

WATER RESOURCES REPORT

for

***Paul and Amy Kinch
10805 Milam Road
Minor Subdivision***

EPC Parcel #: 6224000011

March 2022

Prepared By:



KINCH MINOR SUBDIVISION
EPC Parcel # 6224000011

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Prepared for:

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Table of Contents

1.0	INTRODUCTION AND EXECUTIVE SUMMARY	1
2.0	PROJECTED LAND USES	1
2.1	<i>Projected Land Uses</i>	1
3.0	WATER NEEDS AND PROJECTED DEMANDS	1
3.1	<i>Water Demand Summary</i>	1
3.2	<i>Unit Water User Characteristics</i>	2
3.3	<i>Demand versus Supply</i>	2
4.0	WATER RIGHTS AND SUPPLY	2
4.1	<i>Water Rights</i>	2
4.2	<i>Adequacy of Water Rights</i>	3
4.3	<i>Description of Current Water Rights</i>	3
5.0	WATER SYSTEM FACILITIES AND PHYSICAL SUPPLY	4
5.1	<i>Source of Supply</i>	4
5.2	<i>Water Treatment</i>	4
5.3	<i>Water Storage</i>	4
5.4	<i>Distribution, Pumping, and Transmission Lines</i>	4
5.5	<i>Water Quality</i>	4
6.0	EL PASO COUNTY MASTER PLANNING ELEMENTS	5
6.1	<i>County Water Master Plan 2040 and 2060 Projections</i>	5
6.2	<i>Buildout (Including 2040 and 2060 Buildout):</i>	5
6.3	<i>Description of Long-Term Planning and Future Sources of Supply</i>	5
6.4	<i>Water System Interconnects</i>	5
7.0	CONCLUSION	6

APPENDICES

Appendix A – Land Use Exhibit

Appendix B – Water Supply Information Summary – SEO Form

Appendix C – Determinations and Decrees

Appendix D – Water Quality Results

1.0 INTRODUCTION AND EXECUTIVE SUMMARY

The purpose of this report is to address the specific water needs of a proposed subdivision of Parcel # 6224000011 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 four (4) lots proposed for the subdivision on a 300-year basis.

2.0 PROJECTED LAND USES

2.1 Projected Land Uses

This report pertains to the existing 29.12-acre parcel that is proposed to be divided into four (4) lots. Please refer to the *Land Use Exhibit* in **Appendix A** depicting the proposed subdivision.

3.0 WATER NEEDS AND PROJECTED DEMANDS

3.1 Water Demand Summary

The proposed 29.12-acre subdivision will be subdivided into four (4) residential lots, two consisting of approximately 5.01 acres per lot, one lot consisting of approximately 5.03 acres, and one lot consisting of approximately 12.58 acres. The existing lot will use approximately 0.51 AF/year for one existing residence and one future guest home using the existing well, and 0.3 AF/year for each of the three new lots, bringing the total amount of water used per year to 1.41 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**. Water demands and wastewater loads are shown Table 3-1 below:

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

# of SFE's	Water					Wastewater
	Annual Indoor Use 0.26 (AF/YR/SFE)	Annual Indoor Use 0.2 (AF/YR/SFE)	Average Daily Indoor Use (GPD)	Irrigation 0.0566 (AF/1,000 SF)	Total Indoor, Watering, & Irrigation (AF)	ADF (@ 90% Indoor Use) (GPD)
1	<i>Note 1</i> 0.26	<i>Note 2</i>	232	<i>Note 3</i> 0.042	0.30	209
1		0.2	179		0.20	161
3	0.780		696	0.127	0.91	627

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

Note 2: Per 8.4.7(B)(7)(d) of the EPC Land Development Code – guest house use

Note 3: Assuming 750 square feet of irrigation per lot

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.

3.3 *Demand versus Supply*

An overall demand of 1.41 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 below summarizes the information from said water rights and approved determinations.

Table 4-1: Water Rights Summary

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	2020CW3068	NNT	29.12	437.00	4.37	1.457
Denver	2020CW3068	NNT	29.12	40.50	0.41	0.135
Arapahoe	2020CW3068	NNT	29.12	468.00	4.68	1.56
Laramie-Fox Hills	2020CW3068	NT	29.12	830.00	8.30	2.767
Total Legal Supply					17.76	5.92
					<i>100-Year</i>	<i>300-Year</i>

Beneficial Uses: *Domestic Indoor, Indoor & Outdoor Irrigation
Livestock, Firefighting, and Replacement*

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

- Water in the Dawson may be withdrawn through the existing well (Permit #14436-F, as well as three (3) additional wells, allowing up to four (4) parcels

to be developed on the subject property. Existing well permit #14436-F shall be revised to operate pursuant to this replacement plan **Appendix A**.

- 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.
- It is not necessary to restrict the type of use to which the Dawson water pumped (pursuant to the augmentation plan) is put.
- The acre-feet of water each Dawson aquifer well is allowed to divert on an annual basis shall be 0.3 AF/year for any new well and 0.51 AF/year for the existing well currently permitted as permit #14436-F.

4.2 *Adequacy of Water Rights*

Current water rights are adequate for buildout demands of four (4) lots and meet 2040 and 2060 buildout projections on a 300-year basis.

According to the *application for a determination of water right within a designated groundwater basin (Dawson Aquifer)*, *application for a determination of a water right within a designated groundwater basin (LFH Aquifer)*, and *application for a replacement plan within a designated ground water basin* located in **Appendix C**:

- There are 1.457 AF/year available on a 300-year supply basis out of the Dawson Formation, which is greater than the estimated annual demand of 1.41 AF-year for all four (4) Dawson wells.
- Assuming a 0.26 AF/year domestic use per resident, and 0.20 AF/year for guest house, with 90% return flows through the septic system per residence, this results in a total replacement volume of 1.12 AF/year total.
- The estimated maximum depletion to the alluvial aquifer from 300-years of pumping from the Dawson formation at 1.41 AF/year results is 0.38 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**.

Conclusion:

The current water rights and augmentation plan in place are adequate to meet the estimated overall demand and resulting alluvial depletions of 0.38 acre-feet for four (4) lots.

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 is 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.

The subject property is applying for determinations in the Dawson (NNT) and LFH (NT) formations, which total 4.224 annual acre-feet on a 300-year basis, and 12.67 annual acre-feet on a 100-year basis.

5.0 WATER SYSTEM FACILITIES AND PHYSICAL SUPPLY

5.1 Source of Supply

Supply for the four (4) lots will be met with future or existing wells completed in the Dawson aquifer. There is an existing well (Permit #14436-F) that is currently drilled into the Dawson formation which will be revised to operate pursuant to the proposed replacement plan. 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 in the existing well was tested on February 10, 2022, 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 the existing well

(well permit #14436-F) via an exterior water tap in a cellar before filtering and storage serving the existing residence (10805 Milam Road). Water samples were obtained from this tap on February 10, 2022, 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 were received on March 2, 2022, and can be found in **Appendix D**. All results were found to be below primary and secondary Maximum Contaminant Limits (MCLs).

The Langlier Index value was recorded at -1.83 which indicates the possibility of corrosive water. 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 #6.

6.2 Buildout (Including 2040 and 2060 Buildout):

Expected buildout of the subject property are four (4) total lots, two consisting of approximately 5.01 acres per lot, one lot consisting of approximately 5.03 acres, and one lot consisting of approximately 12.58 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 Laramie-Fox Hills formations. Please refer to the *Plan for Augmentation* in **Appendix C**.

