

# **PRAIRIE RIDGE**

## **WATER RESOURCES and WATER QUALITY REPORT For Prairie Ridge Subdivision**

**October 6, 2020**

**Prepared By:**



**13511 Northgate Estates Dr., Ste. 250, Colorado Springs, Colorado 80921**

## **Executive Summary:**

### Water Resources and Water Quality Report – Prairie Ridge Subdivision

Chris D. Cummins of Monson, Cummins & Shohet, LLC, on behalf of the Applicant, Sonship Properties, LLC, a Colorado limited liability company (“Owner”), provides the following Water Resources Report in support of the Prairie Ridge subdivision. The undersigned has been practicing water law, almost exclusively, for 17 years, and has substantial experience with Denver Basin groundwater resources, augmentation plans, subdivision proceedings, and rural residential water usage, and therefore should be considered a “qualified professional” as concerns water resources, as discussed at Section 8.4.7(B)(1)(c) of the El Paso County Land Development Code. This Report, prepared in conjunction with other professionals, is intended to demonstrate to the El Paso County Planning Commission and the BoCC, the sufficiency in terms of quantity, dependability, and quality, of the water rights and resources to be utilized in the proposed Prairie Ridge subdivision, in northern El Paso County, Colorado.

The Prairie Ridge development proposed by the Owner, consists of approximately 39.769 acres located south and east of Brown Road, and north of Walker Road, in the SE $\frac{1}{4}$  SE $\frac{1}{4}$  of Section 12, Township 11 South, Range 66 West of the 6<sup>th</sup> P.M. The land is to be provided water and sewer services through on-site individual wells and Individual Septic Disposal Systems (“ISDS”). The development includes 7 residential lots of approximately 5-acres each, consistent with current RR-5 zoning. This subdivision was previously approved by the El Paso County BoCC on April 24, 2008, though the final plat was never recorded.

It is expected that each residential home in the Prairie Ridge subdivision will require an average of 1.0 annual acre-feet of water supply, to be provided through individual wells on each lot to the not-nontributary Dawson aquifer, consistent with the plan for augmentation decreed in Water Division 1 Case No. 06CW100. Such water supply demands are consistent with other rural residential homes historical demand in other nearby developments in the Black Forest. The augmentation plan decreed in Case No. 06CW100 will provide for a 300-year water supply for each of the anticipated 7 lots within Prairie Ridge, with each lot utilizing ISDS of a non-evaporative nature.

The water resources to be utilized in the Prairie Ridge subdivision are typical to 5-acre rural residential development near the Black Forest and other parts of rural northeastern El Paso County, Colorado. The plan for augmentation decreed in Case No. 06CW100 demonstrates a sufficient quantity and reliability of water to support compliance with El Paso County’s 300-year water supply rules for subdivisions of this nature.

## I. INTRODUCTION

The purpose of this report is to provide a preliminary outline of the water resources, associated wastewater requirements, and water quality necessary for approval of the Prairie Ridge subdivision, as proposed.

1.1 New Development Description: Prairie Ridge subdivision consists of approximately 39.769 acres located to the south and east of Brown Road, and north of Walker Road, in the SE¼ SE¼ of Section 12, Township 11 South, Range 66 West of the 6th P.M. The Prairie Ridge subdivision anticipates a maximum of 7 rural residential units. **Exhibit A**, attached hereto, is a preliminary plan for the Prairie Ridge subdivision as proposed, prepared by Owner's planning consultants at M.V.E., Inc.

## II. PROJECTION OF WATER NEEDS

2.1 Analysis of Water Demands: It is expected that each of the seven (7) rural residential lots in the Prairie Ridge subdivision, utilizing 7 individual wells to the Dawson aquifer will be developed with a single family home, anticipating limited gardens and landscaping, potentially watering of horses or similar stock, and accessory uses such as hot tubs. Consistent with the Plan for Augmentation decreed in Water Division 1 Case No. 06CW100, it is anticipated that each single family residence will utilize a maximum of 1.0 annual acre feet of water through individual wells, with total demand for all 7 lots estimated at a maximum of 7.0 annual acre feet. Of this pumping, it is anticipated that 0.3 annual acre feet will be utilized for in-house residential purposes, with the remainder of pumping varying between lots for other uses authorized under the 06CW100 augmentation plan. The individual wells are each anticipated to produce water from the Dawson aquifer at flow rates of up to 15 gallons per minute, based upon previously measured and tested production from existing wells on other nearby properties. Based on past experience with the numerous Dawson wells serving rural residential properties throughout northern El Paso County, this rate of production from each individual well should be sufficient not only to meet each residence's average demand for in-house uses, but maximum demands for accessory uses as well. It is anticipated that all seven lots, and associated wells, will be immediately developed to the Dawson aquifer.

