

WATER RESOURCES REPORT

for

***Joan Hathcock
Double Spur Ranch Subdivision***

EPC Parcel #: 5213000007

August 2022

Prepared By:



DOUBLE SPUR RANCH
SUBDIVISION
12420 N Meridian Road
EPC Parcel # 5213000007

WATER RESOURCES REPORT

AUGUST 2022

Prepared for:

Joan Hathcock
12420 N Meridian 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 # 5213000007 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 three (3) 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 40-acre parcel that is proposed to be divided into three (3) lots, one lot as 5.1 acres, one lot at 6.5 acres, and the third lot at 27.4 acres. Please refer to the *Land Use Exhibit* in **Appendix A**.

3.0 WATER NEEDS AND PROJECTED DEMANDS

3.1 Water Demand Summary

It is anticipated that the proposed three residential lots, one consisting of approximately 5.1 acres, once consisting of 6.5 acres, and one consisting of 27.4-acre, will use approximately 0.78 AF/year of water total for indoor household uses and a total of 1.50 AF/year of water combined water uses for the entire subdivision. This estimate is based upon information provided in Chapter 8 of the *El Paso County Land Development Code* as well as the *Replacement Plan No. 246-RP* 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

Water						Wastewater
# of SFE's	Annual Indoor Use 0.26 (AF/YR/SFE)	Average Daily Indoor Use (GPD)	Irrigation 0.0566 (AF/1,000 SF)	Domestic Watering 0.011 (AF/Horse/Year)	Total Indoor, Watering, & Irrigation (AF)	ADF (@ 90% Indoor Use) (GPD)
3	<i>Note 1</i> 0.780	696	<i>Note 2</i> 0.589	<i>Note 3</i> 0.132	1.50	627

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

Note 2: Assume 3,470 square feet of irrigation per lot

Note 3: Assume 4 horses 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 1.50 acre-feet for the proposed subdivision is less than the amount of supply listed in the decrees, determinations, and *Findings and Order* (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 pending determinations.

Table 4-1: Water Rights Summary

Land Formation/ Aquifer	Determination	Tributary Status	Area (Acres)	Decreed Water 100-Year (AF)	Annual Allocation 100-Year (AF/Year)	Annual Allocation 300-Year (AF/Year)
Dawson	246-BD/246-RP	NNT	80	4,600	46.00	15.33
Denver	245-BD	NNT	80	4,080	40.80	13.60
Arapahoe	244-BD	NT	80	3,060	30.60	10.20
Laramie-Fox Hills	243-BD	NT	80	2,280	22.80	7.60
Total Legal Supply					140.20	46.73
					<i>100-Year</i>	<i>300-Year</i>

Beneficial Uses: *Domestic Indoor
Indoor & Outdoor Irrigation, Livestock, Commercial, Dust Suppression
Industrial, Fish and Wildlife, Firefighting, and Replacement (Aug) and Pond
Evaporation*

According to the *Findings and Order* contained in *Replacement Plan No. 246-RP* for the *Determination of Water Right No. 246-BD* located in **Appendix C**, the following conditions are allowed for the subject property:

- Water may be withdrawn through the existing well (Permit #236130), as well as allowing up to two (2) additional wells to be developed on the subject property. The existing well currently serves the existing residence on the proposed 27.4-acre parcel. Original permit number to operate this well is contained in **Appendix C**.
- All additional wells to be drilled to the Dawson aquifer. All wells to be metered.
- Type of use to which the Dawson water pumped must be used for domestic indoor use, indoor and outdoor irrigation, as well as livestock, commercial, dust suppression, industrial, fish and wildlife, firefighting, and augmentation as well as replacement water for pond evaporation pursuant to the augmentation plan.

4.2 *Adequacy of Water Rights*

Current water rights are adequate for buildout demands of three (3) lots to meet 2040 and 2060 buildout projections on a 300-year basis.

According to the Determination Rights 243-BD, 244-BD, 245-BD, and 246-BD, the entire 40-acre property has appropriated water rights located in the Dawson, Denver, Arapahoe, and Laramie Fox-Hills confined aquifers. Of these formations, the Dawson and Denver are considered not-nontributary while the Arapahoe and Laramie Fox-Hills are considered non-tributary. The applicant has rights to consume water from all four formations, though only the Dawson has augmentation and replacement plan for all uses. A replacement plan would need to be acquired for future use of water from the Denver aquifer. The associated determinations and approved augmentation plan are shown in the court cases included in **Appendix C**:

- There are 15.33 AF/year available on a 300-year supply basis out of the Dawson Formation, which is greater than the estimated annual demand of 1.50 AF-year for all three (3) lots to be served by Dawson wells as needed.
- Assuming a 0.26 AF/yr domestic use per resident (**Per 8.4.7(B)(7)(d) of the EPC Land Development Code.**) with 90% return flows through the septic system per resident, this results in a 0.234 AF/yr replacement flow back through the septic system per resident, or 0.702 AF/year total for the three residences.
- The property is in an actual return not-nontributary formation within the Dawson aquifer. It is estimated that 0.062 AF/year of depletions to the alluvial will occur annually by year 300 through the pumping of the three proposed wells. Estimated return flows through the septic system total 0.702 AF/yr, which is in excess of required replacement water for alluvial depletions due to not-nontributary pumping from the Dawson Aquifer.

Conclusion:

The current water rights and augmentation plan in place are adequate to meet the estimated overall demand and resulting alluvial depletions of 0.062 acre-feet for three (3) 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 much 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 was granted water rights in the four Denver Basin formations as shown in **Table 4-1** above.

5.0 WATER SYSTEM FACILITIES AND PHYSICAL SUPPLY

5.1 *Source of Supply*

Supply for the three (3) lots will be met with future or existing wells completed in the Denver aquifer. There is an existing well (Permit #236130) that is currently drilled into the Dawson formation and serving an existing residence. Any new 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 1/31/22 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 #236130) constructed via an exterior water tap serving the existing residence (12420 N Meridian Road). Water samples were obtained from this tap on 1/31/2022, with water quality testing performed by Colorado Analytical Laboratories, per the El Paso County Land Development Code section 8.4.7(B). Final results from this water quality testing can be found in **Appendix D**. Most results were found to be below primary and secondary Maximum Contaminant Limits (MCLs). The only constituent of concern was the lower Langlier Index (LI) result. A low LI is not an enforceable exceedance. An LI number less than negative one (-1) can indicate corrosive water. However, the pH for this raw water sample was in the acceptable range of 6.5 – 8.5. Distribution piping from the well through the home should be made of a poly pipe material to eliminate pipe corrosion.

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 #3.

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

Expected buildout of the subject property are three (3) total lots. Demands for the entire subdivision are listed in Section 3.0 of this report, which include a total demand of 1.5 AF/year as described in *Replacement Plan No. 246-RP*.

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.

No pumping shall occur beyond the 300-year supply. Please refer to the *Plan for Augmentation* in **Appendix C**.

6.4 *Water System Interconnects*

The closest source for a potential interconnect is the Meridian Ranch Metro District – approximately one mile to the southeast.

It is not anticipated (and Meridian Ranch Metro District 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