6.4 Water System Interconnects

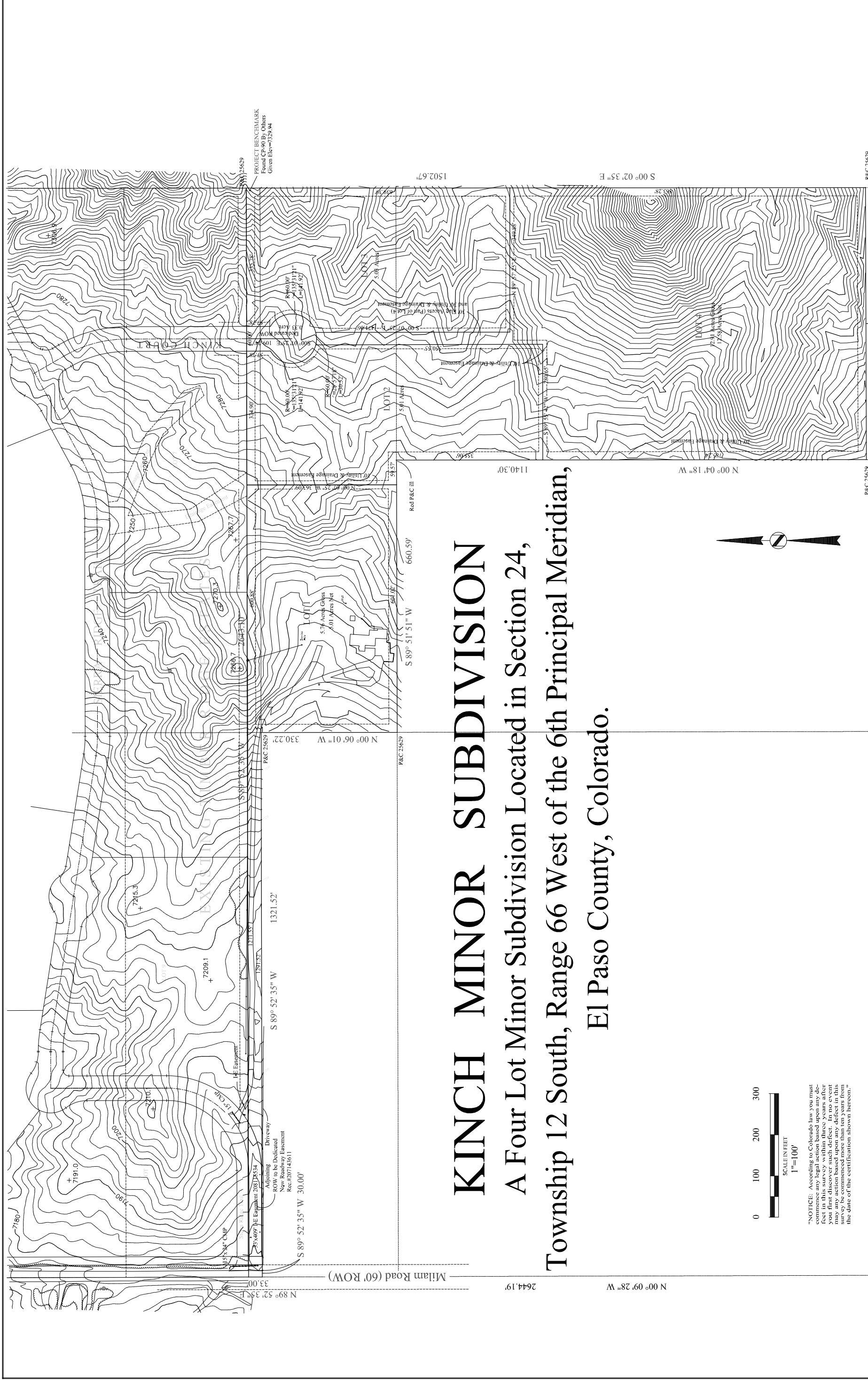
The closest source for a potential interconnect is Colorado Springs Utilities – approximately 0.25 miles to the south.

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

7.0 CONCLUSION

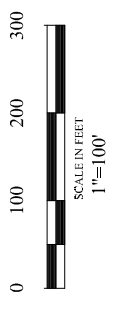
The subject property has adequate water supply to meet the needs of the proposed subdivision on a 300-year basis.

Appendix A



KINCH MINOR SUBDIVISION

A Four Lot Minor Subdivision Located in Section 24, Township 12 South, Range 66 West of the 6th Principal Meridian, El Paso County, Colorado.



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

REVISIONS	<p>Prepared by: HANNIGAN and ASSOCIATES, INC. LAND SURVEYING & LAND PLANNING LAND DEVELOPMENT CONSULTING 1956 SPRING VALLEY ROAD MONUMENT, COLORADO 80134-9613 719-481-8292 • FAX: 719-481-9071 1"=100' 03-02-21 2003/07/21 jsh</p>
TITLE	<p>KINCH MINOR SUBDIVISION Section 24, T 12 S, R 66 W, 6th P.M. El Paso County, Colorado</p>
CLIENT	<p>Paul & Amy Kinch</p>
SHEET	<p>2 of 2 JOB NUMBER 2639.42'</p>

SW Corner Section 24
 Found 3 1/4" Aluminum Cap
 LS 10377 per Monument
 Record on file.

South 1/4 Corner Section 24
 Found Witness Corners per
 Monument Records on file.

PROJECT BENCHMARK
 Found CP-90 By Others
 Given Elev=739.94

1502.67
 S 00° 02' 35" E
 660.02'
 S 89° 48' 55" W
 180.00'
 S 89° 48' 06" W
 660.02'
 P&C 25629

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 adequate supply of water"

1. NAME OF DEVELOPMENT AS PROPOSED		<u>Kinch</u>	
2. LAND USE ACTION		<u>Minor Subdivision</u>	
3. NAME OF EXISTING PARCEL AS RECORDED		<u>15435 East Chapparral Loop</u>	
SUBDIVISION	<u>See Above</u>	FILING	<u>N/A</u>
BLOCK	<u>N/A</u>	Lot	<u>N/A</u>
4. TOTAL ACERAGE	<u>29.12</u>	5. NUMBER OF LOTS PROPOSED	<u>4</u>
		PLAT MAPS ENCLOSED	<input checked="" type="checkbox"/>
6. PARCEL HISTORY - Please attach copies of deeds, plats, or other evidence or documentation. (In submittal package)			
A. Was parcel recorded with county prior to June 1, 1972?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
B. Has the parcel ever been part of a division of land action since June 1, 1972?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
If yes, describe the previous action _____			
7. LOCATION OF PARCEL - Include a map delineating the project area and tie to a section corner. (In submittal)			
<u>SE1/4</u> OF <u>SW 1/4</u> SECTION 24 TOWNSHIP <u>12</u>		<input type="checkbox"/> N	<input checked="" type="checkbox"/> S
		RANGE <u>63</u>	<input type="checkbox"/> E <input checked="" type="checkbox"/> W
PRINCIPAL MERIDIAN: <input checked="" type="checkbox"/> 6TH <input type="checkbox"/> N.M. <input type="checkbox"/> UTE <input type="checkbox"/> COSTILLA			
8. PLAT - Location of all wells on property must be plotted and permit numbers provided.			
Surveyors plat <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		If not, scaled hand-drawn sketch <input type="checkbox"/> Y <input checked="" type="checkbox"/> NO	
9. ESTIMATED WATER REQUIREMENTS - Gallons per Day or Acre Foot per Year		10. WATER SUPPLY SOURCE	
HOUSEHOLD USE ¹	<u>4</u> of units <u>0.260</u> AF/SFE/YR <u>1.040</u> AF	<input checked="" type="checkbox"/> EXISTING <input checked="" type="checkbox"/> DEVELOPED	<input checked="" type="checkbox"/> NEW WELLS
GUEST HOUSE USE ¹	<u>1</u> of units <u>0.200</u> AF/SFE/YR <u>0.200</u> AF	WELLS SPRING WELL PERMIT NUMBERS	Proposed Aquifers - (Check One)
IRRIGATION ²	<u>0.0566</u> AF/1000SF <u>152</u> GPD <u>0.170</u> AF	<u>14436-F</u>	<input type="checkbox"/> Alluvial <input type="checkbox"/> Upper Arapahoe
ANIMAL WATERING ³	<u>0</u> Horses <u>0.0111</u> AF/Horse/Year <u>0</u> AF	<u>The existing Dawson Well will be used at the existing lot</u>	<input checked="" type="checkbox"/> Upper Dawson <input type="checkbox"/> Lower Arapahoe
TOTAL	<u>1,259</u> GPD <u>1.41</u> AF*	<input type="checkbox"/> MUNICIPAL	<input checked="" type="checkbox"/> Lower Dawson <input type="checkbox"/> Laramie Fox Hills
1) Per 8.4.7.(B)(7)(d) of the EPC Land Development Code		<input type="checkbox"/> ASSOCIATION	<input type="checkbox"/> Denver <input type="checkbox"/> Dakota
2) Per 8.4.7.(B)(7)(d) of the EPC-LDC at 3050 ft2 of irrigation per lot		<input type="checkbox"/> COMPANY	<input type="checkbox"/> Other
3) Assume 6 horses per lot at 0.0111 AF/year per horse for livestock according to Replacement Plan No. 4239-RP		<input type="checkbox"/> DISTRICT	WATER COURT DECREE CASE NUMBERS
		NAME: <u>N/A</u>	<u>Case No. 2020CW3068</u>
		LETTER OF COMMITMENT FOR SERVICE <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	-
			-
11. ENGINEER'S WATER SUPPLY REPORT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		If yes, please forward with this form. (This may be required before our review is completed)	
12. TYPE OF SEWAGE DISPOSAL SYSTEM			
<input checked="" type="checkbox"/> SEPTIC TANK/LEACH FIELD		<input type="checkbox"/> CENTRAL SYSTEM - DISTRICT NAME: _____	
<input type="checkbox"/> LAGOON		<input type="checkbox"/> VAULT - LOCATION SEWAGE HAULED TO: _____	
<input type="checkbox"/> ENGINEERED SYSTEM (Attach a copy of engineering design)		<input type="checkbox"/> OTHER: _____	