## III. PROPOSED WATER RIGHTS AND FACILITIES

3.1 Water Rights: A plan for augmentation utilizing the underlying Denver Basin aquifers has been decreed by the District Court, Water Division 1, in Case No. 06CW100, in which the Decree was entered on April 13, 2007, adopting the Ruling of Referee entered on March 23, 2007. A water resources report was prepared by Owner's predecessor's consultant, Curt Wells, dated May 9, 2006, and that report is attached hereto as **Exhibit C**. A copy of the Decree entered in Case No. 06CW100 is attached hereto as **Exhibit B**, including the following specific quantities of water anticipated to be available for and utilized in the Prairie Ridge subdivision:

<b>AQUIFER</b>	<b>Saturated Thickness (ft)</b>	<b>Total Water Adjudicated (Acre Feet)</b>	<b>Annual Average Withdrawal – 100 Years (Acre Feet)</b>
Dawson (NNT)	460	3,659	36.6 <sup>1</sup>
Denver (NT)	500	3,380	33.8
Arapahoe (NT)	260	1,758	17.6
Laramie-Fox Hills (NT)	210	1,253	12.5

As particularly described in the attached Decree in Case No. 06CW100, a 300-year water supply is demonstrated in the Dawson aquifer, with all depletions augmented in time, place and amount through septic return flows during pumping, and through dedication of nontributary groundwater in the Denver aquifer for replacement of post-pumping depletions. The available supplies will meet both legal and physical needs on a 300-year basis.

3.2 Source of Supply: Rural residential water supply demand will be met using not-nontributary Dawson formation wells, consistent with the plan for augmentation to be decreed in Case No. 06CW100. None of the wells which will ultimately provide water supply to the lots at the Prairie Ridge subdivision have been drilled, to date.

3.3 Pumping Rates for Service: The Dawson aquifer in the location of the Prairie Ridge subdivision are generally known to produce approximately 10-15 gallons per minute, more than sufficient for single family residential and accessory uses.

**IV. WASTEWATER AND WASTEWATER TREATMENT** – While a detailed geotechnical, soils and wastewater report will be provided by other of Owner’s consultants, Owner provides a summary of ISDS to be utilized herein, as relates to water usage and resulting return flows which support the plan for augmentation decreed in Case No. 06CW100.

4.1 Septic/Wastewater Loads: Septic projections are based on similar Denver Basin residential uses on rural residential lots. Average daily wastewater loads are expected to be approximately 232 gallons per day per single family residence. Maximum daily wastewater loads are expected to be roughly 250 gallons per day per single family residence, all assuming residential in-house use at the 0.3 acre foot per year rate described in the decree for Case No. 06CW100.

4.2 On-Site Wastewater Treatment Systems: All 7 single family homes within the Prairie Ridge subdivision will be served by individual on-site wastewater treatment systems. The site has been evaluated for on-site wastewater treatment systems by Owner’s consultants at Entech Engineering, as described in their report.

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<sup>1</sup> The Dawson aquifer annual withdrawal figures represent not the 100-year aquifer life discussed at C.R.S. §37-90-137(4), but rather a 300-year aquifer life consistent with provision of a 300-year water supply in compliance with El Paso County, Colorado land development code as applicable to the subdivision of Owner’s Property.

Based on such evaluation, the site is suitable for on-site wastewater treatment systems/ISDS. Each on-site wastewater treatment system will be evaluated and installed according to El Paso County Guidelines and properly maintained to prevent contamination of surface and subsurface water resources.