DOUBLE SPUR RANCH MINOR SUBDIVISION

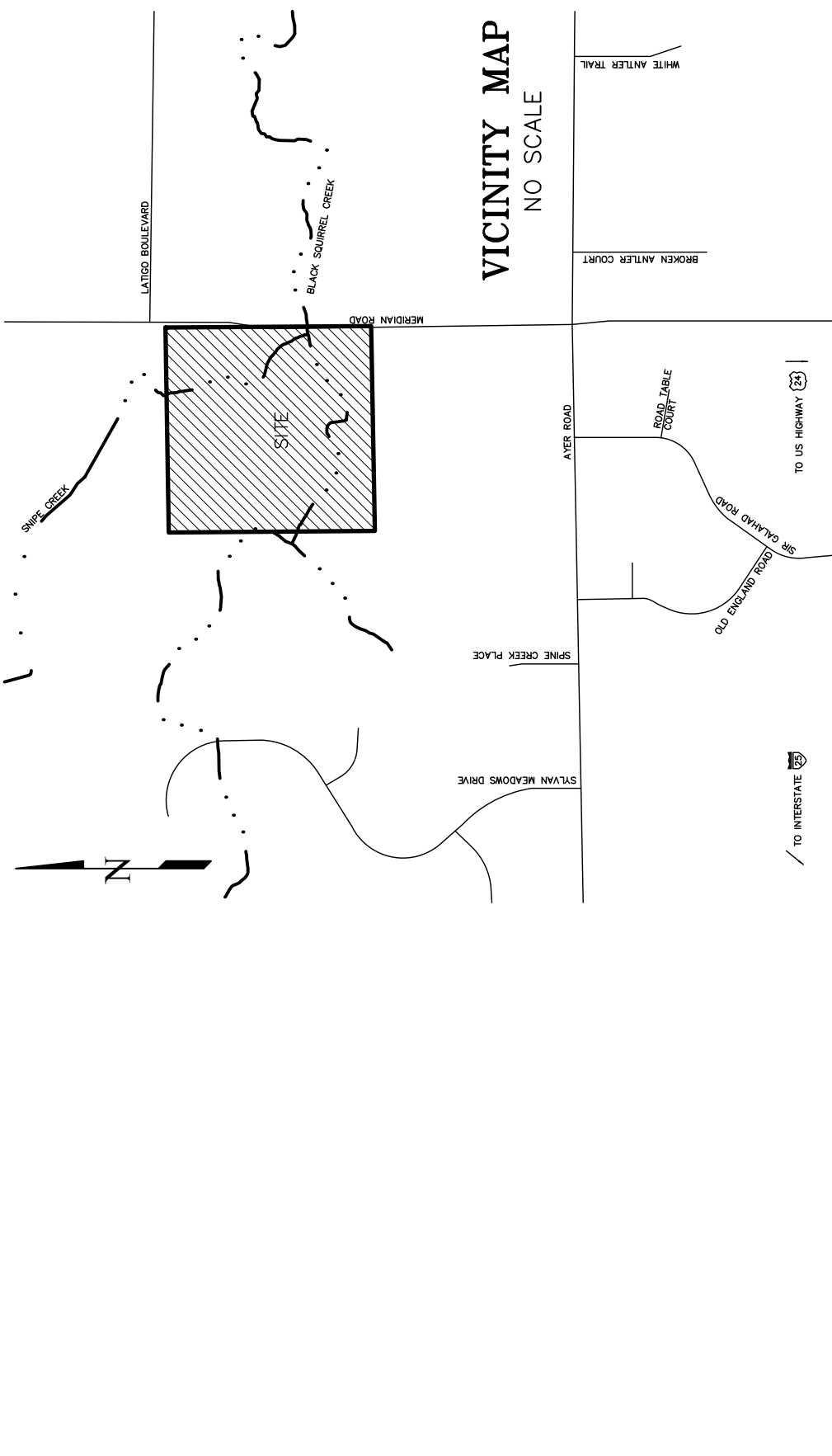
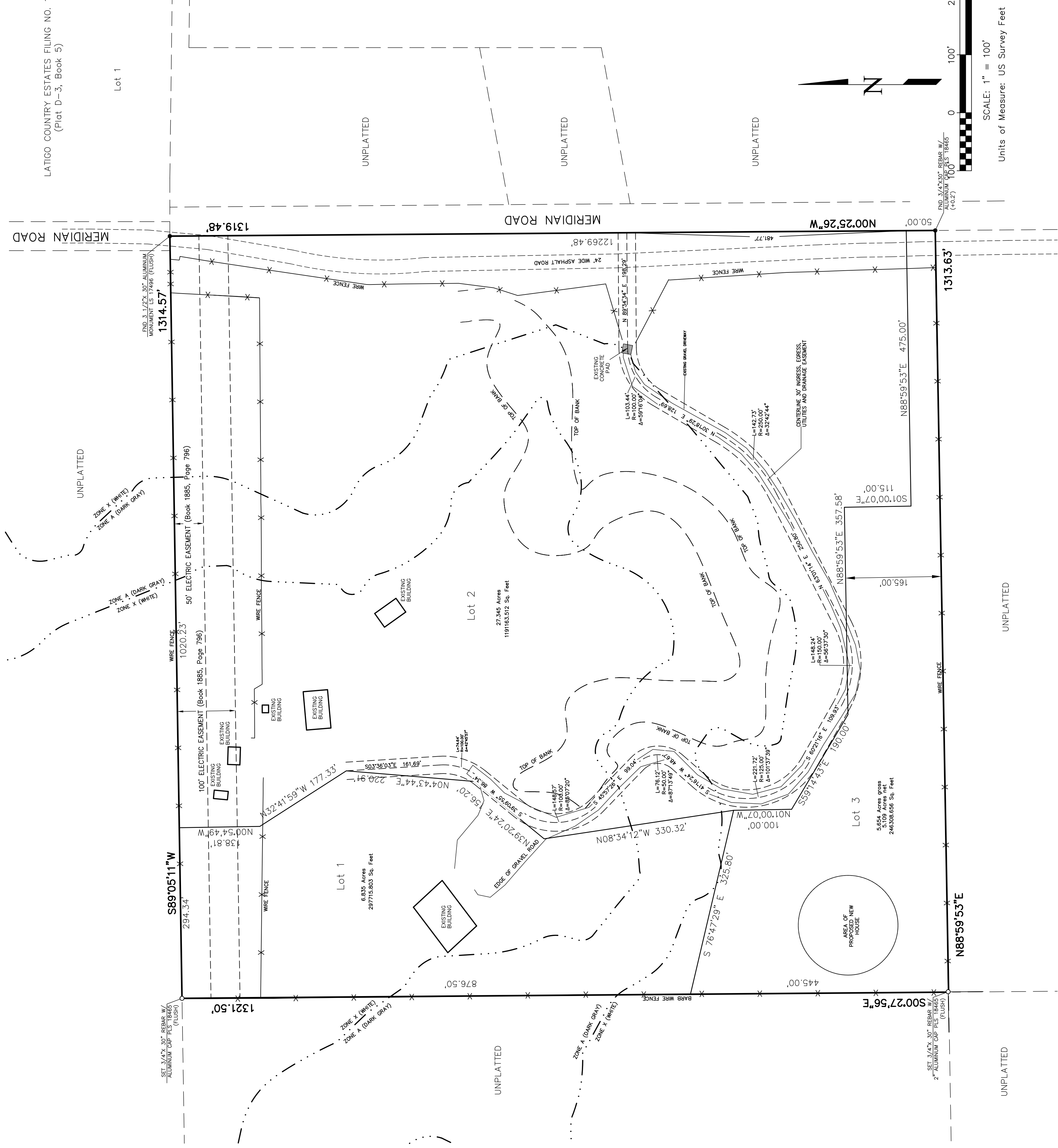
A PORTION OF THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 13,
TOWNSHIP 12 SOUTH, RANGE 65 WEST IN THE 6TH P.M., IN EL PASO COUNTY, COLORADO

KNOW ALL MEN BY THESE PRESENTS:

That Joan M. Hathcock, being the owner of the following described tract of land to wit:

A TRACT IN THE NORTHEAST QUARTER (NE 1/4) OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION THIRTEEN (13), TOWNSHIP TWELVE (12) SOUTH, RANGE SIXTY-FIVE (65) WEST OF THE 6TH P.M., DESCRIBED AS FOLLOWS, COMMENCING AT THE SOUTHEAST CORNER OF THE NORTHEAST QUARTER (NE 1/4) OF SECTION THIRTEEN (13), TOWNSHIP TWELVE (12) SOUTH, RANGE SIXTY-FIVE (65) WEST OF THE 6TH P.M., PARALLEL TO THE EAST LINE OF SAID SECTION, SAID SECTION ALSO THE WEST LINE OF MERIDIAN ROAD, A DISTANCE OF 1319.45 FEET; THENCE WEST AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION A DISTANCE OF 1321.50 FEET; THENCE EAST AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION A DISTANCE OF 1313.63 FEET TO THE POINT OF BEGINNING, COUNTY OF EL PASO, STATE OF COLORADO.

Containing 39.834 acres, more or less.



OWNERS CERTIFICATE:

The undersigned, being all the owners, mortgagees, beneficiaries of deeds of trust and holders of other interests in the land described herein, have laid out, subdivided, and platted said lands into lots, public right-of-way and additions, public right-of-way addition reservations and easements as shown hereon under the name and subdivision of DOUBLE SPUR RANCH MINOR SUBDIVISION. All public improvements and public right-of-way and additions, so platted are hereby dedicated to public use and said owner does hereby covenant and agree that the public improvements will be constructed to El Paso County standards and that proper drainage and erosion control for same will be provided at said owner's expense, all to the satisfaction of the Board of County Commissioners of El Paso County, Colorado. Upon acceptance by resolution, all public improvements so dedicated will become matters of maintenance by El Paso County, Colorado. The utility easements shown hereon are hereby dedicated for public utilities and communication systems by the undersigned and the undersigned is responsible for providing the same. The easements are established and hereby granted the perpetual right of ingress and egress from and to adjacent properties for installation, maintenance, and replacement of utility lines and related facilities.

By: Joan M. Hathcock
Title: _____
By: _____
Title: _____

NOTES:

- o - Indicates survey monument recovered as a #4 rebar with Surveyor's Cap, PLS #18465.
- - Indicates recovered survey monument as noted.
- This survey name does not constitute a title search by LDC, Inc. to determine ownership or easements of record. The client did not provide a title commitment for the property, therefore, no rights-of-way or easements of record were available for review by LDC, Inc. with this survey.
- Basis of bearings is the West line of the NW 1/4 of Section 13, monumented as shown and assumed to bear N00°30'35"W.
- FEDERAL EMERGENCY MANAGEMENT AGENCY, Flood Insurance Rate Map, Map Number 08041C0340 G, effective date December 7, 2018, indicates the area in the vicinity of this parcel of land to be a Zone X "white" (area determined to be out of the 500 year flood plain).

SURVEYOR'S CERTIFICATION:

I, Daniel Kupferer, a duly registered Professional Land Surveyor in the State of Colorado, do hereby certify that this plat truly and correctly represents the results of a survey made on date of survey, by me or under my direct supervision and that all monuments comply with applicable laws of the State of Colorado dealing with monuments, subdivisions, or surveying of land and all applicable provisions of the El Paso County Land Development Code.

Daniel L. Kupferer
Colorado Professional Land Surveyor No. 18465

PRELIMINARY COPY
SUBJECT TO FINAL
COUNTY APPROVAL

BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

This plat for DOUBLE SPUR RANCH MINOR SUBDIVISION was approved for filing by the El Paso County, Colorado Board of County Commissioners on the _____ day of _____, 20____, subject to any notes specified hereon and any conditions included in the resolution of approval. The dedications of land to the public streets and easements are accepted, but the public improvements thereon will not become the maintenance responsibility of El Paso County until preliminary acceptance of the public improvements in accordance with the requirements of the Land Development Code and Engineering Criteria Manual, and the Subdivision Improvements Agreement.

Chair, Board of County Commissioners _____ Date _____

APPROVALS:

This subdivision was approved by the El Paso County Development Services Department this _____ day of _____, 20____ A.D.

Development Services Director

SCALE: 1" = 100'
Units of Measure: US Survey Feet

UNPLATTED

UNPLATTED

FEES:
Park Fee: _____
School Fee: _____
Drainage Fee: _____
Bridge Fee: _____

DSD FILE NO.:

Project No.: 22001
Sheet: 1 of 1

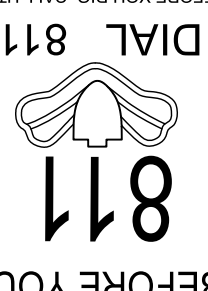
DOUBLE SPUR RANCH MINOR SUBDIVISION FINAL PLAT



www.ldc-inc.com · TEL: (719) 528-6133 · FAX: (719) 528-8848
3888 MAZEHLAND ROAD · COLORADO SPRINGS, CO 80908

H Scale: 1" = 100'
V Scale: N/A
Designed By: N/A
Drawn By: BRH
Checked By: DLK
Date: 01/17/22

No.	Description	By	Date



CALL BEFORE YOU DIG
48 HOURS BEFORE YOU DIG. CALL UTILITY LOCATORS FOR LOCATING AND MARKING GAS, ELECTRIC, WATER AND MAINTENANCE.

According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after the date of the certification. In no event, may any action be based upon any defect in this survey or any action taken thereon more than ten years from the date of the certification shown hereon.