Appendix C

<p>DISTRICT COURT, WATER DIVISION 2, COLORADO</p> <p>Court Address: 501 North Elizabeth Street, Suite 116 Pueblo, CO 81003 Phone Number: (719) 404-8832</p>	<p>DATE FILED: September 14, 2021 2:51 PM CASE NUMBER: 2020CW3068</p> <p style="text-align: center;">▲ COURT USE ONLY ▲</p>
<p>CONCERNING THE APPLICATION FOR WATER RIGHTS OF:</p> <p>PAUL A. KINCH and AMY L. KINCH</p> <p>IN EL PASO COUNTY</p>	<p>Case No.: 20CW3068 (Consolidated with Water Court Division 1 Case No. 20CW3170)</p>
<p style="text-align: center;">FINDINGS OF FACT, CONCLUSIONS OF LAW, RULING OF REFEREE AND DECREE:</p> <p style="text-align: center;">ADJUDICATING DENVER BASIN GROUNDWATER AND APPROVING PLAN FOR AUGMENTATION</p>	

THIS MATTER comes before the Water Court on the Application filed by Paul A. Kinch and Amy L. Kinch, and having reviewed said Application and other pleadings on file, and being fully advised on this matter, the Water Court makes the following findings and orders:

GENERAL FINDINGS OF FACT

1. The Applicants in this case are Paul A. Kinch and Amy L. Kinch, whose address is 10805 Milam Rd., Colorado Springs, CO 80908 (“Applicants”). The Applicants are the owners of the land totaling approximately 30 acres on which the structures sought to be adjudicated and augmented herein are and will be located, and under which lies the Denver Basin groundwater described in this decree, and are the owners of the place of use where the water will be put to beneficial use, except as described in Paragraph 19.

2. The Applicants filed this Application with the Water Courts for both Water Divisions 1 and 2 on November 19, 2020. The Application was referred to the Water Referees in both Divisions 1 and 2 on or about November 24, 2020.

3. The time for filing statements of opposition to the Application expired on the last day of January 2021. A Statement of Opposition was timely filed by Kettle Creek, LLC on January 28, 2021.

4. A Motion for Consolidation of the Division 1 and Division 2 cases into Water

Division 2 was filed with the Colorado Supreme Court on February 2, 2021. The Panel on Consolidated Multidistrict Litigation certified the Motion for Consolidation to the Chief Justice on February 4, 2021. Chief Justice, Brian D. Boatright, granted the Motion for Consolidation by Order dated March 1, 2021.

5. On November 19, 2020, the Division 1 Water Court, on Motion from Applicants, ordered that consolidated publication be made by only Division 2. On or near December 2, 2020, the Division 2 Water Court ordered that publication occur in *The Gazette* 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 December 16, 2020, proof of publication in *The Gazette* was filed with the Division 2 Water Court. All notices of the Application have been given in the manner required by law.

7. On August 17, 2021, a stipulation between the Applicants and Kettle Creek, LLC was filed with the Division 2 Water Court. By Order dated August 18, 2021 the Division 2 Water Court approved such stipulation.

8. Pursuant to C.R.S. §37-92-302(2), the Office of the State Engineer has filed Determination of Facts for each Denver Basin aquifer with this Court on February 4, 2021, which have been considered by the Court in the entry of this decree.

9. Pursuant to C.R.S. §37-92-302(4), the office of the Division Engineer for Water Division No. 2 filed its Consultation Report dated March 24, 2021, and no response to this report was required by the Division 2 Water Court. The Consultation Report has been considered by the Water Court in the entry of this decree.

10. 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

11. The Applicants requested quantification and adjudication of **underground water rights for the Kinch Well Nos. 1 through 4, as may be constructed to the Dawson aquifer, and additional or replacement wells associated therewith, for withdrawal of Applicants' full entitlements of supply under the plan for augmentation decreed herein. Applicants also requested quantification and adjudication of water uses from the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers.** The following findings are made with respect to such underground water rights:

12. The land overlying the groundwater subject to the adjudication in this case is owned by the Applicants and consists of 29.12 acres located in the SW ¼ of Section 24, Township 12 South, Range 66 West of the 6th P.M., and more particularly described as 10805 Milam Rd., Colorado Springs, CO 80908 (“Applicants’ Property”), which property is anticipated to be subdivided into up to four lots. All groundwater adjudicated herein shall be withdrawn from the overlying land unless there is a further order of this Court allowing otherwise following the filing of a new water court application.

13. In accordance with the notice requirements of C.R.S. §37-92-302(2), a Notice of Lienholders on the Applicants’ Property was filed with the Division 2 Water Court on December 16, 2020.

14. Kinch Well Nos. 1 through 4: Kinch Well No. 1 is located on the Applicants’ Property and is currently permitted and constructed as an exempt well pursuant to C.R.S. §37-92-602 under Well Permit No. 276175-A. The Kinch Well Nos. 2 through 4 will be constructed upon the Applicants’ Property. Applicants are awarded the vested right to use the Kinch Well Nos. 1 through 4, along with any necessary additional or replacement wells associated with such structures, for the extraction and use of groundwater from the non-tributary Dawson aquifer pursuant to the plan for augmentation decreed herein. Upon entry of this decree and submittal by the Applicants of complete well permit applications and filing fees, the State Engineer shall issue a revised permit for Kinch Well No. 1 and new permits for Kinch Well Nos. 2 through 4 pursuant to C.R.S. §37-90-137(4), consistent with and referencing the plan for augmentation decreed herein.

15. Of the statutorily described Denver Basin aquifers, the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers all exist beneath the Applicants’ Property. The Dawson, Denver, and Arapahoe aquifers underlying the Applicants’ Property contain non-tributary water, while the water of the Laramie-Fox Hills aquifer underlying the Applicants’ Property is nontributary. The quantity of water in the Denver Basin aquifers exclusive of artificial recharge underlying the Applicants’ Property is as follows:

AQUIFER	NET SAND (ft)	Annual Average Withdrawal 100 Years (Acre Feet)	Annual Average Withdrawal 300 Years (Acre Feet)	Total Withdrawal (Acre Feet)
Dawson (NNT)	75	4.37	1.45	437
Denver (NNT- 4%)	340	0.405	0.135	40.5 ¹
Arapahoe (NNT- 4%)	275	4.68	1.56	468 ²

¹ Amount available for withdrawal has been reduced from 1,680 acre-feet to 40.5 acre-feet due to overlapping cylinder of appropriation for Pre-SB 213 well with Permit No. 14436-F.

² Amount available for withdrawal has been reduced from 1,360 acre-feet to 468 acre-feet due to overlapping cylinder of appropriation for Pre-SB 213 well with Permit No. 14436-F.

Laramie-Fox Hills (NT)	190	8.3	2.76	830
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16. Pursuant to C.R.S. §37-90-137(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. In addition, the Applicants' Property is more than one mile from any point of contact between any natural surface stream, including its alluvium, and the aquifer. Augmentation requirements for wells drilled to the Denver and Arapahoe aquifers shall provide for replacement to affected stream systems of a total amount of water equal to four (4) percent of the amount of water withdrawn on an annual basis and such additional amounts that may be required pursuant to C.R.S. §37-90-137(9)(c.5). Applicants shall not be entitled to construct a well or use water from the not-nontributary Dawson, Denver, or Arapahoe aquifers 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.

17. Subject to the augmentation requirements described in Paragraphs 16 and 22 and the other requirements and limitations in this decree, Applicants shall be entitled to withdraw all legally available groundwater in the Denver Basin aquifers underlying Applicants' Property. Said amounts can be withdrawn over the 100-year life for the aquifers as set forth in C.R.S. §37-90-137(4), or withdrawn over a longer period of time based upon local governmental regulations or Applicants' water needs, provided withdrawals during such longer period are in compliance with the augmentation requirements of this decree. This decree describes a pumping period of 300-years as required by El Paso County, Colorado Land Development Code §8.4.7(C)(1). The average annual amounts of ground water available for withdrawal from the underlying Denver Basin aquifers, based upon the 100-year aquifer life, are determined and set forth in Paragraph 15, above, based upon the February 4, 2021 Office of the State Engineer Determination of Facts described in Paragraph 8.

18. Applicants shall be entitled to withdraw an amount of groundwater in excess of the average annual amount decreed herein from the Denver Basin aquifers underlying Applicants' Property, so long as the sum of the total withdrawals from wells in each of the aquifers does not exceed the product of the number of years since the date of issuance of the original well permit or the date of entry of the decree herein, whichever comes first, and the average annual volume of water which Applicants are entitled to withdraw from each of the aquifers underlying Applicants' Property, subject to the requirement that such banking and excess withdrawals do not violate the terms and conditions of the plan for augmentation decreed herein and any other plan for augmentation decreed by the Court that authorizes withdrawal of the Denver Basin groundwater decreed herein.