Respectfully submitted this 6<sup>th</sup> day of October, 2020

MONSON, CUMMINS & SHOHET, LLC

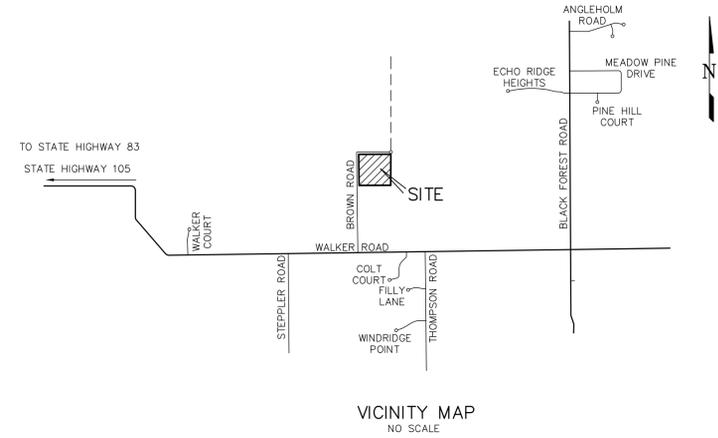
*/s/ Chris D. Cummins*

Chris D. Cummins

cc: Client; M.V.E., Inc.; Entech Engineering

# PRAIRIE RIDGE

A PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 12,  
TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE 6TH P.M.,  
EL PASO COUNTY, COLORADO



VICINITY MAP  
NO SCALE

## NOTES:

- o - Indicates survey monument set with a #4 rebar with Surveyor's Cap, P.L.S. #20681.
  - \* - Indicates recovered survey monument as noted.
  - \* - Indicates man-made fill data.
  - ◆ - Indicates section corner as noted.

## KNOW ALL MEN BY THESE PRESENTS:

That SONSHIP PROPERTIES, LLC, a Colorado Limited Liability Company being the owner of the following described tract of land to wit:

A tract of land in the Southeast Quarter of the Southeast Quarter of Section 12, Township 11 South, Range 66 West of the 6th P.M., County of El Paso, State of Colorado, to wit:

The Southeast Quarter of the Southeast Quarter of said Section 12, except the Westerly 30.00 feet for public road purposes, and being described as follows:

Beginning at the Southeast corner of said Section 12, said corner monumented by an alloy capped steel pin marked PLS No. 25361;

thence S89°04'51"W, along the South line of the Southeast Quarter of the said Section 12, a distance of 1305.15 feet to a point 30.00 feet Easterly of the Southwest corner thereof, said corner monumented by a plastic capped steel pin marked PLS No. 23875;

thence N00°13'51"W, 30.00 feet Easterly of and parallel with the West line of the said Southeast Quarter of the Southeast Quarter of the said Section 12, a distance of 1325.59 feet to a point on the North line thereof, said corner monumented by a plastic capped steel pin marked PLS No. 23875;

thence N89°01'29"E, along the North line of the said Southeast Quarter of the Southeast Quarter of the said Section 12, a distance of 1307.46 feet to the Northeast corner thereof, said corner monumented by an alloy capped steel pin marked PLS No. 13830;

thence S00°07'55"E, along the East line of the said Southeast Quarter of the Southeast Quarter of the said Section 12, a distance of 1326.90 feet to the Point of Beginning;

Containing 39.769 acres, more or less.

## OWNER'S CERTIFICATE:

The undersigned being the owner in the land described herein, has laid out, subdivided and platted said land into lots, streets and easements as shown hereon under the name and subdivision of PRAIRIE RIDGE. All public improvements 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 Commissioner 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 and other purposes as shown hereon. The entities responsible for providing the services for which the easements are established are 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.

SONSHIP PROPERTIES, LLC

By: Justin Ensor, Manager

Justin Ensor, Manager

## NOTARIAL:

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

The above and aforementioned was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D., by Justin Ensor, Manager of SONSHIP PROPERTIES, LLC, a Colorado Limited Liability Company.

Witness my hand and seal \_\_\_\_\_

My commission expires \_\_\_\_\_

## FEES:

Park Fee: \_\_\_\_\_ Drainage Fee: \_\_\_\_\_

School Fee: \_\_\_\_\_ Bridge Fee: \_\_\_\_\_

1. This survey does not constitute a title search by LDC, Inc. to determine ownership or easements of record. For all information regarding easements, rights-of-way and title of record, LDC, Inc. relied upon a Commitment for Title Insurance, issued by TITLE RESOURCES GUARANTY COMPANY. Commitment No. 3117419-02197-INFO dated April 22, 2019 at 7:00 a.m.