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>Double Spur Ranch Subdivision</u>	
2. LAND USE ACTION		<u>Minor Subdivision</u>	
3. NAME OF EXISTING PARCEL AS RECORDED		<u>12420 N.MERIDIAN RD</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>40</u>	5. NUMBER OF LOTS PROPOSED	<u>3</u>
PLAT MAPS ENCLOSED			
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 checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
If yes, describe the previous action <u>Platted but not recorded.</u>			
7. LOCATION OF PARCEL - Include a map delineating the project area and tie to a section corner. (In submittal)			
<u>E1/2</u> OF <u>NE 1/4</u> SECTION 13 TOWNSHIP <u>12</u> <input type="checkbox"/> N <input checked="" type="checkbox"/> S RANGE <u>65</u> <input type="checkbox"/> E			
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 type="checkbox"/> NO	
9. ESTIMATED WATER REQUIREMENTS - Gallons per Day or Acre Foot per Year		10. WATER SUPPLY SOURCE	
HOUSEHOLD USE # 1	<u>3</u> of units <u>0.260</u> AF/SFE/YR <u>0.780</u> AF	<input checked="" type="checkbox"/> EXISTING	<input checked="" type="checkbox"/> NEW WELLS
COMMERCIAL USE #	<u>0</u> SF <u>-</u> GPD <u>-</u> AF	WELLS SPRING WELL PERMIT NUMBERS	Proposed Aquifers - (Check One)
IRRIGATION # 2	<u>0.0566</u> AF/1000SF <u>526</u> GPD <u>0.589</u> AF	<u>236130</u>	<input type="checkbox"/> Alluvial <input type="checkbox"/> Upper
ANIMAL WATERING # 3	<u>12</u> Horses <u>0.011</u> AF/Horse/Year <u>0.132</u> AF		<input checked="" type="checkbox"/> Upper Dawson <input type="checkbox"/> Lower
TOTAL	<u>1,340</u> GPD <u>1.50</u> AF*		<input type="checkbox"/> Lower Dawson <input type="checkbox"/> Laramie Fox
¹ Per 8.4.7 (B)(7)(d) of the EPC Land Development Code		<input type="checkbox"/> MUNICIPAL	<input type="checkbox"/> Denver <input type="checkbox"/> Dakota
² Assuming 1,325 ft ² of irrigable land per residence		<input type="checkbox"/> ASSOCIATION	<input type="checkbox"/> Other
³ Assuming 4 horses per lot		<input type="checkbox"/> COMPANY	
		<input type="checkbox"/> DISTRICT	
		NAME: <u>N/A</u>	
		LETTER OF COMMITMENT FOR SERVICE <input type="checkbox"/> YES <input 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:	

WATER COURT DECREE CASE NUMBERS

Existing Well Permit #236130

Determinations - 243-BD.244-BD. 245-BD

246-BD

Replacement Plan - 246-RP

Appendix C

**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR REPLACEMENT PLAN TO ALLOW THE WITHDRAWAL OF GROUNDWATER FROM THE DAWSON AQUIFER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUNDWATER BASIN.

REPLACEMENT PLAN NO. 246-RP

FOR DETERMINATION OF WATER RIGHT NO. 246-BD

AQUIFER: DAWSON

APPLICANT: JOAN M. HATHCOCK REVOCABLE TRUST DATED OCTOBER 6, 2021

In compliance with section 37-90-107.5, C.R.S. and the Designated Basin Rules, 2 CCR 410-1 (Rules or Rule), Joan M. Hathcock Revocable Trust Dated October 6, 2021 (Applicant) submitted an application for a replacement plan to allow the withdrawal of groundwater from the Dawson Aquifer that has been allocated under Determination of Water Right No. 246-BD.

FINDINGS

1. Pursuant to section 37-90-107(7), C.R.S., in a Findings and Order dated January 25, 2002, the Ground Water Commission (Commission) approved a Determination of a Right to an Allocation of Groundwater, No. 246-BD, from the Dawson Aquifer (Aquifer), summarized as follows.
 - a. The determination quantified an amount of water from beneath 80 acres of overlying land generally described as the E 1/2 of the NE 1/4 of Section 13, Township 12 South, Range 65 West of the 6th P.M., in El Paso County (Overlying Land).
 - b. The allowed average annual amount of withdrawal shall not exceed 46 acre-feet, which based on an aquifer life of one hundred years results in an amount of water allocated of 4,600 acre-feet (subject to adjustment by the Commission to conform to actual local aquifer characteristics).
 - c. The use of groundwater is limited to the following beneficial uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, firefighting and replacement of pond evaporation. The place of use is limited to the above described 80 acres of overlying land.
 - d. Withdrawal of the subject groundwater will, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal, the groundwater is considered to be not-nontributary, and Commission approval of a replacement plan providing for actual depletion of affected alluvial aquifers and adequate to prevent any material injury to existing water rights in such alluvial aquifers is required prior to approval of well permits for wells to withdraw the subject groundwater.
2. The subject water is Designated Groundwater located within the boundaries of the Upper Black Squirrel Creek Designated Groundwater Basin and the Upper Black Squirrel Creek Ground Water Management District. The Commission has jurisdiction over the withdrawal of the water by large capacity wells that are permitted pursuant to section 37-90-107(7).
3. Withdrawal of the subject groundwater would deplete the alluvial aquifer of the Kiowa-Bijou

Aquifer: Dawson

Applicant: Joan M. Hathcock Revocable Trust Dated October 6, 2021

Designated Groundwater Basin and the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin, both of which, according to Rules 5.2.4.2 and 5.2.6.2, respectively, have been determined to be over appropriated. Such depletion would unreasonably impair existing large capacity alluvial rights withdrawing water from those alluvial aquifers.

4. Pursuant to Rule 5.6.1.A this plan must be adequate to prevent any material injury to water rights of other appropriators, which for purposes of this plan means large capacity wells withdrawing water from the alluvial aquifer of the Kiowa-Bijou Designated Groundwater Basin and the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin.
5. Pursuant to Rule 5.3.6.2(C) the amount of replacement water shall provide for the depletion of alluvial water for the first 100 years due to all previous pumping and if pumping continues beyond 100 years, shall replace actual impact until pumping ceases.
6. The application for the replacement plan was received by the Commission on March 28, 2022.
7. The Applicant proposes to divert 1.5 acre-feet annually from the Dawson Aquifer for a period of 300 years. The Dawson aquifer water will be withdrawn through individual on-lot wells to be located on three (3) lots. Each Dawson Aquifer well is proposed to divert 0.5 acre-feet of water annually for in-house use (with an estimated water demand of 0.26 acre-feet per year per dwelling), livestock watering, irrigation, commercial, replacement (augmentation), dust suppression, and firefighting. The land on which the wells will be located is the NE 1/4 of the NE 1/4 of Section 13, Township 12 South, Range 65 West of the 6th P.M.
8. At a continuous withdrawal of 1.5 acre-feet annually for 300 years, depletions to the alluvial aquifer systems of the Kiowa-Bijou Designated Groundwater Basin and Upper Black Squirrel Creek Designated Groundwater Basin would steadily increase to 0.062 acre-feet per year in the 300th year, which is equal to 4.15% of pumping, as shown in Exhibit A.
9. The Applicant proposes to provide 0.54 acre-feet per year of replacement water to the alluvial aquifer system of the Upper Black Squirrel Creek Designated Groundwater Basin. The proposed source of replacement water is septic and leaching field return flows from the in-house use of the groundwater to be pumped under the plan. The Applicant estimates that return flows from each lot will consist of 90% of the water used for in-house purposes. Assuming each lot uses a minimum annual amount for in-house use of 0.20 acre-feet, the return flow per lot would be 0.18 acre-feet annually, and the return flows under the plan will total 0.54 acre-feet per year for all three (3) lots at full build out.
10. The subject property is located within the drainage of Black Squirrel Creek, and the return flows will flow to the alluvial aquifer of the Black Squirrel Creek Designated Groundwater Basin. The Applicant proposes to aggregate all replacements to the drainage in which the well or wells will operate, in accordance with Guideline 2007-1.
11. Pursuant to Rule 5.6.1.B this plan must be adequate to prevent unreasonable impairment of water quality. Pursuant to Rule 5.6.1.B.1.b, if the replacement source water is from an onsite wastewater treatment system permitted by a local health agency and the applicant demonstrates the source is in compliance with that permit there shall be a rebuttable presumption of no unreasonable impairment of water quality.
12. Pursuant to Rule 5.6.1.C this plan, including the proposed uses of the water withdrawn pursuant to the plan, must not be speculative, and must be technically and financially feasible and within the Applicant's ability to complete. The plan, including the proposed uses of the

Aquifer: Dawson

Applicant: Joan M. Hathcock Revocable Trust Dated October 6, 2021

water withdrawn pursuant to the plan, is not speculative. The plan appears technically and financially feasible and within the Applicant's ability to complete.

13. Pursuant to Rule 5.6.1.D this plan must be able to be operated and administered on an ongoing and reliable basis. The plan appears to be able to be operated and administered on an ongoing and reliable basis.
14. Pursuant to Rule 5.6.1.F replacement source water must be physically and legally available in time, place and amount to prevent material injury. As determined in Determination of Water Right No. 246-BD water is currently available in the amounts and for the number of years proposed to be diverted.
15. Pursuant to Rule 5.6.1.G the replacement source water must be legally available for use. Records in this office indicate that the Applicant controls the water right to be used as the source of replacement water, consisting of Determination of Water Right No. 246-BD, and such water is legally available for use pursuant to this plan.
16. In accordance with Rule 5.6.4 the application was referred to the Upper Black Squirrel Creek Ground Water Management District on June 27, 2022. The District provided written comments on July 29, 2022.
17. In accordance with sections 37-90-107.5 and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 19, 2022 and May 26, 2022. No objections to the application were received within the time limit set by statute.
18. According to Rule 5.6.1:
 - a. The Applicant has the burden of proving the adequacy of the plan in all respects.
 - b. If the applicant meets its burden of proof, the Commission shall grant approval of the plan which shall include any terms and conditions established the Commission.
19. The Commission Staff has evaluated the application pursuant to section 37-90-107.5, and the requirements of Rule 5.3.6.2(C) and Rule 5.6, finds that the requirements have been meet, and the plan may be approved to allow diversions from the Dawson Aquifer if operated subject to the conditions given below.

ORDER

In accordance with section 37-90-107.5, and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for a replacement plan to allow the withdrawal of groundwater from the Dawson Aquifer underlying 80 acres that are the subject of Determination of Water Right no. 246-BD is approved subject to the following conditions:

20. The Dawson Aquifer water will be withdrawn through individual on-lot wells to be located on three (3) lots. The allowed use of groundwater for each well under this plan is in-house, livestock watering, irrigation, commercial, replacement (augmentation), dust suppression, and firefighting. The land on which the wells will be located is the Overlying Land described above.
21. The allowed annual amount of groundwater to be withdrawn from the Aquifer by all wells operating under this plan shall not exceed 1.5 acre-feet. The allowed annual amount of water to be withdrawn from each on-lot well shall not exceed 0.5 acre-feet.