19. Subject to the terms and conditions in the plan for augmentation decreed herein and final approval by the State Engineer's Office pursuant to the issuance of well permits in accordance with C.R.S. §§37-90-137(4) or 37-90-137(10), the Applicants shall

have the right to use the ground water for beneficial uses upon the Applicants' Property consisting of domestic, irrigation, stock water, fire protection, and also for storage and augmentation purposes associated with such uses. The amount of groundwater decreed for such uses upon the Applicants' Property is reasonable as such uses are to be made for the long-term use and enjoyment of the Applicants' Property and is to establish and provide for adequate water reserves. The nontributary groundwater may be used, reused, and successively used to extinction, both on and off the Applicants' Property subject, however, to the limitations imposed on the use of the Laramie-Fox Hills aquifer groundwater by this decree and the requirement under C.R.S. §37-90-137(9)(b) that no more than 98% of the amount withdrawn annually shall be consumed. Applicants may use such water by immediate application or by storage and subsequent application to the beneficial uses and purposes stated herein. Provided however, as set forth above, Applicants shall only be entitled to construct a well or use water from the not-nontributary Dawson, Denver, and Arapahoe aquifers pursuant to a decreed augmentation plan entered by the Court, including that plan for augmentation decreed herein.

20. Withdrawals of groundwater available from the nontributary Laramie-Fox Hills aquifer beneath the Applicants' Property in the amounts determined in accordance with the provisions of this decree will not result in injury to any other vested water rights or to any other owners or users of water.

PLAN FOR AUGMENTATION

21. The structures to be augmented are the Kinch Well Nos. 1 through 4 existing or to be constructed to the not-nontributary Dawson aquifer underlying the Applicants' Property, along with any additional or replacement wells associated therewith.

22. Pursuant to C.R.S. §37-90-137(9)(c.5), the augmentation obligation for the Kinch Well Nos. 1 through 4, and any additional or replacement wells constructed to the Dawson aquifer, requires the replacement of actual stream depletions. The water to be used for augmentation during pumping is the septic system return flows of the not-nontributary Kinch Well Nos. 1 through 4 to be pumped as set forth in this plan for augmentation. The water to be used for augmentation after pumping is the reserved portion of Applicants' nontributary water rights in the Laramie-Fox Hills aquifer. Applicants shall provide for the augmentation of stream depletions caused by pumping the Kinch Well Nos. 1 through 4 as approved herein. Water use criteria is as follows:

A. Use: The Kinch Well No. 1 may pump up to 0.51 acre-feet per year, while the Kinch Well Nos. 2 through 4 may each pump up to 0.30 acre-feet per year, for a maximum total of 1.41 acre-feet being withdrawn from the Dawson aquifer per year, pursuant to the plan for augmentation decreed herein. Indoor use will utilize an estimated 0.25 acre-feet of water per year per residence within single-family dwellings on up to 4 lots, and 0.20 acre-feet annually within a guest home on the lot served by the Kinch Well No. 1. The remaining 0.21 acre-feet per year pumping entitlement is available for other

uses on the Applicants' Property, including irrigation of lawn and garden and the watering of horses or equivalent livestock. The foregoing figures assume the use of one individual septic system per lot, with resulting return flows from each.

B. Depletions: Maximum annual stream depletions over the 300-year pumping period will amount to approximately 27.17% of pumping. Maximum annual depletions for total pumping from all wells are therefore 0.38 acre-feet in year 300. Should Applicants' pumping be less than the total 1.41 annual acre-feet described herein, which represents a maximum total of 0.90 acre-feet for three wells/lots and 0.51 acre-feet for the fourth well/lot, resulting annual depletions and required replacements will be correspondingly reduced. In the event that Applicants' Property is subdivided into fewer than four lots, pumping for uses other than indoor use may be increased, provided that at all times septic return flows shall replace the maximum depletions resulting from pumping as described in this Paragraph 22. A minimum of two lots with residential indoor use, or one lot with a residence and guest home, must be developed and supplied with water from the associated wells in order for the wells to pump for any other uses decreed herein, or for any additional amount above the minimum required residential use up to the maximum amount of 1.41 acre-feet per year.

C. Augmentation of Depletions During Pumping Life of Wells: Pursuant to C.R.S. §37-90-137(9)(c.5), Applicants are required to replace actual stream depletions attributable to pumping of the Dawson aquifer wells. Applicants have shown that, provided water is delivered for indoor use and treated as required by this decree, depletions during the pumping period will be effectively replaced by residential return flows from non-evaporative septic systems. The annual consumptive use for non-evaporative septic systems is estimated at 10% per year per residence. At the household indoor use rate of 0.25 acre-feet per residence per year, plus an additional 0.20 annual acre-feet for a guest house, 1.08 acre-feet is replaced to the stream system per year, utilizing non-evaporative septic systems. Thus, during pumping, total maximum annual stream depletions of 0.38 acre-feet will be more than adequately augmented.

D. Augmentation of Post Pumping Depletions: This plan for augmentation shall have a pumping period of a minimum of 300 years. For the replacement of post-pumping depletions which may be associated with the use of the Kinch Well Nos. 1 through 4 and any additional or replacement wells, Applicants reserve up to 373 acre-feet in the nontributary Laramie-Fox Hills aquifer groundwater decreed herein to replace post-pumping depletions, which amount to 364.8 acre-feet. The amount of nontributary Laramie-Fox Hills aquifer groundwater reserved may be reduced as may be determined through this Court's retained jurisdiction as described in this decree. If the Court, by order, reduces the Applicants' obligation to account for and replace such post-pumping depletions for any reason, it may also reduce the amount of Laramie-Fox Hills aquifer groundwater reserved for such purposes, as described herein. Applicants also reserve 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, Applicants reserve the right in the future to prove that post-pumping depletions will be noninjurious. Pursuant to C.R.S. §37-90-137(9)(b), no more than 98% of water withdrawn annually from a nontributary aquifer shall be consumed. The reservation of a total of 373 acre-feet of Laramie-Fox Hills aquifer groundwater results in approximately 365.5 acre-feet of available post-pumping augmentation water, which will be sufficient to replace post-pumping depletions.

E. Permit: Upon entry of a decree in this case, the Applicants will be entitled to apply for and receive new well permits for the Kinch Well Nos. 1 through 4 for the uses in accordance with this decree and otherwise in compliance with C.R.S. §37-90-137.

23. 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 the augmentation source during the pumping period will accrue to only the Arkansas River system where most of the depletions will occur and where the Applicants' Property is located. Under this augmentation plan, the total amount of depletions will be replaced to the Arkansas River system as set forth herein, and the Court finds that those replacements are sufficient under this augmentation plan subject to Paragraphs 42-46 herein.

24. This decree, upon recording, shall constitute a covenant running with Applicants' Property, benefitting and burdening said land, and requiring construction of well(s) to the nontributary Laramie-Fox Hills aquifer and pumping of water to replace 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 under this augmentation plan, Applicants or their successors shall use information commonly used by the Colorado Division of Water Resources for augmentation plans of this type at the time. Pursuant to this covenant, the water from the nontributary Laramie-Fox Hills aquifer reserved herein may not be severed in ownership from the Applicants' Property. This covenant shall be for the benefit of, and enforceable by, third parties owning vested water rights who would be 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 Applicants' Property.

25. Applicants or their successors shall be required to initiate pumping from the Laramie-Fox Hills aquifer for the replacement of post-pumping depletions when either: (i) the absolute total amount of water available from the Dawson aquifer allowed to be withdrawn under the plan for augmentation decreed herein (423 acre-feet) has been pumped; (ii) the Applicants or their successors in interest have acknowledged in writing that all withdrawals for beneficial use through the Kinch Well Nos. 1 through 4 have permanently ceased, (iii) a period of 10 consecutive years where no withdrawals of groundwater has occurred, or (iv) accounting shows that return flows from the use of the

water being withdrawn are insufficient to replace depletions caused by the withdrawals that already occurred.

26. Unless modified by the Court under its retained jurisdiction, Applicants and their successors shall be responsible for accounting and replacement of post-pumping depletions as set forth herein. Should Applicants' obligation hereunder to account for and replace such post-pumping stream depletions be reduced or abrogated for any reason, Applicants may petition the Court to also modify or terminate the reservation of the Laramie-Fox Hills aquifer groundwater.

27. The term of this augmentation plan is for a minimum of 300 years, however, the length of the plan for a particular well or wells may be extended beyond such time provided the total plan pumping allocated to such well or wells is not exceeded. Should the actual operation of this augmentation plan depart from the planned diversions described in Paragraph 22 such that annual diversions are increased or the duration of the plan is extended, the Applicants must prepare and submit a revised model of stream depletions caused by the actual pumping or intended schedule. This analysis must utilize depletion modeling acceptable to the State Engineer, and to this Court, and must represent the water use under the plan for the entire term of the plan to date. The analysis must show that return flows have equaled or exceeded actual stream depletions throughout the pumping period and that reserved nontributary water remains sufficient to replace post-pumping depletions.