Item 2 Terms, conditions, provisions, agreements, easements and obligations specified under the easement, 30 feet wide, for ingress and egress and utility purposes over and along the North boundary line of the herein described parcel, as created in the instrument recorded September 3, 2004 at Reception No. 204150806.

Item 3 An easement for electrical lines and incidental purposes granted to MVEA, Inc. by instrument recorded December 7, 2004 at Reception No. 204200417

Item 4 Terms, conditions, provisions, agreements, easements and obligations specified under the non-exclusive permanent easement recorded July 16, 2008 at Reception No. 208080295.

Item 5 Terms, conditions, provisions, agreements, easements and obligations specified under the non-exclusive permanent easement recorded July 16, 2008 at Reception No. 208080296.

Item 6 Notes and easements specified under the Improvement Location Certificate prepared by Forth Land Surveying, Inc. Dated October, 2, 2018, Project No. 18092.

Item 7 Terms, conditions, provisions, agreements, easements and obligations specified under the Water Rights Special Warranty Deed recorded October 8, 2018 at Reception No. 218116879.

2. Prior to the establishment of any driveway, an access permit must be granted by the El Paso County Planning and Community Development Department.

3. Sewage treatment is the responsibility of each individual property owner. The El Paso County Health Department must approve each system and, in some cases, the Department may require an engineered system prior to permit approval.

4. Basis of Bearings: All bearings are based on the South line SE1/4 SE1/4 SEC. 12, with a found alloy capped steel pin at its Easterly end and a found alloy capped steel pin at its Westerly end, as shown hereon and assumed to bear S89°04'51"W, a distance of 1335.15 feet.

5. Unless otherwise indicated, all side and rear lot lines are hereby platted on each side with a ten foot (10') Public Utilities and Drainage Easement. The exterior boundary shall have a twenty foot (20') Public Utilities and Drainage Easement. The sole responsibility for maintenance of these easements is hereby vested with the individual property owners.

6. All structural foundations shall be located and designed by a Professional Engineer, currently registered in the State of Colorado.

7. Individual wells are the responsibility of each individual property owner. Permits for individual domestic wells must be obtained from the State Engineer who by law has the authority to set conditions for the issuance of these permits, subject to the provisions of the decree entered by the Water Court, Water Division 1, in Consolidated Case Nos. 06CW100 (Div. 1) and 06CW20 (Div. 2) on April 13, 2007 (the "Water Decree").

Water in the Denver Basin Aquifers is allocated based on a 100 year aquifer life; however, for El Paso County Development Services purposes, water in the Denver Basin Aquifers is evaluated based on a 300 year aquifer life. Applicants and all future owners in the subdivision should be aware that the economic life of a water supply based on wells in a given Denver Basin Aquifer may be less than either the 100 years or 300 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon nonrenewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.

Water withdrawal and wells are subject to the terms, restrictions and responsibilities as found within the Water Decree and the Declaration of Covenants, Conditions and Restrictions of Prairie Ridge recorded in the El Paso County records.

NOTE: All wells will be drilled at a minimum of 400' apart.

8. FEDERAL EMERGENCY MANAGEMENT AGENCY, Flood Insurance Rate Map Number 08041C0325 G, effective date December 7, 2018, indicates the area in the vicinity of this parcel of land to be a Zone X (area determined to be out of the 500 year flood plain).

9. (19339) - Indicates property address. The addresses exhibited on this plat are for informational purposes only. They are not the legal description and are subject to change.

10. Note Regarding Stormwater Drainage: All property owners are responsible for maintaining proper storm water drainage in and through their property. Public drainage easements as specifically noted on the plat shall be maintained by the individual lot owners unless otherwise indicated. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.

11. Mailboxes: Mailboxes shall be installed in accordance with all El Paso County Planning and Community Development Department and United States Postal Service regulations.