22. A totalizing flow meter shall be installed on each well. The well owner shall maintain the meter in good working order.
23. Permanent records of all withdrawals of groundwater from each well shall be recorded at least annually by the well owners, permanently maintained, and provided to the Commission and the Upper Black Squirrel Creek Ground Water Management District on forms acceptable to the Commission, on an annual basis for the previous calendar year, by February 15th of the following year, or more often upon request.
24. Pumping under this plan is limited to a period of 300 years. The year of first use of this replacement plan shall be the calendar year of construction of a well permitted pursuant to this plan or permitting of an existing well pursuant to the plan.
25. Return flows from in-house use of groundwater shall occur through individual on-lot non-evaporative septic systems located within the 80 acres of Overlying Land that are the subject of Determination of Water Right No. 246-BD. The septic systems must be constructed and operated in compliance with a permit issued by a local health agency.
26. Replacement of depletions must be provided annually in the acre-feet amounts shown in Exhibit A. Annual replacement requirements may be computed by pro-rating between the values given on Exhibit A, or for simplicity may be taken as the amount shown in the next succeeding 5 year increment.
27. The Applicant or their successor(s) are responsible for ensuring that replacement water is provided to the alluvial aquifer as required by this plan. The annual replacement requirement and the annual amount of replacement water provided shall be calculated and reported on a form acceptable to the Commission. The annual amount of replacement water provided must be no less than the annual replacement requirement on a yearly basis. No credit shall be claimed by the Applicant for an oversupply of replacement water provided to the alluvium during previous years.
28. The Applicant must provide the required annual amount of replacement water for the first 100 years, or for as long as a well is operated pursuant to this plan, whichever is longer.
29. To assure adequate return flows, at least one well must be serving an occupied single-family dwelling that is generating return flows via a non-evaporative septic system before any livestock watering, irrigation, commercial, replacement, dust suppression or firefighting uses are allowed to be served by any of the wells.
30. So long as at least one well continues to pump and supply an occupied dwelling, the plan's required replacement obligations, shown in Exhibit A, will be met. Should all wells cease pumping for in-house use within the first 100 years an amended or alternate replacement plan must be obtained that will replace actual depletions to the alluvial aquifer so as to prevent any material injury to water rights of other appropriators.
31. The Applicant (and their successors) must gather and maintain permanent records of all information pertaining to operation of this plan, which shall include, but is not be limited to, those items identified below. The Applicant must submit records to the Commission and the Upper Black Squirrel Creek Ground Water Management District on forms acceptable to the Commission, on an annual basis for the previous calendar year, by February 15th of the following year, or more often upon request.
 - a. Identification of all well permits issued and wells constructed under this plan.

Aquifer: Dawson

Applicant: Joan M. Hathcock Revocable Trust Dated October 6, 2021

- b. The amount of water diverted by each well and all wells in total, both annually and cumulatively since operation of the plan began.
 - c. The number of occupied dwellings served by each well.
 - d. The return flows occurring from use of all wells operating under the plan, assuming 0.18 acre-feet per year per occupied single family dwelling (90% of the water used for in-house purposes) enters the alluvial aquifer as replacement water.
 - e. Any other information the Commission deems relevant and necessary to operation, monitoring, accounting, or administration of the plan.
32. The Applicant (and their successors) are fully responsible for the operation, monitoring, and accounting of the replacement plan. In the event a lot with a well permitted or operating pursuant to this plan is sold, identification of the well that was sold and evidence that the new owner has been notified of their responsibilities under the replacement plan shall accompany that year's accounting.
33. Any covenants adopted for this subdivision should contain a description of the replacement plan, including the limitations on diversions and use of water for each well and lot, the requirement to meter and record all well pumping, and information on how records are to be reported and the plan is to be administered.
34. In the event the permitted well or wells are not operated in accordance with the conditions of this replacement plan, they shall be subject to administration, including orders to cease diverting groundwater.
35. All terms and conditions of Determination of Water Right No. 246-BD must be met.
36. Pursuant to Rule 5.6.1.E, a copy of this Findings and Order shall be recorded by the Applicant in the clerk and recorder's records of El Paso County, so that a title examination of the land on which the structures involved in this plan are located reveals the existence of this plan.

Dated this 2nd day of August, 2022.



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

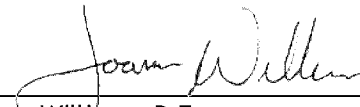
By: 
Joanna Williams, P.E.
Chief of Water Supply, Designated Basins

Exhibit A
Replacement Plan - Determination No.: 246-BD
Page 1 of 1

Designated Basin Summary Table for Joan M. Hathcock Revocable Trust Dated October 6, 2021 Pumping Rate of 1.5 acre-feet per year for 300 Years from the Dawson aquifer Section(s): Sec. 13, T12S, R65W, 6th P.M.							
Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)	Year	Pumping (Q) (AF/YR)	Annual Depletion (q) (AF/YR)	Depletion as a % of Pumping (q/Q)
5	1.5	0.000	0.00	155	1.5	0.021	1.43
10	1.5	0.000	0.00	160	1.5	0.023	1.52
15	1.5	0.000	0.00	165	1.5	0.024	1.61
20	1.5	0.000	0.01	170	1.5	0.025	1.70
25	1.5	0.000	0.01	175	1.5	0.027	1.79
30	1.5	0.000	0.02	180	1.5	0.028	1.89
35	1.5	0.001	0.04	185	1.5	0.030	1.98
40	1.5	0.001	0.05	190	1.5	0.031	2.07
45	1.5	0.001	0.07	195	1.5	0.033	2.17
50	1.5	0.001	0.10	200	1.5	0.034	2.27
55	1.5	0.002	0.12	205	1.5	0.035	2.36
60	1.5	0.002	0.16	210	1.5	0.037	2.46
65	1.5	0.003	0.19	215	1.5	0.038	2.55
70	1.5	0.003	0.23	220	1.5	0.040	2.65
75	1.5	0.004	0.28	225	1.5	0.041	2.74
80	1.5	0.005	0.33	230	1.5	0.043	2.84
85	1.5	0.006	0.38	235	1.5	0.044	2.94
90	1.5	0.007	0.43	240	1.5	0.045	3.03
95	1.5	0.007	0.49	245	1.5	0.047	3.13
100	1.5	0.008	0.56	250	1.5	0.048	3.22
105	1.5	0.009	0.62	255	1.5	0.050	3.32
110	1.5	0.010	0.69	260	1.5	0.051	3.41
115	1.5	0.011	0.77	265	1.5	0.053	3.50
120	1.5	0.013	0.84	270	1.5	0.054	3.60
125	1.5	0.014	0.92	275	1.5	0.055	3.69
130	1.5	0.015	1.00	280	1.5	0.057	3.78
135	1.5	0.016	1.08	285	1.5	0.058	3.87
140	1.5	0.017	1.16	290	1.5	0.059	3.96
145	1.5	0.019	1.25	295	1.5	0.061	4.06
150	1.5	0.020	1.34	300	1.5	0.062	4.15

Created by Wenli Dickinson on April 06, 2022

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

2

QUIT CLAIM DEED

THIS DEED, made this 7th day of March, 2006, between

MICHAEL R. AYER

grantor, whose street address is:

12558 MERIDIAN ROAD ELBERT CO 80106

County of EL PASO, State of COLORADO, for the consideration of TEN DOLLARS AND OTHER GOOD AND VALUABLE CONSIDERATION in hand paid,

hereby sells and quitclaims to:

GEORGE CALVIN HESS III AND BARBARA JEAN HESS

grantee, not in tenancy in common, but in joint tenancy, whose street address is:

6215 CORPORATE DRIVE, COLORADO SPRINGS, CO 80919

County of EL PASO, State of COLORADO, the following legally described water rights:

ALL WATER RIGHTS TO BE INCLUDED. DETERMINATION NO. 245-BD RECEPTION NO. 202027564 DETERMINATION NO. 246-BD RECEPTION NO. 202027563 DETERMINATION NO. 244-BD RECEPTION NO. 202027565 DETERMINATION NO. 243-BD RECEPTION NO. 202027562 Appurtenant to:

THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 12 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO.

Signed as of the day and year first above written.

By: Michael R. Ayer MICHAEL R. AYER

ROBERT C. "BOB" BALINK El Paso County, CO 03/10/2006 01:53:12 PM Doc \$0.00 Page 1 of 1 Rec \$6.00 206036067

State of COLORADO } ss. County of EL PASO

The foregoing instrument was acknowledged before me this day of March 07, 2006 by MICHAEL R. AYER

Witness my hand and official seal. My commission expires: 3-21-2009

Notary Public [Signature]

STEPHANIE McCLOY NOTARY PUBLIC STATE OF COLORADO CCSP550104 My Commission Expires Mar. 21, 2009

When Recorded Return to: GEORGE CALVIN HESS III AND BARBARA JEAN HESS 6215 CORPORATE DRIVE, COLORADO SPRINGS, CO 80919



STATE OF COLORADO

OFFICE OF THE STATE ENGINEER

Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 818
Denver, Colorado 80203
Phone (303) 866-3581
FAX (303) 866-3589

www.water.state.co.us



January 28, 2001

Bill Owens
Governor
Greg E. Walcher
Executive Director
Hal D. Simpson, P.E.
State Engineer

MICHAEL R. AYER AND LAURIE K. AYER
11650 AYER ROAD
ELBERT, CO 80106-8831

Re: Determination of Water Right

Dear Ms. And Mr. Ayer:

Enclosed in a copy of the Colorado Ground Water Commission's Findings and Order for Determination of Water Right No. **246-BD**, to allow appropriation from the **Dawson** aquifer. This Findings and Order are the Commission's approval of your application for determination of rights to ground water in the above stated aquifer. This document contains important information about your water right and should be reviewed and retained for your records.

Additionally, this office recommends that a copy of this determination be recorded in the public records of the county – in which the claimed lands are located – so that a title examination of the overlying land claimed in the application, or any part thereof, shall reveal this determination.

If you have any questions, please contact this office.

Sincerely,

Ioana Comaniciu
Water Resource Specialist
Designated Basin Team

Enclosures: a/s

Cc: Henry D. Woorley-MacDougal, Woldridge & Worley, P.C.

**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE APPROPRIATION OF GROUND WATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUND WATER BASIN.

APPLICANTS: MICHAEL R. AYER AND LAURIE K. AYER

AQUIFER: DAWSON

DETERMINATION NO.: 246-BD

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Michael R. Ayer and Laurie K. Ayer (hereinafter "applicants") submitted an application for determination of water right to allow the appropriation of ground water from the Dawson Aquifer.

FINDINGS

1. The application was first filed by the applicants on August 29, 2001 and received complete by the Ground Water Commission on September 21, 2001.
2. The applicants propose to appropriate ground water from the Dawson Aquifer (hereinafter "aquifer") underlying 80 acres, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian. According to a signed statement dated August 22, 2001, the applicants own the 80 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claim control of the ground water in the aquifer underlying this property.
3. The proposed annual appropriation is the maximum allowable amount. Any wells permitted to divert ground water from the aquifer would have a maximum pumping rate of 200 g.p.m.
4. The land area overlying the ground water claimed by the applicants is located within the boundaries of the Upper Black Squirrel Creek Designated Ground Water Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Ground Water Commission has jurisdiction.
5. The applicants propose to apply the appropriated ground water to the following beneficial uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation.
6. The quantity of water in the aquifer underlying the 80 acres of land claimed by the applicants is 4800 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 20 percent.