28. Consideration has been given to the depletions from Applicants' 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 Applicants, and the existence, if any, of injury to any owner of or person entitled to use water under a vested water right.

29. 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 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 Kinch Well Nos. 1 through 4. As a result of the operation of this plan for augmentation, the depletions from the Kinch Well Nos. 1 through 4 and any additional or replacement wells associated therewith will not result in injury to the vested water rights of others.

CONCLUSIONS OF LAW

30. The application for adjudication of Denver Basin groundwater and approval 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.5). These cases were properly consolidated before Water Division 2.

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

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

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

34. 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.

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

36. The Applicants' request for approval of a plan for augmentation is contemplated and authorized by law. If administered in accordance with this decree, this plan for augmentation will permit the uninterrupted diversions from the Kinch Well Nos. 1 through 4 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. C.R.S. §§37-92-305(3), (5), and (8).

IT IS THEREFORE ORDERED, ADJUDGED AND DECREED AS FOLLOWS:

37. 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.

38. The Application for Adjudication of Denver Basin Groundwater and For Approval of Plan for Augmentation filed by the Applicants is approved, subject to the terms of this decree.

A. Applicants are awarded a vested right to 437 acre-feet of groundwater from the not-nontributary Dawson aquifer underlying Applicants' Property, as quantified in Paragraph 15 or as modified by the Court under its retained jurisdiction. Of this total amount, 423 acre-feet may be pumped pursuant to the plan for augmentation decreed herein. The remaining 14 acre-feet shall not be withdrawn for any purpose except pursuant to a separate court-approved plan for augmentation authorizing the pumping of such amount.

B. Applicants are awarded a vested right to 40.5 acre-feet of groundwater from the not-nontributary Denver aquifer underlying Applicants' Property, as quantified in Paragraph 15 or as modified by the Court under its retained jurisdiction. However, none of the not-nontributary Denver aquifer water vested and decreed herein shall be withdrawn for any purpose except pursuant to a separate court-approved plan for augmentation authorizing the pumping of such amount.

C. Applicants are awarded a vested right to 468 acre-feet of groundwater from the not-nontributary Arapahoe aquifer underlying Applicants' Property, as quantified in Paragraph 15 or as modified by the Court under its retained jurisdiction. However, none of the not-nontributary Arapahoe aquifer water vested and decreed herein shall be withdrawn for any purpose except pursuant to a separate court-approved plan for augmentation authorizing the pumping of such amount.

D. Applicants are awarded a vested right to 830 acre-feet of groundwater from the nontributary Laramie-Fox Hills aquifer underlying Applicants' Property, as quantified in Paragraph 15 or as modified by the Court under its retained jurisdiction. Subject to the provisions of Rule 8 of the Denver Basin Rules, 2 CCR 402-6, limiting consumption to ninety-eight percent of the amount withdrawn, and the other terms and conditions of this decree, Applicants' Laramie-Fox Hills aquifer groundwater may be utilized for all purposes described in Paragraph 19, subject to the reservation of 373 acre-feet of the 830 total acre-feet awarded to be utilized only for replacement of post-pumping depletions under the plan for augmentation decreed herein, as described in Paragraph 22.D., above.

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

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

shall be required to provide for such relinquishment. Applicants shall be required to demonstrate to the State Engineer prior to issuance of a well permit that no more than ninety-eight percent of the groundwater withdrawn annually will be consumed.

41. The Kinch Well Nos. 1 through 4, and any replacement or additional wells, shall be operated such that combined pumping from all wells does not exceed the annual (1.41 acre-feet) and total (423 acre-feet) pumping limits for the Dawson aquifer as decreed herein, and is in accordance with the requirements of the plan for augmentation described herein. The State Engineer, the Division Engineer, and/or the Water Commissioner shall not curtail the diversion and use of water by the Kinch Well Nos. 1 through 4 or any additional and replacement wells so long as the return flows from the annual diversions associated with the Kinch Well Nos. 1 through 4 and such other wells accrue to the stream system pursuant to the conditions contained herein. To the extent that Applicants or one of their successors or assigns is ever unable to provide the replacement water required, then the Kinch Well Nos. 1 through 4 and any additional or replacement wells 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 regulations 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 shall at all times during pumping be in an amount sufficient to replace the amount of stream depletions, and cannot be sold, leased, or otherwise used for any purpose inconsistent with the augmentation plan decreed herein. Applicants shall be required to have any wells pumping on the Applicants' Property providing water for in-house use and generating septic system returns prior to pumping the wells for any of the other uses identified in Paragraphs 19 or 22.A.

42. The Court retains jurisdiction over this matter to make adjustments in the allowed average annual amount of withdrawal from the Denver Basin aquifers, either upwards or downwards, to conform to actual local aquifer characteristics, and the Applicants need not file a new application to request such adjustments.

A. At such time as adequate data may be available, Applicants or the State Engineer may invoke the Court's retained jurisdiction as provided in this Paragraph 42 for purposes of making a final determination of water rights as to the quantities of water available and allowed average annual withdrawals from any of the Denver Basin aquifers quantified and adjudicated herein. Any person seeking to invoke the Court's retained jurisdiction for such purpose shall file a verified petition with the Court setting forth with particularity the factual basis for such final determination of Denver Basin water rights under this decree, together with the proposed decretal language to effect the petition. Within four months of the filing of such verified petition, the State Engineer's Office shall utilize such information as available to make a final determination of water rights finding,

and shall provide such information to the Court, Applicants, opposer, and the petitioning party.

B. If no protest is filed with the Court to such findings by the State Engineer's Office within sixty (60) days, this Court shall incorporate by entry of an Amended Decree such "final determination of water rights", and the provisions of this Paragraph 42 concerning adjustments to the Denver Basin ground water rights based upon local aquifer conditions shall no longer be applicable. In the event of a protest being timely filed, or should the State Engineer's Office make no timely determination as provided in Paragraph 42.A., above, the "final determination of water rights" sought in the petition may be made by the Water Court after notice to all parties and following a full and fair hearing, including entry of an Amended Decree, if applicable in the Court's reasonable discretion.

43. 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. The Court further retains jurisdiction should the Applicants 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 22.D. The Court's retained jurisdiction may be invoked using the process set forth in Paragraph 46.

44. As pertains to the Denver Basin groundwater supplies, the Court shall retain continuing jurisdiction for so long as Applicants are required to replace depletions to the Arkansas River system, to determine whether the replacement of depletions to the Arkansas River system instead of the South Platte River system is causing injury to water rights tributary to the South Platte River system.

45. Any person may invoke the Court's retained jurisdiction at any time that Applicants are causing depletions, including ongoing post-pumping depletions, to the South Platte River system and is replacing such depletions to only the Arkansas 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 injury and to request that the Court reconsider 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 Applicants' failure to replace depletions to the South Platte

River system is causing 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 injury is occurring to any vested or conditionally decreed water rights in the South Platte River system due to the location of Applicants' replacement water. If the Court finds that those facts are established, the Applicants shall thereupon have the burden of proof to show (i) that petitioner is not injured, or (ii) that any modification sought by the petitioner is not required to avoid injury to the petitioner, or (iii) that any term or condition proposed by Applicants in response to the petition does avoid injury to the petitioner. The Division of Water Resources as a petitioner shall be entitled to assert injury to the vested water rights of others.

46. Except as otherwise specifically provided in Paragraphs 42-45, above, pursuant to the provisions of C.R.S. §37-92-304(6), this plan for augmentation decreed herein shall be subject to the reconsideration of this Court on the question of material injury to vested water rights of others, for a period of five years. 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 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, Applicants shall thereupon have the burden of proof to show: (i) that the petitioner is not injured, or (ii) that any modification sought by the petitioner is not required to avoid injury to the petitioner, or (iii) that any term or condition proposed by Applicants in response to the petition does avoid injury to the petitioner. The Division of Water Resources as a petitioner shall be entitled to assert injury to the vested water rights of others. If no such petition is filed within such period and the retained jurisdiction period is not extended by the Court in accordance with the provisions of the statute, this matter shall become final under its own terms.

47. Pursuant to C.R.S. §37-92-502(5)(a), the Applicants shall install and maintain such water measurement devices and recording devices as are deemed necessary by the State Engineer or Division Engineers, and the same shall be installed and operated in accordance with instructions from said entities. Applicants are to install and maintain a totalizing flow meter on each of the Kinch Well Nos. 1 through 4 or any additional or replacement wells associated therewith. Applicants shall read and record the well meter readings on March 15th and October 15th of each year and shall submit the meter readings to the Water Commissioner by March 31st and October 31st of each year or more frequently as requested by the Water Commissioner.