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

13. The following listed lots have been found to be the most impacted by the listed geologic hazards listed below. Mitigation measures and a map of the hazard areas can be found in the report, Soil, Geology, and Geologic Hazard Study, Prairie Ridge Properties, El Paso County, Colorado, by Entech Engineering, Inc., dated May 31, 2007, and addendum dated September 17, 2007, in File SP-07-016 at the El Paso County Planning and Community Development Department:

Potentially shallow groundwater area - Lots 4, 5, 6, and 7 - NO BUILD AREA  
Seasonally shallow groundwater - Lots 4, 5, 6 and 7 - NO BUILD AREA  
Man-made fill - Lots 1, 2, 5 and 6

NOTE: If foundations are to be located within areas of man-made fill, then additional investigation will be required.

NOTE: Septic systems must be setback 25' from areas of Potentially Shallow Ground Water and areas of Seasonally Shallow Ground Water.

14. The following reports and or letters have been submitted and are on file at the El Paso County Planning and Community Development Department: Soils and Geology, Drainage, Water Resources, and Wildfire Mitigation.

15. Public and Common Subdivision Improvements: No lot or interest therein, shall be sold, conveyed, or transferred whether by deed or by contract, nor shall building permits be issued, until and unless the required public and common development improvements have been constructed, completed, and preliminarily accepted in accordance with the Subdivision Improvements agreement between the applicant/owner and El Paso County as recorded under Reception Number \_\_\_\_\_ in the Office of the Clerk and Recorder of El Paso County, Colorado or in the alternative, other collateral is provided to make provision for the completion of said improvements in accordance with the El Paso County Land Development Code and Engineering Criteria Manual. Any such alternative collateral must be approved by the Board of County Commissioners or, if permitted by the Subdivision Improvements Agreement, by the Planning and Community Development Director and meet the policy and procedure requirements of El Paso county prior to the release by the County of any lots for sale, conveyance or transfer. This plat restriction may be removed or rescinded by the Board of County Commissioners or, if permitted by the Subdivision Improvements Agreement, by the Planning and Community Development Director upon either approval of an alternative form of collateral or completion and preliminary acceptance by the Board of County Commissioners of all improvements required to be constructed and completed in accordance with said Subdivision Improvements Agreement. The partial release of lots for sale, conveyance or transfer may only be granted in accordance with any planned partial release of lots authorized by the Subdivision Improvements Agreement.

16. Developer shall comply with federal and state laws, regulations, ordinances, review and permit requirements, and other agency requirements, if any, of applicable agencies including, but not limited to, the Colorado Division of Wildlife, Colorado Department of Transportation, U.S. Army Corps of Engineers, and the U.S. Fish & Wildlife Service.

17. All homes are required to have in-home fire sprinklers installed per NFPA Code 13R, Section 901.2. Sprinkler systems shall be installed, repaired, tagged, and maintained by a FSC-A contractor licensed by the Pikes Peak Regional Building Department.

18. This subdivision includes a waiver of the El Paso County Land Development Code to allow flag lot access to Brown Road for Lots 4, 5 & 6 which is approved with the Final Plat application.

19. Site plans shall include topography, width and percent of grade of access roads, landscape, vegetation details including proposed defensible space, locations of structures or building envelopes, existing or proposed overhead utilities, occupancy classification of buildings, structures and their appendages, roof classification of buildings, site water supply systems and anything else deemed necessary by the Fire Code Official. All site plans shall be submitted and approved by the Fire Code Official prior to the issuance of the building permit and prior to combustible construction materials being delivered to the site.

20. Individual lot owners are responsible for constructing driveways, including necessary drainage culverts from Brown Road per Land Development Code Section 6.3.3.C.2 and 6.3.3.C.3. Due to their length, driveways for Lots 5 and 6 will need to be specifically approved by the Tri-Lakes/Monument Fire Rescue Authority.

21. Access Easement shown on Lot 5 is for the benefit of Lot 2's owner with said Easement owned by Lot 5's owner. Maintenance to the driveway of Lot 2's garage is the responsibility of Lot 2's owner.

22. Access Easement shown on Lot 6 is for the benefit of Lot 1's owner with said Easement owned by Lot 6's owner. Maintenance to the driveway of Lot 1's garage is the responsibility of Lot 1's owner.