J. Patrick Kelly El Paso Cty, CO
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- b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 300 feet.
7. At this time, there is no substantial artificial recharge which would affect the aquifer within a one hundred year period.
 8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Colorado Ground Water Commission shall allocate ground water from the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum annual appropriation which could be allowed pursuant to the data in the paragraphs above for the 80 acres claimed by the applicants is 48 acre-feet.
 9. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.
 10. Based on analysis of data in the records of the State Engineer's office, in accordance with the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicants will, within one hundred years, deplete the alluvial aquifer or flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is considered to be not-nontributary ground water. Withdrawal of water from the aquifer underlying the claimed land area would impact the alluvial aquifer of Upper Black Squirrel Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan, providing for actual depletion to the alluvial aquifer and adequate to prevent any material injury to existing water rights, would be required prior to approval of well permits for wells to be located on this land area to withdraw the allowed ground water from the aquifer.
 11. In accordance with the Designated Basin Rules, the maximum annual amount available for appropriation for the 80 acres claimed by the applicants is reduced to 46 acre-feet to allow for the annual withdrawal of two small capacity wells which are completed in the aquifer, permit numbers 193897 and 236130. Except for these wells, review of the records of the Ground Water Commission has disclosed that none of the water in the aquifer underlying the land claimed by the applicants has been previously appropriated or permitted for withdrawal.
 12. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and subject to approval by the Commission.
 13. On September 26, 2001, a letter was sent to the Upper Black Squirrel Creek Ground Water Management District requesting recommendations concerning this application. No written recommendations from the district were received.
 14. The Commission Staff has evaluated the application relying on the claim to control of the ground water in the aquifer made by the applicants.

J. Patrick Kelly El Paso Cty, CO
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15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in The Gazette newspaper on October 4 and 11, 2001.
16. No objections to the determination of water right and proposed appropriation of ground water were received within the time limit set by statute.
17. In order to prevent injury to the existing water rights of others within the Upper Black Squirrel Creek Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed appropriation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right and the issuance of well permits to construct wells to withdraw the authorized amount of water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, the Colorado Ground Water Commission orders that the application for determination of water right to allow the appropriation of ground water from the Dawson Aquifer underlying 80 acres of land, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of water to be withdrawn from the aquifer shall not exceed 46 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.
19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual appropriation based on analysis of geophysical logs or other site specific data if such analysis indicates that the initial estimate of the volume of water in storage was incorrect.
20. Commission approval of a replacement plan, providing for actual depletion to the alluvial aquifer and adequate to prevent any material injury to existing water rights, is required prior to approval of well permits for wells to be located on this land area to withdraw ground water from the aquifer.
21. The use of ground water from this appropriation shall be limited to the following uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation. The place of use shall be limited to the above described 80 acre land area.
22. The applicants, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed lands are located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 80 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated warranty deed which indicates the determination number, the aquifer, a description of the above described land area, the amount transferred, name of the recipient and the date of transfer.

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23. Subject to the above conditions, well permits for wells to withdraw the authorized annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:
- a. The wells shall be located on the above described 80 acre land area.
 - b. The wells must be constructed to withdraw water from only the Dawson Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.
 - c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
 - d. Each well shall be constructed within 200 feet of the location specified on the individual permit application and approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.
 - e. The wells may withdraw the allowed average annual amount of water from the aquifer together in any combination. The total combined annual withdrawal of the wells shall not exceed the allowed average annual amount described in this Order.
 - f. The maximum pumping rate of each well shall not exceed 200 g.p.m.
 - g. A totalizing flow meter shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission or the Upper Black Squirrel Creek Ground Water Management District upon their request.
 - h. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. He shall take necessary means and precautions to preserve these markings.

Dated this 25TH day of JANUARY, 2002.

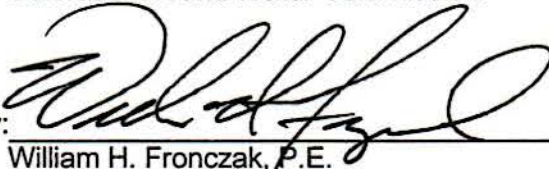
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Hal D. Simpson
Executive Director
Colorado Ground Water Commission

By:



William H. Fronczak, P.E.
Chief - Designated Basins Branch

Prepared by: IDC

GWS 1
06/09/00

EXHIBIT A

RECEIVED

AUG 29 2001

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

WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) Michael R. Ayer and Laurie K. Ayer
(Name(s))

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

(Insert the property legal description)

E1/2 NE1/4 Section 13, T. 12 S., R. 65 W., 6th P.M.

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

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

<u>Laurie K Ayer</u>	<u>Aug 22, 2001</u>
Signature	Date
<u>Michael R Ayer</u>	<u>8-22-01</u>
Signature	Date

.....
INSTRUCTIONS:

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

J. Patrick Kelly	El Paso Cty, CO	202027563
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STATE OF COLORADO

OFFICE OF THE STATE ENGINEER

Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 818
Denver, Colorado 80203
Phone (303) 866-3581
FAX (303) 866-3589

www.water.state.co.us



January 28, 2001

Bill Owens
Governor

Greg E. Walcher
Executive Director

Hal D. Simpson, P.E.
State Engineer

MICHAEL R. AYER AND LAURIE K. AYER
11650 AYER ROAD
ELBERT, CO 80106-8831

Re: Determination of Water Right

Dear Ms. And Mr. Ayer:

Enclosed in a copy of the Colorado Ground Water Commission's Findings and Order for Determination of Water Right No. **243-BD**, to allow appropriation from the **Laramie-Fox Hills** aquifer. This Findings and Order are the Commission's approval of your application for determination of rights to ground water in the above stated aquifer. This document contains important information about your water right and should be reviewed and retained for your records.

Additionally, this office recommends that a copy of this determination be recorded in the public records of the county – in which the claimed lands are located – so that a title examination of the overlying land claimed in the application, or any part thereof, shall reveal this determination.

If you have any questions, please contact this office.

Sincerely,

Ioana Comaniciu
Water Resource Specialist
Designated Basin Team

Enclosures: a/s

Cc: Henry D. Woorley-MacDougal, Woldridge & Worley, P.C.

**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE APPROPRIATION OF GROUND WATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUND WATER BASIN.

APPLICANTS: MICHAEL R. AYER AND LAURIE K. AYER

AQUIFER: LARAMIE-FOX HILLS

DETERMINATION NO.: 243-BD

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Michael R. Ayer and Laurie K. Ayer (hereinafter "applicants") submitted an application for determination of water right to allow the appropriation of ground water from the Laramie-Fox Hills Aquifer.

FINDINGS

1. The application was first filed by the applicants on August 29, 2001 and received complete by the Ground Water Commission on September 21, 2001.
2. The applicants propose to appropriate ground water from the Laramie-Fox Hills Aquifer (hereinafter "aquifer") underlying 80 acres, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian. According to a signed statement dated August 22, 2001, the applicants own the 80 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claim control of the ground water in the aquifer underlying this property.
3. The proposed annual appropriation is the maximum allowable amount. Any wells permitted to divert ground water from the aquifer would have a maximum pumping rate of 200 g.p.m.
4. The land area overlying the ground water claimed by the applicants is located within the boundaries of the Upper Black Squirrel Creek Designated Ground Water Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Ground Water Commission has jurisdiction.
5. The applicants propose to apply the appropriated ground water to the following beneficial uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation.
6. The quantity of water in the aquifer underlying the 80 acres of land claimed by the applicants is 2280 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 15 percent.

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- b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 190 feet.
7. At this time, there is no substantial artificial recharge which would affect the aquifer within a one hundred year period.
 8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Colorado Ground Water Commission shall allocate ground water from the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum annual appropriation which could be allowed pursuant to the data in the paragraphs above for the 80 acres claimed by the applicants is 22.8 acre-feet.
 9. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.
 10. Withdrawal of ground water from the aquifer underlying the land claimed by the applicants will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules.
 11. A review of the records of the Ground Water Commission has disclosed that none of the water in the aquifer underlying the land claimed by the applicants has been previously appropriated or permitted for withdrawal.
 12. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and subject to approval by the Commission.
 13. On September 26, 2001, a letter was sent to the Upper Black Squirrel Creek Ground Water Management District requesting recommendations concerning this application. No written recommendations from the district were received.
 14. The Commission Staff has evaluated the application relying on the claim to control of the ground water in the aquifer made by the applicants.
 15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in The Gazette newspaper on October 4 and 11, 2001.
 16. No objections to the determination of water right and proposed appropriation of ground water were received within the time limit set by statute.

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17. In order to prevent injury to the existing water rights of others within the Upper Black Squirrel Creek Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed appropriation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right and the issuance of well permits to construct wells to withdraw the authorized amount of water from the aquifer.

ORDER

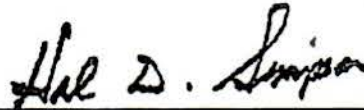
In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, the Colorado Ground Water Commission orders that the application for determination of water right to allow the appropriation of ground water from the Laramie-Fox Hills Aquifer underlying 80 acres of land, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of water to be withdrawn from the aquifer shall not exceed 22.8 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.
19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual appropriation based on analysis of geophysical logs or other site specific data if such analysis indicates that the initial estimate of the volume of water in storage was incorrect.
20. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
21. The use of ground water from this appropriation shall be limited to the following uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation. The place of use shall be limited to the above described 80 acre land area.
22. The applicants, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed lands are located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 80 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated warranty deed which indicates the determination number, the aquifer, a description of the above described land area, the amount transferred, name of the recipient and the date of transfer.
23. Subject to the above conditions, well permits for wells to withdraw the authorized annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:


J. Patrick Kelly El Paso Cty, CO
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- a. The wells shall be located on the above described 80 acre land area.
- b. The wells must be constructed to withdraw water from only the Laramie-Fox Hills Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.
- c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
- d. Each well shall be constructed within 200 feet of the location specified on the individual permit application and approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.
- e. The wells may withdraw the allowed average annual amount of water from the aquifer together in any combination. The total combined annual withdrawal of the wells shall not exceed the allowed average annual amount described in this Order.
- f. The maximum pumping rate of each well shall not exceed 200 g.p.m.
- g. A totalizing flow meter shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission or the Upper Black Squirrel Creek Ground Water Management District upon their request.
- h. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. He shall take necessary means and precautions to preserve these markings.

Dated this 25TH day of JANUARY, 2002.



Hal D. Simpson
Executive Director
Colorado Ground Water Commission



By: William H. Fronczak, P.E.
Chief - Designated Basins Branch

Prepared by: IDC

J. Patrick Kelly El Paso Cty, CO
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EXHIBIT A

GWS 1
06/09/00

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

RECEIVED
AUG 29 2001

WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) Michael R. Ayer and Laurie K. Ayer
(Name(s))

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

(Insert the property legal description)

El/2 NE1/4 Section 13, T. 12 S., R. 65 W., 6th P.M.