48. The vested water rights, water right structures, and plan for augmentation decreed herein shall be subject to all applicable administrative rules and regulations, as

currently in place or as may in the future be promulgated, of the offices of Colorado State and Division Engineers for administration of such water rights, to the extent such rules and regulations are uniformly applicable to other similarly situated water rights and water users. The Kinch Well Nos. 1 through 4 shall be permitted as non-exempt structures under the plan for augmentation decreed herein. 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, to the extent the well permit applications request a use that has not been specifically identified in this decree, 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.

49. 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 decree shall be mailed as provided by statute.

DATED THIS 20th day of August, 2021.

BY THE REFEREE:



Kate Brewer, Water Referee
Water Division 2

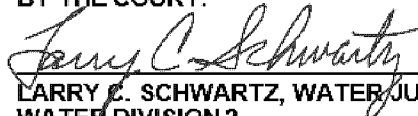
DECREE

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

Dated: September 14, 2021



BY THE COURT:



LARRY C. SCHWARTZ, WATER JUDGE
WATER DIVISION 2

Appendix D

***El Paso County Land Development Code
Water Quality Requirements and Results
Dawson Confined Aquifer
Kinch Minor Subdivision - 10805 Milam Road
Sampled February 10, 2022***

Compound	Units	MCL/SMCL	Result
Antimony	mg/l	0.006	0
Arsenic	mg/l	0.01	0.0035
Barium	mg/l	2	0.0482
Beryllium	mg/l	0.004	0
Cadmium	mg/l	0.005	0
Chromium	mg/l	0.1	0
Cyanide (Total)	mg/l	0	0
Fluoride	mg/l	4	0.25
Mercury	mg/l	0.002	0
Nitrate as N	mg/l	10	0
Nitrite as N	mg/l	1	0
Selenium	mg/l	0.05	0
Thallium	mg/l	0.002	0
Aluminum	mg/l	0.05	0.002
Chloride	mg/l	250	1.5
Langelier Index			-1.83
Iron	mg/l	0.3	0.041
Manganese	mg/l	0.05	0.0262
pH		6.5 - 8.5	7.13
Silver	mg/l	0.1	0
Sulfate	mg/l	250	10.6
TDS	mg/l	500	125
Zinc	mg/l	5	0.073
Gross Alpha/Beta	pCi/l	15	2.3
Combined Radium 226+228	pCi/l	5	3.7
Total Coliform	#/100 ml	Absent	Absent

Green = Result below MCL - Acceptable Water Quality



Analytical Results

TASK NO: 220211050

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

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

Task No.: 220211050
Client PO:
Client Project:
Date Received: 2/11/22
Date Reported: 3/2/22
Matrix: Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time	Test	Result	Method	Date Analyzed
220211050-01B	#1	2/10/22 2:03 PM	Total Coliform	Absent	SM 9223	2/12/22
			E-Coli	Absent	SM 9223	2/12/22

Abbreviations/ References:

Absent = Coliform Not Detected
Present = Coliform Detected - Chlorination Recommended
Date Analyzed = Date Test Completed
SM = "Standard Methods for the Examination of Water and Wastewater"; APHA; 19th Edition; 1995

DATA APPROVED FOR RELEASE BY

10411 Heinz Way / Commerce City, CO 80640 / 303-659-2313
Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507

Drinking Water Chain of Custody



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

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

Phone: 303-659-2313

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	Project Information
Company Name: <u>IDS-Hydro</u>	Company Name: _____	PWSID: <u>N/A</u>
Contact Name: <u>Shelby Gatlin</u>	Contact Name: _____	System Name: _____
Address: <u>5540 Tech Center Dr Ste 100</u>	Address: _____	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City: <u>CS</u> State: <u>CO</u> Zip: <u>80919</u>	City: _____ State: _____ Zip: _____	Send Results to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Phone: <u>719-227-0072</u>	Phone: _____	Task Number (Lab Use Only) CAL Task
Email: <u>Shelby.gatlin@respec.com</u>	Email: _____	220211050
Sample Collector: <u>Stephanie/Shelby</u>	Sample Collector: _____	JAK
Sample Collector Phone: <u>719 551-8233</u>	PO Number: _____	

			PHASE I, II, V Drinking Water Analyses (check requested analysis)																	Subcontract Analyses											
Date	Time	Client Sample ID / Sample Pt ID	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbarnates	547 Glyphosate	548.1 Endothal	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index (Circle)	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226/228	Radon	Uranium	Chlorite	
<u>2/10</u>	<u>2:03</u>	<u>#1</u>	<u>9</u>		<input checked="" type="checkbox"/>													<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
*collection time taken from bottle																															
Instructions: Please analyze all compounds listed on enclosed WORD doc. Relinquished By: <u>Stephanie Shuvenke</u> Date/Time: <u>2/10/22 3:00pm</u>																	C/S Info: Field temp: <u>12.3</u> Field pH: <u>7.83</u>					Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/> Headspace Yes <input type="checkbox"/> No <input type="checkbox"/> Delivered Via: <u>UPS</u> C/S Charge <input checked="" type="checkbox"/> Temp: <u>1</u> °C/Ice <u>Y</u> Sample Pres. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Received By: <u>Adam</u> Date/Time: <u>2/11/22</u>									

Analytical Results

TASK NO: 220211050

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

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

Task No.: 220211050
Client PO:
Client Project:

Date Received: 2/11/22
Date Reported: 3/2/22
Matrix: Water - Drinking

Customer Sample ID #1

Sample Date/Time: 2/10/22 2:03 PM

Lab Number: 220211050-01

Test	Result	Method	RL	Date Analyzed	QC Batch ID	Analyzed By
Bicarbonate	59.1 mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	2/16/22	-	TAB
Calcium as CaCO3	41.6 mg/L	EPA 200.7	0.1 mg/L	2/16/22	-	MAT
Carbonate	ND	SM 2320-B	0.2 mg/L as CaCO3	2/16/22	-	TAB
Hydroxide	ND	SM 2320-B	0.2 mg/L as CaCO3	2/16/22	-	TAB
Langelier Index	-1.83 units	SM 2330-B	units	2/21/22	-	SAN
pH	6.56 units	SM 4500-H-B	0.01 units	2/11/22	-	HNB
Temperature	20 °C	SM 4500-H-B	1 °C	2/11/22	-	HNB
Total Alkalinity	59.1 mg/L as CaCO3	SM 2320-B	4.0 mg/L as CaCO3	2/16/22	QC55071	TAB
Total Dissolved Solids	125 mg/L	SM 2540-C	5 mg/L	2/16/22	QC55054	ISG

Abbreviations/ References:

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Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

Report To: Doug Schwenke
Company: JDS Hydro Consultants

Receive Date: 2/11/22
Project Name:

Test	QC Batch ID	QC Type	Result	Method		
Total Alkalinity	QC55071	Blank	ND	SM 2320-B		
Total Dissolved Solids	QC55054	Blank	ND	SM 2540-C		

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Total Alkalinity	QC55071	Duplicate	0 - 20	-	1.2	SM 2320-B
		LCS	90 - 110	97.0	-	
Total Dissolved Solids	QC55054	Duplicate	0 - 20	-	5.1	SM 2540-C
		LCS	85 - 115	105.5	-	

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
 mg/L = Milligrams Per Liter or PPM
 ug/L = Micrograms Per Liter or PPB
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 Date Analyzed = Date Test Completed

(d) RPD acceptable due to low duplicate and sample concentrations.
 (s) Spike amount low relative to the sample amount.
 ND = Not Detected at Reporting Limit.

