.8	0.001 mg/l	3/6/19	DBM	N/A
elenium	0.002 mg/L	EPA 200.8	0.001 mg/l		DBM	0.05
Thallium	< 0.001 mg/L	EPA 200.8	0.001 mg/l		DBM	0.002

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# **Analytical Results**

TASK NO: 190306009

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.: 190306009 Client PO: Client Project:		Date Repo	ived: 3/6/19 orted: 3/19/19 atrix: Water - Drin	iking	
Customer Sample ID Mile	s Well				
Customer Sample ID Mile Sample Date/Time: 3/4/					
and the second	19 10:20 AM				

<u>Total</u> Uranium < 0.0002 mg/L EPA 200.8 0.0002 mg/L 3/9/19 DBM 0.03

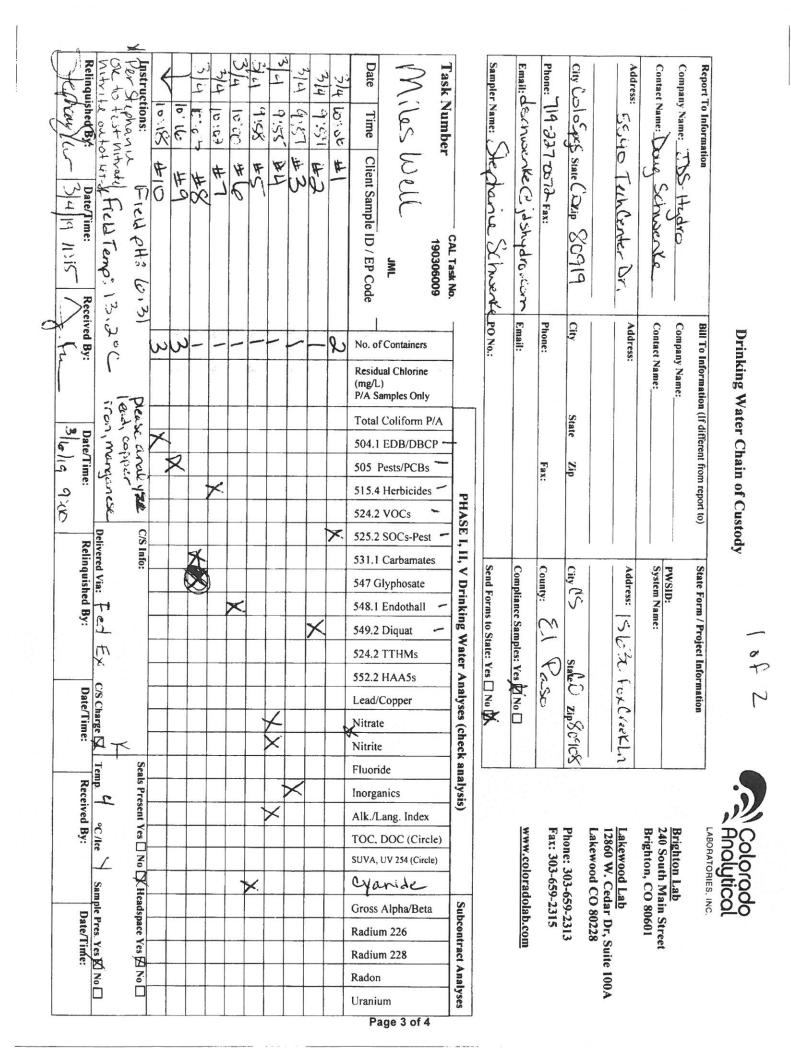
Abbreviations/ References:

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

Shore Nielson

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 Page 2 of 4



Relinquished(BS)		Instructions:				HS-10 HK	Den he	7,01 10.07	11:21 11/5-	1 10:20	me	CAL Task No. 190306009	Sampler Namez	Email: dSchuse	Phone: 74-22-	City (15	5	am	Company Name	Report To Information	
Date/Time: P				Field blank	Trip blank	# 15	4-14	[]N	も一年	#11	Client Sample ID / EP Code	•	come Xhusert	Email: dischwenke @ Jehughre	19-22-1-00-1-56-PM	stak D zip 807 19	Holenterix	tong xiniceiver	1)>- Hydro	>	
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Da	Sample Pres. Yes 🗌 No 🗌	Seals Present Yes   No   Headspace Yes   No				X					Gross Alpha/Beta	Subc		www.coloradolab.com	Fax: 303-659-2315	Phone: 303-659-2313	<u>Lakewood Lab</u> 12860 W. Cedar Dr, Suite 100A Lakewood CO 80228	240 South Main Stre Brighton, CO 80601	Brighton Lab	NC.	2
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Hazen Research, Inc. 4601 Indiana Street Golden, CO 80403 USA Tel: (303) 279-4501 Fax: (303) 278-1528

Customer ID: 20040H Account ID: Z01034 Lab Control ID: 19M01394 Received: Mar 06, 2019 Reported: Apr 01, 2019 Purchase Order No. None Received

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



Lab Control ID: 19M01394 Received: Mar 06, 2019 Reported: Apr 01, 2019 Purchase Order No. None Received