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

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

Laurie K Ayer Aug 22, 2001
Signature Date
Michael R. Ayer 8-22-01
Signature Date

.....
INSTRUCTIONS:

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

J. Patrick Kelly El Paso Cty, CO 202027562
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STATE OF COLORADO

OFFICE OF THE STATE ENGINEER

Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 818
Denver, Colorado 80203
Phone (303) 866-3581
FAX (303) 866-3589

www.water.state.co.us

January 28, 2001



Bill Owens
Governor

Greg E. Walcher
Executive Director

Hal D. Simpson, P.E.
State Engineer

MICHAEL R. AYER AND LAURIE K. AYER
11650 AYER ROAD
ELBERT, CO 80106-8831

Re: Determination of Water Right

Dear Ms. And Mr. Ayer:

Enclosed in a copy of the Colorado Ground Water Commission's Findings and Order for Determination of Water Right No. **244-BD**, to allow appropriation from the **Arapahoe** aquifer. This Findings and Order are the Commission's approval of your application for determination of rights to ground water in the above stated aquifer. This document contains important information about your water right and should be reviewed and retained for your records.

Additionally, this office recommends that a copy of this determination be recorded in the public records of the county – in which the claimed lands are located – so that a title examination of the overlying land claimed in the application, or any part thereof, shall reveal this determination.

If you have any questions, please contact this office.

Sincerely,

Ioana Comaniciu
Water Resource Specialist
Designated Basin Team

Enclosures: a/s

Cc: Henry D. Woorley-MacDougal, Woldridge & Worley, P.C.

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO
ALLOW THE APPROPRIATION OF GROUND WATER IN THE UPPER BLACK SQUIRREL
CREEK DESIGNATED GROUND WATER BASIN.

APPLICANTS: MICHAEL R. AYER AND LAURIE K. AYER

AQUIFER: ARAPAHOE

DETERMINATION NO.: **244-BD**

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Michael R. Ayer and Laurie K. Ayer (hereinafter "applicants") submitted an application for determination of water right to allow the appropriation of ground water from the Arapahoe Aquifer.

FINDINGS

1. The application was first filed by the applicants on August 29, 2001 and received complete by the Ground Water Commission on September 21, 2001.
2. The applicants propose to appropriate ground water from the Arapahoe Aquifer (hereinafter "aquifer") underlying 80 acres, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian. According to a signed statement dated August 22, 2001, the applicants own the 80 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claim control of the ground water in the aquifer underlying this property.
3. The proposed annual appropriation is the maximum allowable amount. Any wells permitted to divert ground water from the aquifer would have a maximum pumping rate of 250 g.p.m.
4. The land area overlying the ground water claimed by the applicants is located within the boundaries of the Upper Black Squirrel Creek Designated Ground Water Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Ground Water Commission has jurisdiction.
5. The applicants propose to apply the appropriated ground water to the following beneficial uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation.
6. The quantity of water in the aquifer underlying the 80 acres of land claimed by the applicants is 3060 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

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- b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 225 feet.
7. At this time, there is no substantial artificial recharge which would affect the aquifer within a one hundred year period.
 8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Colorado Ground Water Commission shall allocate ground water from the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum annual appropriation which could be allowed pursuant to the data in the paragraphs above for the 80 acres claimed by the applicants is 30.6 acre-feet.
 9. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.
 10. Withdrawal of ground water from the aquifer underlying the land claimed by the applicants will not, within one hundred years, deplete the flow of a natural stream or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules.
 11. A review of the records of the Ground Water Commission has disclosed that none of the water in the aquifer underlying the land claimed by the applicants has been previously appropriated or permitted for withdrawal.
 12. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and subject to approval by the Commission.
 13. On September 26, 2001, a letter was sent to the Upper Black Squirrel Creek Ground Water Management District requesting recommendations concerning this application. No written recommendations from the district were received.
 14. The Commission Staff has evaluated the application relying on the claim to control of the ground water in the aquifer made by the applicants.
 15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in The Gazette newspaper on October 4 and 11, 2001.
 16. No objections to the determination of water right and proposed appropriation of ground water were received within the time limit set by statute.

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17. In order to prevent injury to the existing water rights of others within the Upper Black Squirrel Creek Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed appropriation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right and the issuance of well permits to construct wells to withdraw the authorized amount of water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, the Colorado Ground Water Commission orders that the application for determination of water right to allow the appropriation of ground water from the Arapahoe Aquifer underlying 80 acres of land, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of water to be withdrawn from the aquifer shall not exceed 30.6 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.
19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual appropriation based on analysis of geophysical logs or other site specific data if such analysis indicates that the initial estimate of the volume of water in storage was incorrect.
20. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.
21. The use of ground water from this appropriation shall be limited to the following uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation. The place of use shall be limited to the above described 80 acre land area.
22. The applicants, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed lands are located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 80 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated warranty deed which indicates the determination number, the aquifer, a description of the above described land area, the amount transferred, name of the recipient and the date of transfer.
23. Subject to the above conditions, well permits for wells to withdraw the authorized annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

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- a. The wells shall be located on the above described 80 acre land area.
- b. The wells must be constructed to withdraw water from only the Arapahoe Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.
- c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
- d. Each well shall be constructed within 200 feet of the location specified on the individual permit application and approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.
- e. The wells may withdraw the allowed average annual amount of water from the aquifer together in any combination. The total combined annual withdrawal of the wells shall not exceed the allowed average annual amount described in this Order.
- f. The maximum pumping rate of each well shall not exceed 250 g.p.m.
- g. A totalizing flow meter shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission or the Upper Black Squirrel Creek Ground Water Management District upon their request.
- h. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. He shall take necessary means and precautions to preserve these markings.

Dated this 25TH day of JANUARY, 2002.

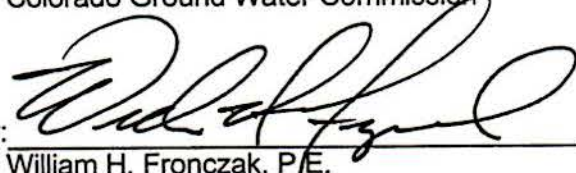
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Hal D. Simpson
Executive Director
Colorado Ground Water Commission

By:



William H. Fronczak, P.E.
Chief - Designated Basins Branch

Prepared by: IDC

EXHIBIT A

GWS 1
06/09/00

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

RECEIVED
AUG 29 2001

WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) Michael R. Ayer and Laurie K. Ayer
(Name(s))

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

(Insert the property legal description)

El/2 NE1/4 Section 13, T. 12 S., R. 65 W., 6th P.M.

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

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

Laurie K. Ayer Aug 22, 2001
Signature Date
Michael R. Ayer 8-22-01
Signature Date

.....
INSTRUCTIONS:

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

J. Patrick Kelly El Paso Cty, CO 202027565
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STATE OF COLORADO

OFFICE OF THE STATE ENGINEER

Division of Water Resources
Department of Natural Resources

1313 Sherman Street, Room 818
Denver, Colorado 80203
Phone (303) 866-3581
FAX (303) 866-3589

www.water.state.co.us

January 28, 2001



Bill Owens
Governor

Greg E. Walcher
Executive Director

Hal D. Simpson, P.E.
State Engineer

MICHAEL R. AYER AND LAURIE K. AYER
11650 AYER ROAD
ELBERT, CO 80106-8831

Re: Determination of Water Right

Dear Ms. And Mr. Ayer:

Enclosed in a copy of the Colorado Ground Water Commission's Findings and Order for Determination of Water Right No. **245-BD**, to allow appropriation from the **Denver** aquifer. This Findings and Order are the Commission's approval of your application for determination of rights to ground water in the above stated aquifer. This document contains important information about your water right and should be reviewed and retained for your records.

Additionally, this office recommends that a copy of this determination be recorded in the public records of the county – in which the claimed lands are located – so that a title examination of the overlying land claimed in the application, or any part thereof, shall reveal this determination.

If you have any questions, please contact this office.

Sincerely,

Ioana Comaniciu
Water Resource Specialist
Designated Basin Team

Enclosures: a/s

Cc: Henry D. Woorley-MacDougal, Woldridge & Worley, P.C.

**COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER**

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE APPROPRIATION OF GROUND WATER IN THE UPPER BLACK SQUIRREL CREEK DESIGNATED GROUND WATER BASIN.

APPLICANTS: MICHAEL R. AYER AND LAURIE K. AYER

AQUIFER: DENVER

DETERMINATION NO.: 245-BD

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, Michael R. Ayer and Laurie K. Ayer (hereinafter "applicants") submitted an application for determination of water right to allow the appropriation of ground water from the Denver Aquifer.

FINDINGS

1. The application was first filed by the applicants on August 29, 2001 and received complete by the Ground Water Commission on September 21, 2001.
2. The applicants propose to appropriate ground water from the Denver Aquifer (hereinafter "aquifer") underlying 80 acres, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian. According to a signed statement dated August 22, 2001, the applicants own the 80 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claim control of the ground water in the aquifer underlying this property.
3. The proposed annual appropriation is the maximum allowable amount. Any wells permitted to divert ground water from the aquifer would have a maximum pumping rate of 250 g.p.m.
4. The land area overlying the ground water claimed by the applicants is located within the boundaries of the Upper Black Squirrel Creek Designated Ground Water Basin and within the Upper Black Squirrel Creek Ground Water Management District. The Ground Water Commission has jurisdiction.
5. The applicants propose to apply the appropriated ground water to the following beneficial uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation.
6. The quantity of water in the aquifer underlying the 80 acres of land claimed by the applicants is 4080 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:
 - a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

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- b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 300 feet.
7. At this time, there is no substantial artificial recharge which would affect the aquifer within a one hundred year period.
 8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Colorado Ground Water Commission shall allocate ground water from the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum annual appropriation which could be allowed pursuant to the data in the paragraphs above for the 80 acres claimed by the applicants is 40.8 acre-feet.
 9. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.
 10. Based on analysis of data in the records of the State Engineer's office, in accordance with the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicants will, within one hundred years, deplete the alluvial aquifer or flow of a natural stream at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is considered to be not-nontributary ground water. Also, the location of the land claimed by the applicants is further than one mile from the aquifer contact with the alluvium. The Designated Basin Rules require that at least four percent (4%) of the amount of water withdrawn annually must be returned to the uppermost aquifer in the vicinity of the permitted point or points of withdrawal.
 11. A review of the records of the Ground Water Commission has disclosed that none of the water in the aquifer underlying the land claimed by the applicants has been previously appropriated or permitted for withdrawal.
 12. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and subject to approval by the Commission.
 13. On September 26, 2001, a letter was sent to the Upper Black Squirrel Creek Ground Water Management District requesting recommendations concerning this application. No written recommendations from the district were received.
 14. The Commission Staff has evaluated the application relying on the claim to control of the ground water in the aquifer made by the applicants.
 15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in The Gazette newspaper on October 4 and 11, 2001.
 16. No objections to the determination of water right and proposed appropriation of ground water were received within the time limit set by statute.