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

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

Task No.: 220211050
Client PO:
Client Project:

Date Received: 2/11/22
Date Reported: 3/2/22
Matrix: Water - Drinking

Customer Sample ID #1

Sample Date/Time: 2/10/22 2:03 PM

Lab Number: 220211050-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Chloride	1.5 mg/L	EPA 300.0	0.1 mg/L		2/11/22	QC55017	AMJ
Fluoride	0.25 mg/L	EPA 300.0	0.10 mg/L	4	2/11/22	QC55018	AMJ
Nitrate Nitrogen	ND	EPA 300.0	0.05 mg/L	10	2/11/22	QC55019	AMJ
Nitrite Nitrogen	ND	EPA 300.0	0.03 mg/L	1	2/11/22	QC55021	AMJ
Sulfate	10.6 mg/L	EPA 300.0	0.1 mg/L		2/11/22	QC55020	AMJ
Cyanide-Total	ND	EPA 335.4	0.005 mg/L	0.02	2/15/22	QC55032	ECM
Total							
Iron	0.041 mg/L	EPA 200.7	0.005 mg/L	0.3	2/16/22	QC55057	MBN
Aluminum	0.002 mg/L	EPA 200.8	0.001 mg/L	0.05	2/16/22	QC55060	MBN
Antimony	ND	EPA 200.8	0.0012 mg/L	0.006	2/16/22	QC55060	MBN
Arsenic	0.0035 mg/L	EPA 200.8	0.0006 mg/L	0.01	2/16/22	QC55060	MBN
Barium	0.0482 mg/L	EPA 200.8	0.0007 mg/L	2	2/16/22	QC55060	MBN
Beryllium	ND	EPA 200.8	0.0001 mg/L	0.004	2/16/22	QC55060	MBN
Cadmium	ND	EPA 200.8	0.0001 mg/L	0.005	2/16/22	QC55060	MBN
Chromium	ND	EPA 200.8	0.0015 mg/L	0.1	2/16/22	QC55060	MBN
Manganese	0.0262 mg/L	EPA 200.8	0.0008 mg/L	0.05	2/16/22	QC55060	MBN
Mercury	ND	EPA 200.8	0.0001 mg/L	0.002	2/16/22	QC55060	MBN
Selenium	ND	EPA 200.8	0.0008 mg/L	0.05	2/16/22	QC55060	MBN
Silver	ND	EPA 200.8	0.0005 mg/L	0.1	2/16/22	QC55060	MBN
Thallium	ND	EPA 200.8	0.0002 mg/L	0.002	2/16/22	QC55060	MBN
Zinc	0.073 mg/L	EPA 200.8	0.001 mg/L	5	2/16/22	QC55060	MBN

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Date Analyzed = Date Test Completed

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(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

Report To: Doug Schwenke
Company: JDS Hydro Consultants

Receive Date: 2/11/22
Project Name:

Test	QC Batch ID	QC Type	Result	Method
Chloride	QC55017	Blank	ND	EPA 300.0
Cyanide-Total	QC55032	Blank	ND	EPA 335.4
Fluoride	QC55018	Blank	ND	EPA 300.0
Aluminum	QC55060	Method Blank	ND	EPA 200.8
Antimony	QC55060	Method Blank	ND	EPA 200.8
Arsenic	QC55060	Method Blank	ND	EPA 200.8
Barium	QC55060	Method Blank	ND	EPA 200.8
Beryllium	QC55060	Method Blank	ND	EPA 200.8
Cadmium	QC55060	Method Blank	ND	EPA 200.8
Chromium	QC55060	Method Blank	ND	EPA 200.8
Manganese	QC55060	Method Blank	ND	EPA 200.8
Mercury	QC55060	Method Blank	ND	EPA 200.8
Selenium	QC55060	Method Blank	ND	EPA 200.8
Silver	QC55060	Method Blank	ND	EPA 200.8
Thallium	QC55060	Method Blank	ND	EPA 200.8
Zinc	QC55060	Method Blank	ND	EPA 200.8
Iron	QC55057	Method Blank	ND	EPA 200.7
Nitrate Nitrogen	QC55019	Blank	ND	EPA 300.0
Nitrite Nitrogen	QC55021	Blank	ND	EPA 300.0
Sulfate	QC55020	Blank	ND	EPA 300.0

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Chloride	QC55017	Duplicate	0 - 20	-	2.2	EPA 300.0
		LCS	90 - 110	104.5	-	
		MS	75 - 125	87.4	-	
Cyanide-Total	QC55032	Duplicate	0 - 20	-	0.0	EPA 335.4
		LCS	90 - 110	100.5	-	
		MS	75 - 125	81.0	-	
Fluoride	QC55018	Duplicate	0 - 20	-	2.2	EPA 300.0
		LCS	90 - 110	100.3	-	
		MS	75 - 125	93.8	-	
Aluminum	QC55060	LCS	90 - 110	99.2	-	EPA 200.8
		MS	70 - 130	124.4	-	
		MSD	0 - 10	-	0.4	
Antimony	QC55060	LCS	90 - 110	96.1	-	EPA 200.8
		MS	70 - 130	93.3	-	
		MSD	0 - 10	-	0.4	
Arsenic	QC55060	LCS	90 - 110	93.9	-	EPA 200.8
		MS	70 - 130	109.1	-	
		MSD	0 - 10	-	2.4	
Barium	QC55060	LCS	90 - 110	90.8	-	EPA 200.8

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(d) RPD acceptable due to low duplicate and sample concentrations.
 (s) Spike amount low relative to the sample amount.
 ND = Not Detected at Reporting Limit.

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Beryllium	QC55060	MS	70 - 130	91.4	-	EPA 200.8
		MSD	0 - 10	-	1.6	
Beryllium	QC55060	LCS	90 - 110	102.0	-	EPA 200.8
		MS	70 - 130	101.4	-	
Cadmium	QC55060	MSD	0 - 10	-	0.8	EPA 200.8
		LCS	90 - 110	90.7	-	
Cadmium	QC55060	MS	70 - 130	89.6	-	EPA 200.8
		MSD	0 - 10	-	0.6	
Chromium	QC55060	LCS	90 - 110	98.0	-	EPA 200.8
		MS	70 - 130	125.0	-	
Chromium	QC55060	MSD	0 - 10	-	0.2	EPA 200.8
		LCS	90 - 110	93.7	-	
Manganese	QC55060	MS	70 - 130	117.0	-	EPA 200.8
		MSD	0 - 10	-	0.8	
Mercury	QC55060	LCS	90 - 110	106.5	-	EPA 200.8
		MS	70 - 130	94.9	-	
Mercury	QC55060	MSD	0 - 10	-	0.1	EPA 200.8
		LCS	90 - 110	94.3	-	
Selenium	QC55060	MS	70 - 130	96.4	-	EPA 200.8
		MSD	0 - 10	-	0.9	
Silver	QC55060	LCS	90 - 110	93.5	-	EPA 200.8
		MS	70 - 130	83.8	-	
Silver	QC55060	MSD	0 - 10	-	2.3	EPA 200.8
		LCS	90 - 110	101.6	-	
Thallium	QC55060	MS	70 - 130	91.9	-	EPA 200.8
		MSD	0 - 10	-	1.1	
Zinc	QC55060	LCS	90 - 110	92.0	-	EPA 200.8
		MS	70 - 130	105.8	-	
Zinc	QC55060	MSD	0 - 10	-	2.1	EPA 200.8
		Duplicate	0 - 20	-	0.0	
Iron	QC55057	LCS	90 - 110	96.2	-	EPA 200.7
		MS	75 - 125	106.9	-	
Nitrate Nitrogen	QC55019	Duplicate	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	100.0	-	
Nitrate Nitrogen	QC55019	MS	75 - 125	95.5	-	EPA 300.0
		Duplicate	0 - 20	-	0.0	
Nitrite Nitrogen	QC55021	LCS	90 - 110	95.4	-	EPA 300.0
		MS	75 - 125	92.1	-	
Sulfate	QC55020	Duplicate	0 - 20	-	2.7	EPA 300.0
		LCS	90 - 110	103.0	-	
Sulfate	QC55020	MS	75 - 125	75.9	-	EPA 300.0

All analyses were performed in accordance with approved methods under the latest revision to 40 CFR Part 136 unless otherwise identified. Based on my inquiry of the person or persons directly responsible for analyzing the wastewater samples and generating the report (s), the analyses, report, and information submitted are, to the best of my knowledge and belief, true, accurate, and complete.



DATA APPROVED FOR RELEASE BY

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
mg/L = Milligrams Per Liter or PPM
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mpr/100 mls = Most Probable Number Index/ 100 mls
Date Analyzed = Date Test Completed

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(s) Spike amount low relative to the sample amount.
ND = Not Detected at Reporting Limit.