23. At time of closing on each lot a sum of \$4,675.00 will be paid to El Paso County to be deposited to the Public Improvement Contribution Fund (Reception No. \_\_\_\_\_) for off-site public improvements to Brown Road. These funds will be held by El Paso County in a fund setup solely for those improvements.

## SURVEYOR'S CERTIFICATION:

I Daniel L. Kupferer, a duly registered Professional Land Surveyor in the State of Colorado, do hereby certify that this plat correctly represents the results of a survey made on date of survey, by me or under my direct supervision and accurately shows subdivision thereof, and that all monuments exist as shown hereon; that mathematical closure errors are less than 1:10,000; and that said plat has been prepared in full compliance with all applicable provisions of the El Paso County Land Development Code, and that the requirements of Title 38 of the Colorado Revised Statutes, 1973, as amended, have been met to the best of his professional knowledge, belief and opinion and that it is in accordance with applicable standards of practice and this is not a guaranty or warranty, either expressed or implied.

Daniel L. Kupferer  
Colorado Professional Land Surveyor No. 18465

## APPROVALS:

This plat for Prairie Ridge was approved by the El Paso County Planning and Community Development Department Director on the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, subject to any notes or conditions specified hereon.

\_\_\_\_\_  
Planning and Community Development Director

Board of County Commissioners' Certificate

This plat for Prairie Ridge 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 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

## RECORDING:

Clerk and Recorder

STATE OF COLORADO }  
COUNTY OF EL PASO } SS

I hereby certify that this instrument was filed for record in my office at \_\_\_\_ o'clock \_\_\_\_M., this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D., and is duly recorded under

Reception No. \_\_\_\_\_ of the records of El Paso County, Colorado.

\_\_\_\_\_  
Chuck Broerman, Clerk and Recorder

SURCHARGE: \_\_\_\_\_ BY: \_\_\_\_\_ Deputy

FEE: \_\_\_\_\_

REVISIONS	
No.	Description
1	COUNTY COMMENTS
2	BOUNDARY CONFIGURATION
3	COUNTY COMMENTS
4	COUNTY COMMENTS
5	COUNTY COMMENTS
6	REVISED FOR RESUBMITTAL
7	COUNTY COMMENTS

Date	By
09/13/07	MTC
10/29/07	MTC
12/06/07	KLV
12/11/07	KLV
10/13/08	PAC
05/24/19	DLK
2-24-2021	DLK

H Scale:	N/A
V Scale:	N/A
Designed By:	MTC
Drawn By:	DWH
Checked By:	DWH
Date:	05/21/19

www.lde-inc.com · TEL: (719) 528-6133 · FAX: (719) 528-8548  
3888 MAZELAND ROAD · COLORADO SPRINGS, CO 80909