J. Patrick Kelly El Paso Cty, CO
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17. In order to prevent injury to the existing water rights of others within the Upper Black Squirrel Creek Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed appropriation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right and the issuance of well permits to construct wells to withdraw the authorized amount of water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, the Colorado Ground Water Commission orders that the application for determination of water right to allow the appropriation of ground water from the Denver Aquifer underlying 80 acres of land, generally described as the E1/2 of the NE1/4 of Section 13, Township 12 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of water to be withdrawn from the aquifer shall not exceed 40.8 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.
19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual appropriation based on analysis of geophysical logs or other site specific data if such analysis indicates that the initial estimate of the volume of water in storage was incorrect.
20. At least four percent (4%) of the amount of water withdrawn annually must be returned to the uppermost aquifer in the vicinity of the permitted point or points of withdrawal.
21. The use of ground water from this appropriation shall be limited to the following uses: in-house, livestock watering, irrigation, commercial, industrial, replacement (augmentation), dust suppression, fire fighting and replacement of pond evaporation. The place of use shall be limited to the above described 80 acre land area.
22. The applicants, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed lands are located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 80 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated warranty deed which indicates the determination number, the aquifer, a description of the above described land area, the amount transferred, name of the recipient and the date of transfer.
23. Subject to the above conditions, well permits for wells to withdraw the authorized annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

J. Patriok Kelly El Paso Cty, CO
02/19/2002 09:20

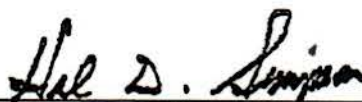
202027564

- a. The wells shall be located on the above described 80 acre land area.
- b. The wells must be constructed to withdraw water from only the Denver Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.
- c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.
- d. Each well shall be constructed within 200 feet of the location specified on the individual permit application and approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.
- e. The wells may withdraw the allowed average annual amount of water from the aquifer together in any combination. The total combined annual withdrawal of the wells shall not exceed the allowed average annual amount described in this Order.
- f. The maximum pumping rate of each well shall not exceed 250 g.p.m.
- g. A totalizing flow meter shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission or the Upper Black Squirrel Creek Ground Water Management District upon their request.
- h. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. He shall take necessary means and precautions to preserve these markings.

Dated this 25TH day of JANUARY, 2002.

- Patriok Kelly El Paso Cty, CO
2/19/2002 09:20
00 \$0.00 Page
10 \$25.00 4 of 5

202027564



Hal D. Simpson
Executive Director
Colorado Ground Water Commission

By:



William H. Fronczak, P.E.
Chief - Designated Basins Branch

Prepared by: IDC

EXHIBIT A

GWS 1
06/09/00

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

RECEIVED
AUG 29 2001

WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) Michael R. Ayer and Laurie K. Ayer
(Name(s))

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

(Insert the property legal description)

E1/2 NE1/4 Section 13, T. 12 S., R. 65 W., 6th P.M.

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

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

<u>Laurie K. Ayer</u>	<u>Aug 22, 2001</u>
Signature	Date
<u>Michl R. Ayer</u>	<u>8-22-01</u>
Signature	Date

.....
INSTRUCTIONS:

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

J. Patrick Kelly El Paso Cty, CO
02/19/2002 09:20
Doc \$0.00 Page

202027564

Appendix D

***El Paso County Land Development Code
Water Quality Requirements and Results
Dawson Confined Aquifer
Double Spur Ranch - 12420 North Meridian
Sampled November 22, 2021***

Compound	Units	MCL/SMCL	Result
Antimony	mg/l	0.006	0
Arsenic	mg/l	0.01	0
Barium	mg/l	2	0.092
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
Mercury	mg/l	0.002	0
Nitrate as N	mg/l	10	0.24
Nitrite as N	mg/l	1	0
Selenium	mg/l	0.05	0.0013
Thallium	mg/l	0.002	0
Aluminum	mg/l	0.05	0
Chloride	mg/l	250	1.8
Langelier Index			-1.48
Iron	mg/l	0.3	0
Manganese	mg/l	0.05	0
pH		6.5 - 8.5	7.1
Silver	mg/l	0.1	0
Sulfate	mg/l	250	6.2
TDS	mg/l	500	127
Zinc	mg/l	5	
Gross Alpha/Beta	pCi/l	15	4.3
Combined Radium 226+228	pCi/l	5	4.9
Total Coliform	#/100 ml	Absent	Absent

Green = Result below MCL - Acceptable Water Quality



Analytical Results

TASK NO: 220201029

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.: 220201029	Date Received: 2/1/22
Client PO:	Date Reported: 2/23/22
Client Project: Double Spur Ranch DSR	Matrix: Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time	Test	Result	Method	Date Analyzed
220201029-01B	Double Spur Ranch	1/31/22 3:10 PM	Total Coliform	Absent	SM 9223	2/2/22
			E-Coli	Absent	SM 9223	2/2/22

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



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

Chain of Custody Form

Report to Information		Bill To Information (if different from report to)		Project Name / Number	
Company Name: JDS Hydro		Company Name:		Double Spur Ranch	
Contact Name: Doug Schwente		Contact Name:		(DSR)	
Address: 5540 Tech Center Ste 100		Address:		Task Number	
City: CS State: CO Zip: 80919		City: State: Zip:		(Lab Use Only)	
Phone: 719-227-0072		Phone:		CAL Task	
Email: dschwente@jdshydro.com		Email:		220201029	
Sample Collector: Stephanie Schwente		Sample Collector:		JML	
Sample Collector Phone: 719-321-5311		Sample Collector Phone:		PO No.:	

Date	Time	Sample Matrix (Select One Only)			No. of Containers	Grab or (Check One Only) Composite	Tests Requested							Seals Present Yes <input type="checkbox"/> No <input type="checkbox"/>			
		Waste Water <input type="checkbox"/>	Soil <input type="checkbox"/>	Drinking Water <input type="checkbox"/>			Radon/228	Gross A/B	Cyanide	Inorganics	Nitrate/Nitrite	TC/E.coli	Cyanide		AK/LI/TDS	Chloride/Sulfate	
1/31	3:05 pm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2	X	X										
	3:05 pm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	X											
	3:07 pm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	X											
	3:08 pm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	X											
	3:09 pm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	X											
	3:10 pm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1	X											

Instructions: Please analyze for components as included word doc

Field Temp: 11°C CS Info: CS Charge: Temp: 2 °C/Ce Sample Pres. Yes No

Relinquished By: Stephanie Schwente 1/31/23 3:30pm Received By: JML Date/Time: 2/1/23

Relinquished Via: FedEx Date/Time: 2/1/23

Page 2 of 3

EPC Confined Aquifer Sampling Requirements

Field Measurements

pH
Temp

Radionuclides

Radium 226 and Radium 228
Gross alpha/Beta

Inorganics

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

Secondary MCLs

Aluminum
Chloride
Corrosivity
Iron
Manganese
Silver
Sulfate
Zinc
TDS

Bacteriological:

Total Coliform / *E. coli* if necessary

* P/A per matrix
3 history - fr

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.: 220201029
Client PO:
Client Project: Double Spur Ranch DSR

Date Received: 2/1/22
Date Reported: 2/23/22
Matrix: Water - Drinking

Customer Sample ID Double Spur Ranch
Sample Date/Time: 1/31/22 3:10 PM
Lab Number: 220201029-01

Test	Result	Method	RL	Date Analyzed	QC Batch ID	Analyzed By
Bicarbonate	54.1 mg/L as CaCO3	SM 2320-B	0.2 mg/L as CaCO3	2/3/22	-	TAB
Calcium as CaCO3	43.3 mg/L	EPA 200.7	0.1 mg/L	2/3/22	-	MBN
Carbonate	ND	SM 2320-B	0.2 mg/L as CaCO3	2/3/22	-	TAB
Hydroxide	ND	SM 2320-B	0.2 mg/L as CaCO3	2/3/22	-	TAB
Langelier Index	-1.48 units	SM 2330-B	units	2/8/22	-	SAN
pH	7.10 units	SM 4500-H-B	0.01 units	1/31/22	-	Sampler
Temperature	11 °C	SM 4500-H-B	1 °C	1/31/22	-	Sampler
Total Alkalinity	54.1 mg/L as CaCO3	SM 2320-B	4.0 mg/L as CaCO3	2/3/22	QC54811	TAB
Total Dissolved Solids	127 mg/L	SM 2540-C	5 mg/L	2/2/22	QC54761	ISG

Abbreviations/ References:

RL = Reporting Limit = Minimum Level
 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

(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: 2/1/22
Project Name: Double Spur Ranch DSR

Test	QC Batch ID	QC Type	Result	Method		
Total Alkalinity	QC54811	Blank	ND	SM 2320-B		
Total Dissolved Solids	QC54761	Blank	ND	SM 2540-C		

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Total Alkalinity	QC54811	Duplicate	0 - 20	-	0.1	SM 2320-B
		LCS	90 - 110	100.0	-	
Total Dissolved Solids	QC54761	Duplicate	0 - 20	-	4.5	SM 2540-C
		LCS	85 - 115	97.4	-	

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
 mpn/100 mls = Most Probable Number Index/ 100 mls
 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.



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

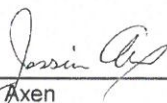
Lab Control ID: 22M01160
Received: Feb 01, 2022
Reported: Feb 22, 2022
Purchase Order No.
None Received

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		22M01160-001						
Customer Sample ID		220201029-01D - Double Spur Ranch DSR - Double Spur Ranch sampled on 01/31/22 @ 1510						
Parameter	Units	Code	Precision* Detection			Method	Analysis	
			Result	+/-	Limit		Date / Time	Analyst
Gross Alpha	pCi/L	T	3.4	1.8	0.1	SM 7110 B	2/11/22 @ 0955	RG
Gross Beta	pCi/L	T	4.6	2.5	4.3	SM 7110 B	2/11/22 @ 0955	RG
Radium-226	pCi/L	T	NR	-	-	SM 7500-Ra B	-	-
Radium-228	pCi/L	T	NR	-	-	EPA Ra-05	-	-

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: 22M01160
 Received: Feb 01, 2022
 Reported: Feb 22, 2022
 Purchase Order No.
 None Received

Customer ID: 20040H
 Account ID: Z01034
ANALYTICAL REPORT

Stuart Nielson
Colorado Analytical Laboratories, Inc.

Lab Sample ID		22M01160-002						
Customer Sample ID		220201029-01E - Double Spur Ranch DSR - Double Spur Ranch sampled on 01/31/22 @ 1510						
Parameter	Units	Code	Result	Precision* +/-	Detection Limit	Method	Analysis Date / Time	Analyst
Gross Alpha	pCi/L	T	NR	-	-	SM 7110 B	-	-
Gross Beta	pCi/L	T	NR	-	-	SM 7110 B	-	-
Radium-226	pCi/L	T	1.8	0.4	0.2	SM 7500-Ra B	2/11/22 @ 1420	KT
Radium-228	pCi/L	T	3.1	0.8	0.2	EPA Ra-05	2/9/22 @ 0736	JR

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*

$$\text{Calculation: } \frac{(51.4) (1.000) - (0.6) (0.200)}{57.4} \times 100 = 89\%$$

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: The duplicate in the batch was over calibration range and could not be counted. Data quality is not adversely affected and therefore the data is being reported.