### Customer ID: 20040H Account ID: Z01034 ANALYTICAL REPORT

### Stuart Nielson Colorado Analytical Laboratories, Inc.

La	ab Sam	ple ID	19M01394-001										
Customer Sample ID													
				sampled o	n 03/04/19 @	0 1014 by Stephanie Sc	hwenke						
				Precision*	Analysis								
Parameter	Units	Code	Result	+/-	Limit	Method	Date / Time	Analyst					
<b>Gross Alpha</b>	pCi/L	Т	1.0	1.0	0.1	SM 7110 B	3/12/19 @ 0754	SS					
Gross Beta	pCi/L	Т	<3.8	2.2	3.8	SM 7110 B	3/12/19 @ 0754	SS					
Radium-226	pCi/L	Т	0.8	0.3	0.2	SM 7500-Ra B	3/26/19 @ 0757	SA					
Radium-228	pCi/L	Т	2.0	0.8	0.3	EPA Ra-05	3/21/19 @ 1450	JR					
Radon	pCi/L	Т	1010	44	18.5	SM 7500-Rn B	3/6/19 @ 1407	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

	Colorado Analytical	Brighton Lab	240 South Main Street	Drighton, CO 80001	12860 W. Cedar Dr. Suite 101	Lakewood CO 80228	Phone: 303-659-2313 Fax: 303-659-2315	www.coloradolab.com		heck analysis) Subcontract Analyses		de ang. Index DOC (Circle) UV 254 (Circle) Alpha/Beta Alpha/Beta n 226 n 226	Nitrite Fluori Inorga Alk./L Alk./L TOC, TOC, SUVA,								Temp. °C /Ice Sample Pres. Yes	ne: Received By: Date/Time:
19mo13gy	State Form / Project Information	·UIS/Md	System Name: Miles Well	System Address:		City: State: Zip:	County:	Compliance Samples: Yes 🗌 No 🕅	Send Forms to State: Ycs 🗌 No 🕅	PHASE I, II, V Drinking Water Analyses (check analysis)		Carbamates Lyphosate Endothall Diquat TTHMs HAA5s Opper Sopper	22555 254555 246555 24871 24871								0	Relinquished By: Date/Time:
	Bill To Information (If different from report to)	Company Name:	Contact Name:	Address:		y: State: Zip:	Phone: Fax:	Email:	PO No.:	PHASE I, I		Containers SOCs-Pest voCs Coliform P/A EDB/DBCP Coliform P/A EDB/DBCP Coliform P/A Coliform P/A	J/gm) J/gm) S2 A/q I.407 I.402 I.202 P.212 2.422						to the state Thanks		-	ver by: Date/lime:
		Company Name: Colorado Analytical Labs Co	Contact Name: Stuart Nielson			State: CO Zip: 80601 City:	Fax:303-659-2315	Email: stuartnielson@coloradolab.com Em	Sampler Name: Stephanie Schwenke PO		mber		Time Client Sample ID / EP Code	14 190306010-01 Miles Well					Instructions: Please but on a state form but do not report to the state Thanks		FedEx 4834	MA 316/19
F	Report to Intormation	Company Nam	Contact Name:	Address: 240 S Main St		City: Brighton	Phone:303-629-2313	Email: stuartnic	Sampler Name		Task Number		Date Ti	03/04/19 10/+		 			Instructions:	í r	D, U Belindnichad Bur	AA

page 8 of 8

Date $\frac{\partial \mathcal{A}}{\partial \mathcal{A}}$ Time $\frac{\partial 21}{\partial \mathcal{A}}$ Rc'd $\frac{\partial \mathcal{A}}{\partial \mathcal{A}}$ Date $\frac{\partial \mathcal{A}}{\partial \mathcal{A}}$ Time $\frac{\partial \mathcal{A}}{\partial \mathcal{A}}$ Tested $\frac{\partial \mathcal{A}}{\partial \mathcal{A}}$	Date 35.14 Time 1220 Comp. 10	Lab Sample # 0ろあし/ イ Colilert Results Per 100ml	<ul> <li>Absence: Absence of coliform bacteria</li> </ul>	<ul> <li>□ Presence: Presence of coliform bacteria &amp; non-compliance with drinking water standards.</li> <li>The water supply should be treated &amp; retested</li> </ul>	MPN/100 ml	Absence: E. Coli: Escherichia coli bacteria	MPN/100 ml
<b>STANDARD BACTERIOLOGICAL WATER TEST</b> METHOD:SM-9223B El Paso County Public Health Laboratory EPA ID# CO00025 1675 West Garden of the Gods Road, Suite 2044, Colorado Springs, CO 80907 • (719) 578-3120	PWSID # C O 0   Raw	nt ID Miles Well	Address where sample was taken:	Sample site location 156 Software Sampler SS Chlorine 4 mg/L Community Supply Aprivate 0 Well 0 City Non-Community 0 EHS 0 Surface/Spring 0 Cistern	De Schwenke Phone	Mailing address 5540 Lech Center Drive City/State/Zip: Coberade Springs, CO 80919	FaxEmail d Schwenke JJS hydro , com