FINAL PLAT  
PRAIRIE RIDGE

Project No.: 18065

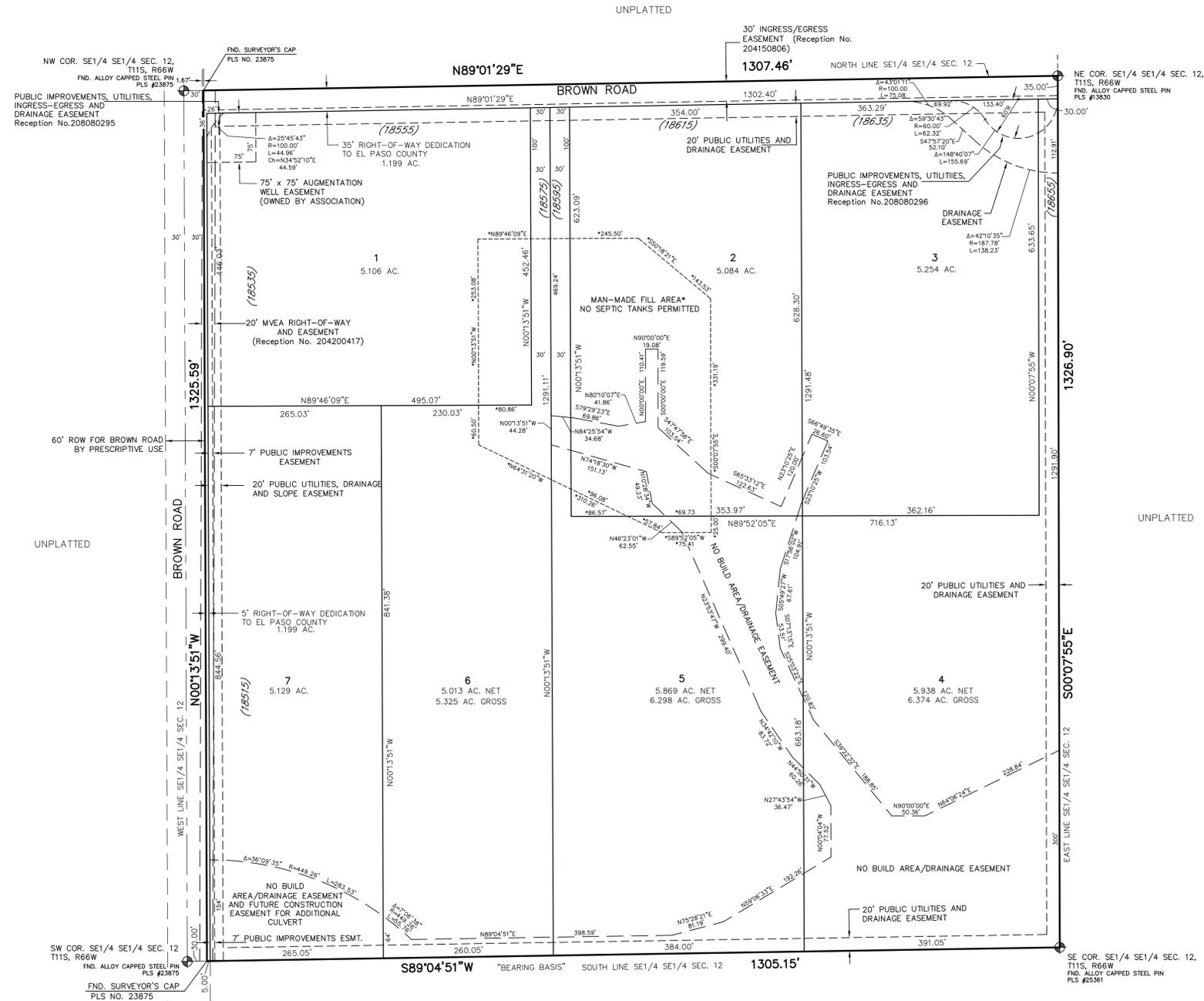
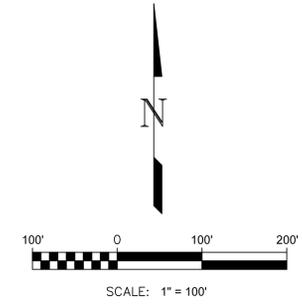
Sheet: 1 of 2

# PRAIRIE RIDGE

A PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 12, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO

## NOTES:

- - Indicates survey monument set with a #4 rebar with Surveyor's Cap, P.L.S. #20681.
  - - Indicates recovered survey monument as noted.
  - \* - Indicates man-made fill data.
  - ⊕ - Indicates aliquot section corner as noted.



No.	Date	By	Description
1	09/13/07	MTC	COUNTY COMMENTS
2	10/23/07	MTC	BOUNDARY CONFIGURATION
3	12/11/07	KLV	COUNTY COMMENTS
4	02/07/08	ROG	COUNTY COMMENTS
5	02/08/08	ROG	COUNTY COMMENTS
6	02/08/08	DLK	REVISED FOR RESUBMITTAL
7	02/24/2021	DLK	COUNTY COMMENTS

H Scale:	1" = 100'
V Scale:	N/A
Designed By:	MTC
Drawn By:	DWH
Checked By:	DWH
Date:	07/11/07

**Land Development Consultants, Inc.**  
 PLANNING · SURVEYING  
 www ldc inc com · TEL: (719) 528-6133 · FAX: (719) 528-8648  
 3888 MAZELAND ROAD · COLORADO SPRINGS, CO 80909