**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>22M01142</u>	<u>22M01172</u>
<u>22M01189</u>	<u>22M01188</u>
<u>22M01135</u>	<u>22M01192</u>
<u>22M01143</u>	_____
<u>22M01149</u>	_____
<u>22M01151</u>	_____
<u>22M01150</u>	_____
<u>22M01159</u>	_____
<u>22M01160</u>	_____
<u>22M01171</u>	_____

Evaluator:

Roxane Sullivan _____

02/15/2022

Date

**HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY**

Date: 02/11/2022

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*

$$\text{Calculation: } \frac{(38.3) (1.000) - (0.1) (0.200)}{44} \times 100 = 87\%$$

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:

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

Reruns Required: _____

Narrative: The duplicate in the batch was over calibration range and could not be counted. Data quality is not adversely affected and therefore the data is being reported.

**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>22M01142</u>	<u>22M01172</u>
<u>22M01189</u>	<u>22M01188</u>
<u>22M01135</u>	<u>22M01192</u>
<u>22M01143</u>	_____
<u>22M01149</u>	_____
<u>22M01151</u>	_____
<u>22M01150</u>	_____
<u>22M01159</u>	_____
<u>22M01160</u>	_____
<u>22M01171</u>	_____

Evaluator:

Roxane Sullivan _____

02/15/2022

Date

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: 22M01204-01b

$$\text{Calculation: } \frac{(40.9) - (0.990)}{46} - \frac{(1.0) - (0.955)}{46} \times 100 = 86\%$$

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:

22M01111 _____
 22M01151 _____
 22M01159 _____
 22M01160 _____
 22M01163 _____
 22M01200 _____
 22M01204 _____

Evaluator:

Roxanne Sullivan _____

02/21/2022

Date

**HAZEN RESEARCH, INC.
RADIOCHEMISTRY LABORATORY**

Date: 02/09/2022

Batch QC Summary Form

Analyte: Radium-228

Control Standard/LFB: ID: C6-001 pCi/mL: 12.6 (use 5 diluted)

Spike Solution: ID: C6-001 pCi/mL: 12.6 (use 5 mL)

Spike Recovery Calculation: Sample: 22M01164-1c

$$\text{Calculation: } \frac{(63.8) (1.000) - (2.3) (1.000)}{63} \times 100 = 98\%$$

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:

22M01150 _____
22M01160 _____
22M01163 _____
22M01164 _____
22M01177 _____

Evaluator:
 _____

_____ Date 02/15/2022

Analytical Results

TASK NO: 220201029

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.: 220201029
Client PO:
Client Project: Double Spur Ranch DSR

Date Received: 2/1/22
Date Reported: 2/23/22
Matrix: Water - Drinking

Customer Sample ID Double Spur Ranch
Sample Date/Time: 1/31/22 3:10 PM
Lab Number: 220201029-01

Test	Result	Method	RL	MCL	Date Analyzed	QC Batch ID	Analyzed By
Chloride	1.8 mg/L	EPA 300.0	0.1 mg/L		2/1/22	QC54784	AMJ
Fluoride	ND	EPA 300.0	0.10 mg/L	4	2/1/22	QC54785	AMJ
Nitrate Nitrogen	0.24 mg/L	EPA 300.0	0.05 mg/L	10	2/1/22	QC54786	AMJ
Nitrite Nitrogen	ND	EPA 300.0	0.03 mg/L	1	2/1/22	QC54787	AMJ
Sulfate	6.2 mg/L	EPA 300.0	0.1 mg/L		2/1/22	QC54783	AMJ
Cyanide-Total	ND	EPA 335.4	0.005 mg/L	0.02	2/3/22	QC54826	ECM
<i>Total</i>							
Iron	ND	EPA 200.7	0.005 mg/L	0.3	2/3/22	QC54804	MBN
Aluminum	ND	EPA 200.8	0.001 mg/L	0.05	2/3/22	QC54814	MBN
Antimony	ND	EPA 200.8	0.0012 mg/L	0.006	2/3/22	QC54814	MBN
Arsenic	ND	EPA 200.8	0.0006 mg/L	0.01	2/3/22	QC54814	MBN
Barium	0.0922 mg/L	EPA 200.8	0.0007 mg/L	2	2/3/22	QC54814	MBN
Beryllium	ND	EPA 200.8	0.0001 mg/L	0.004	2/3/22	QC54814	MBN
Cadmium	ND	EPA 200.8	0.0001 mg/L	0.005	2/3/22	QC54814	MBN
Chromium	ND	EPA 200.8	0.0015 mg/L	0.1	2/3/22	QC54814	MBN
Manganese	ND	EPA 200.8	0.0008 mg/L	0.05	2/3/22	QC54814	MBN
Mercury	ND	EPA 200.8	0.0001 mg/L	0.002	2/3/22	QC54814	MBN
Selenium	0.0013 mg/L	EPA 200.8	0.0008 mg/L	0.05	2/3/22	QC54814	MBN
Silver	ND	EPA 200.8	0.0005 mg/L	0.1	2/3/22	QC54814	MBN
Thallium	ND	EPA 200.8	0.0002 mg/L	0.002	2/3/22	QC54814	MBN
Zinc	0.057 mg/L	EPA 200.8	0.001 mg/L	5	2/3/22	QC54814	MBN

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(d) RPD acceptable due to low duplicate and sample concentrations.
(s) Spike amount low relative to the sample amount.
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Report To: Doug Schwenke
Company: JDS Hydro Consultants

Receive Date: 2/1/22
Project Name: Double Spur Ranch DSR

Test	QC Batch ID	QC Type	Result	Method
Chloride	QC54784	Blank	ND	EPA 300.0
Cyanide-Total	QC54826	Blank	ND	EPA 335.4
Fluoride	QC54785	Blank	ND	EPA 300.0
Aluminum	QC54814	Method Blank	ND	EPA 200.8
Antimony	QC54814	Method Blank	ND	EPA 200.8
Arsenic	QC54814	Method Blank	ND	EPA 200.8
Barium	QC54814	Method Blank	ND	EPA 200.8
Beryllium	QC54814	Method Blank	ND	EPA 200.8
Cadmium	QC54814	Method Blank	ND	EPA 200.8
Chromium	QC54814	Method Blank	ND	EPA 200.8
Manganese	QC54814	Method Blank	ND	EPA 200.8
Mercury	QC54814	Method Blank	ND	EPA 200.8
Selenium	QC54814	Method Blank	ND	EPA 200.8
Silver	QC54814	Method Blank	ND	EPA 200.8
Thallium	QC54814	Method Blank	ND	EPA 200.8
Zinc	QC54814	Method Blank	ND	EPA 200.8
Iron	QC54804	Method Blank	0.010 mg/L B	EPA 200.7
Nitrate Nitrogen	QC54786	Blank	ND	EPA 300.0
Nitrite Nitrogen	QC54787	Blank	ND	EPA 300.0
Sulfate	QC54783	Blank	ND	EPA 300.0

B - The analyte was found in the associated blank. Batch accepted due to all samples being non-detect or having results ≥ 5 times the background concentration found in the blank.

Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Chloride	QC54784	Duplicate	0 - 20	-	0.9	EPA 300.0
		LCS	90 - 110	103.0	-	
		MS	75 - 125	94.7	-	
Cyanide-Total	QC54826	Duplicate	0 - 20	-	15.4	EPA 335.4
		LCS	90 - 110	104.6	-	
		MS	75 - 125	97.5	-	
Fluoride	QC54785	Duplicate	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	94.6	-	
		MS	75 - 125	90.5	-	
Aluminum	QC54814	LCS	90 - 110	94.7	-	EPA 200.8
		MS	70 - 130	106.7	-	
		MSD	0 - 10	-	7.8	
Antimony	QC54814	LCS	90 - 110	97.9	-	EPA 200.8
		MS	70 - 130	103.0	-	
		MSD	0 - 10	-	3.3	
Arsenic	QC54814	LCS	90 - 110	94.4	-	EPA 200.8
		MS	70 - 130	111.8	-	

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Test	QC Batch ID	QC Type	Limits	% Rec	RPD	Method
Barium	QC54814	MSD	0 - 10	-	0.2	EPA 200.8
		LCS	90 - 110	91.4	-	
		MS	70 - 130	97.7	-	
Beryllium	QC54814	MSD	0 - 10	-	1.0	EPA 200.8
		LCS	90 - 110	97.9	-	
		MS	70 - 130	109.1	-	
Cadmium	QC54814	MSD	0 - 10	-	6.4	EPA 200.8
		LCS	90 - 110	91.2	-	
		MS	70 - 130	96.0	-	
Chromium	QC54814	MSD	0 - 10	-	2.0	EPA 200.8
		LCS	90 - 110	101.4	-	
		MS	70 - 130	110.4	-	
Manganese	QC54814	MSD	0 - 10	-	3.6	EPA 200.8
		LCS	90 - 110	94.9	-	
		MS	70 - 130	107.2	-	
Mercury	QC54814	MSD	0 - 10	-	1.4	EPA 200.8
		LCS	90 - 110	100.7	-	
		MS	70 - 130	101.9	-	
Selenium	QC54814	MSD	0 - 10	-	5.5	EPA 200.8
		LCS	90 - 110	98.9	-	
		MS	70 - 130	118.0	-	
Silver	QC54814	MSD	0 - 10	-	2.4	EPA 200.8
		LCS	90 - 110	90.9	-	
		MS	70 - 130	73.8	-	
Thallium	QC54814	MSD	0 - 10	-	2.9	EPA 200.8
		LCS	90 - 110	96.3	-	
		MS	70 - 130	94.2	-	
Zinc	QC54814	MSD	0 - 10	-	1.8	EPA 200.8
		LCS	90 - 110	97.7	-	
		MS	70 - 130	101.8	-	
Iron	QC54804	MSD	0 - 10	-	1.7	EPA 200.7
		LCS	90 - 110	96.6	-	
		MS	75 - 125	120.5	-	
Nitrate Nitrogen	QC54786	MSD	0 - 20	-	2.9	EPA 300.0
		LCS	90 - 110	100.7	-	
		MS	75 - 125	91.1	-	
Nitrite Nitrogen	QC54787	MSD	0 - 20	-	0.0	EPA 300.0
		LCS	90 - 110	96.5	-	
		MS	75 - 125	90.0	-	
Sulfate	QC54783	MSD	0 - 20	-	1.7	EPA 300.0
		LCS	90 - 110	101.4	-	
		MS	75 - 125	88.4	-	

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.

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DATA APPROVED FOR RELEASE BY

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10411 Heinz Way / Commerce City, CO 80640 / 303-659-2313

Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507