Drinking Water Chain of Custody



Commerce City Lab
10411 Heinz Way
Commerce City CO 80640

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

Phone: 303-659-2313

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	Project Information
Company Name: <u>JDS-Hydro</u>	Company Name: _____	PWSID: <u>N/A</u>
Contact Name: <u>Shelby Gatlin</u>	Contact Name: _____	System Name: _____
Address: <u>5540 Tech Center Dr Ste 100</u>	Address: _____	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
City: <u>CS</u> State: <u>CO</u> Zip: <u>80119</u>	City: _____ State: _____ Zip: _____	Send Results to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Phone: <u>719-827-0072</u>	Phone: _____	Task Number (Lab Use Only) CAL Task
Email: <u>Shelby.gatlin@respa.com</u>	Email: _____	220211050
Sample Collector: <u>Stephanie/Shelby</u>	Sample Collector: _____	JAK
Sample Collector Phone: <u>719 551-8233</u>	PO Number: _____	

			PHASE I, II, V Drinking Water Analyses (check requested analysis)																Subcontract Analyses												
Date	Time	Client Sample ID / Sample Pt ID	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbarnates	547 Glyphosate	548.1 Endothal	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index (Circle)	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226/228	Radon	Uranium	Chlorite	
<u>2/10</u>	<u>2:03</u>	<u>#1</u>	<u>9</u>		<input checked="" type="checkbox"/>													<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
<u>*collection time taken from bottle</u>																															
Instructions: Please analyze all compounds listed on enclosed WORD doc																															
Relinquished By: <u>Stephanie Schwenke</u>			Date/Time: <u>2/10/22 3:00pm</u>	Received By: <u>Adams</u>		Date/Time: <u>2/11/22</u>	C/S Info: <u>Field temp: 12.3</u> <u>Field pH: 7.83</u>		Delivered Via: <u>UPS</u>		C/S Charge: <u>K</u>		Temp: <u>Y</u>		Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>		Headspace Yes <input type="checkbox"/> No <input type="checkbox"/>		Sample Pres. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>												



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

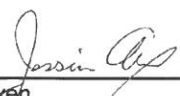
Lab Control ID: 22M01228
Received: Feb 14, 2022
Reported: Mar 01, 2022
Purchase Order No.
None Received

Customer ID: 20040H
Account ID: Z01034

Stuart Nielson
Colorado Analytical Laboratories, Inc.
10411 Heinz Way
Commerce City, CO 80640

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

Customer ID: 20040H
 Account ID: Z01034
ANALYTICAL REPORT

Stuart Nielson
 Colorado Analytical Laboratories, Inc.

Lab Sample ID		22M01228-001						
Customer Sample ID		220211050-01D - #1 sampled on 02/10/22 @ 1403						
Parameter	Units	Code	Result	Precision* +/-	Detection Limit	Method	Analysis Date / Time	Analyst
Gross Alpha	pCi/L	T	2.3	1.7	0.1	SM 7110 B	2/17/22 @ 1030	RG
Gross Beta	pCi/L	T	< 4.3	2.4	4.3	SM 7110 B	2/17/22 @ 1030	RG
Radium-226	pCi/L	T	NR	-	-	SM 7500-Ra B	-	-
Radium-228	pCi/L	T	NR	-	-	EPA Ra-05	-	-

NR - Not Requested - Analysis not requested on this sample.

Certification ID's: CO/EPA CO00008

*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



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

Lab Control ID: 22M01228
 Received: Feb 14, 2022
 Reported: Mar 01, 2022
 Purchase Order No.
 None Received

Customer ID: 20040H
 Account ID: Z01034

ANALYTICAL REPORT

Stuart Nielson
 Colorado Analytical Laboratories, Inc.

Lab Sample ID		22M01228-002						
Customer Sample ID		220211050-01E - #1						
		sampled on 02/10/22 @ 1403						
Parameter	Units	Code	Precision*		Detection	Method	Analysis	Analyst
			Result	+/-	Limit		Date / Time	
Gross Alpha	pCi/L	T	NR	-	-	SM 7110 B	-	-
Gross Beta	pCi/L	T	NR	-	-	SM 7110 B	-	-
Radium-226	pCi/L	T	1.4	0.4	0.2	SM 7500-Ra B	2/18/22 @ 1329	KT
Radium-228	pCi/L	T	2.3	0.8	0.2	EPA Ra-05	2/17/22 @ 1249	JR

NR - Not Requested - Analysis not requested on this sample.

Certification ID's: CO/EPA CO00008

*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

Batch QC Summary Form

Analyte: Gross Alpha

Control Standard/LFB: ID: C-11 pCi/mL: 57.4 (use 1 diluted)

Spike Solution: ID: C-11 pCi/mL: 57.4 (use 1 mL)

Spike Recovery Calculation: Sample: Tap*

$$\text{Calculation: } \frac{(46.1) (1.000) - (1.8) (0.200)}{57.4} \times 100 = 80\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 30 %	x		
Spike Recovery	70 - 130 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap	x		

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

<u>22M01150</u>	<u>22M01236</u>
<u>22M01142</u>	<u>22M01241</u>
<u>22M01231</u>	<u>22M01242</u>
<u>22M01232</u>	<u>22M01198</u>
<u>22M01233</u>	_____
<u>22M01234</u>	_____
<u>22M01207</u>	_____
<u>22M01218</u>	_____
<u>22M01228</u>	_____
<u>22M01235</u>	_____

Evaluator:

Roxane Sullivan _____

Date 02/21/2022

Batch QC Summary Form

Analyte: Gross Beta

Control Standard/LFB: ID: C-11 pCi/mL: 44 (use 1 diluted)

Spike Solution: ID: C-11 pCi/mL: 44 (use 1 mL)

Spike Recovery Calculation: Sample: Tap*

$$\text{Calculation: } \frac{(37.1) (1.000) - (2.0) (0.200)}{44} \times 100 = 83\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 20 %	x		
Spike Recovery	80 - 120 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap	x		

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

<u>22M01150</u>	<u>22M01236</u>
<u>22M01142</u>	<u>22M01241</u>
<u>22M01231</u>	<u>22M01242</u>
<u>22M01232</u>	<u>22M01198</u>
<u>22M01233</u>	_____
<u>22M01234</u>	_____
<u>22M01207</u>	_____
<u>22M01218</u>	_____
<u>22M01228</u>	_____
<u>22M01235</u>	_____

Evaluator: Roxane Sullivan

Date: 02/21/2022

**HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY**

Date: 02/17/2022

Batch QC Summary Form

Analyte: Radium-226

Control Standard/LFB: ID: C1-002 pCi/mL: 23 (use 2 diluted)

Spike Solution: ID: C1-002 pCi/mL: 23 (use 2 mL)

Spike Recovery Calculation: Sample: 22M01241-02b

Calculation:
$$\frac{(41.6) (1.000) - (0.1) (1.000)}{46} \times 100 = 90\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 20 %	x		
Spike Recovery	80 - 120 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap			x

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

22M01206 _____
22M01217 _____
22M01219 _____
22M01228 _____
22M01230 _____
22M01241 _____

Evaluator:

Roxane Sullivan _____

02/22/2022

Date

**HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY**

Date: 02/17/2022

Batch QC Summary Form

Analyte: Radium-228

Control Standard/LFB: ID: C6-002 pCi/mL: 13.0 (use 10 diluted)

Spike Solution: ID: C6-002 pCi/mL: 13.0 (use 10 mL)

Spike Recovery Calculation: Sample: 22M01228-002

$$\text{Calculation: } \frac{(124.2) (1.000) - (2.3) (1.000)}{130} \times 100 = 94\%$$

Batch QC Evaluation:

Parameter	Criteria	Pass	Fail	N/A
Control Std./LFB	+/- 20 %	x		
Spike Recovery	80 - 120 %	x		
Blank	< or = 3 x Uncertainty	x		
Duplicate 1	95% confidence interval overlap	x		
Duplicate 2 *	95% confidence interval overlap			x

* Required for batch size greater than 10 samples.

Conclusions:

 x Batch QC Passes**
 Batch QC Fails
 Batch QC Passes, with exceptions**:

Reruns Required: _____

Narrative:

**All QC data provided in this section of the report met the acceptance criteria specified in the analytical methods and procedures. State Maximum Contamination Levels (MCLs) are not evaluated in this report.

Batch Listing by Lab Control Number:

22M01206 _____
 22M01217 _____
 22M01219 _____
 22M01228 _____
 22M01230 _____
 22M01235 _____

Evaluator:

Roxane Sullivan _____

02/25/2022

Date



Ship To: Hazen Research
 Preserved: Y N
 HNO3 Lot #: N/A
 Date Preserved: N/A

22M01228

Report To Information Company Name: <u>Colorado Analytical Laboratory</u> Report To: <u>Stuart Nielson</u> E-Mail: <u>stuartnielson@coloradolab.com</u> Address: <u>10411 Heinz Way</u> <u>Commerce City, CO 80640</u> Phone: <u>303-659-2313</u>	Bill To Information (if different from report to) Project Name CAL TASK 220211050 JAK	Compliance Samples: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Submit Data to CDPHE: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Tests Requested

Sample Date/Time	Sample ID	Matrix	Container Type
2/10/22 2:03 PM	220211050-01D - #1	Water - Drinking	1L Cylinder - Unpreserved
2/10/22 2:03 PM	220211050-01E - #1	Water - Drinking	4 - 1L Cylinder - None

Radium 228 (Sub)
 Gross Alpha/Beta (Sub)
 Radium 226 (Sub)

pres.: (A02) 2/14/22 1111 ACS
 pres. ✓: 2/16/22 0847 ACS

FedEx
 5645 7279 2055

Relinquished by: <u>SADAMA</u> Date: <u>2/14/22</u> Time: <u>8:00</u>	Relinquished by: <u>ASB</u> Date: <u>2/14/22</u> Time: <u>1107</u>	Received by: <u>ASB</u> Date: <u>2/14/22</u> Time: <u>1107</u>	Received by: _____ Date: _____ Time: _____
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