**FINAL PLAT**  
**PRAIRIE RIDGE**

Project No.: **18065**  
 Sheet: **2 of 2**

## **EXHIBIT B**

District Court, Water Division 1, State of Colorado Court Address: 901 9 <sup>th</sup> Ave P. O. Box 2038 Greeley, CO 80632	FILED Document – District Court 2006CW100 CO Weld County District Court 19th JD Filing Date: Feb 22 2007 4:20PM MST Filing ID: 13898135
<b>CONCERNING THE APPLICATION FOR WATER RIGHTS OF:</b>  <b>KENNETH I. RUSHING AND CAROL A. RUSHING REVOCABLE TRUST UNDER INSTRUMENT DATED MARCH 13, 1998</b>	<b>▲ COURT USE ONLY ▲</b>
<b>IN EL PASO COUNTY</b>	
	Case Number: 06CW100
<b>NOTICE OF REFEREE RULING</b>	

Henry Worley  
530 Communication Circle, Suite 204  
Colorado Springs, CO 80905-1743

Division Engineer

State Engineer

The Water Court Referee for Water Division No. 1 has instructed me to forward a copy of this Ruling. Please check the Ruling carefully. If any errors are found, notify the Water Clerk's Office immediately. If you have any questions regarding this matter, please direct them to the Water Referee at (970) 351-7300, ext. 5406 or by e-mail to [john.cowan@judicial.state.co.us](mailto:john.cowan@judicial.state.co.us)

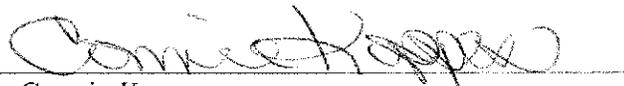
You have twenty days after the above mailing to file with the Water Clerk any pleading in protest to or in support of the Referee's Ruling. Any such pleading must be filed on or before **March 14, 2007**, plus any additional time allowed by Rule 6(e) C.R.C.P. In the absence of any pleading, the Judge of the Water Court will enter the Referee's Ruling as a Decree the day after **March 14, 2007**.

### Certificate of Service

I hereby certify that I served via LexisNexis File & Serve, a true and correct copy of the foregoing Ruling to the parties listed above.

Dated: February 22, 2007

By:



Connie Koppes  
Water Clerk, Water Division 1

This ruling was filed electronically pursuant to Rule 121, §1-26. The original is in the Court's file.

<b>DISTRICT COURT, WATER DIVISION 1  WELD COUNTY, COLORADO  Weld County Courthouse  P.O. Box 2038  Greeley, Colorado 80632</b>	<b>COURT USE ONLY</b>
<b>Concerning the Application for Water Rights of:</b>  <b>KENNETH I. RUSHING and CAROL A. RUSHING  REVOCABLE TRUST UNDER INSTRUMENT  DATED MARCH 13, 1998</b>  In the South Platte River and its tributaries In El Paso County	
	<b>Consolidated Case Nos.  06CW100 in Div. 1, and  06CW20 in Div. 2</b>
<b>FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT AND DECREE</b>	

I. Jurisdictional Facts.

1. The Applicant for adjudication of the water in the Dawson, Denver, Arapahoe and Laramie-Fox Hills aquifers underlying certain land in El Paso County, and for approval of a plan for augmentation, is the Kenneth I. Rushing and Carol A. Rushing Revocable Trust under Instrument Dated March 13, 1998, 16865 Bar X Road, Colorado Springs, CO 80908, phone number (719) 495-1715.

2. The applications in this case were filed on April 27, 2006 in Water Divisions 1 and 2, and were allowed to be amended by order of the referee dated May 12, 2006 in Water Division 1 and by order of the referee dated May 16, 2006 in Water Division 2.

3. The applications and their amendments were published in the resumes for Water Divisions 1 and 2 and in a newspaper of general circulation in El Paso County, as required by law. The publication costs have been paid. Pursuant to C.R.S. §37-92-302(2)(b), notice of this application was given to two co-owners, David H. Shute and Jennifer C. Shute. The Applicant has subsequently acquired Mr. and Mrs. Shutes' interest in the property.

4. A statement of opposition was timely filed by the City of Colorado Springs. No other statements of opposition were filed, and the time for filing statements of opposition has expired. No motions to intervene have been filed.

5. Pursuant to Applicant's Motion, these cases were consolidated in Water Division 1 by order of the Chief Justice of the Colorado Supreme Court dated September

15, 2006. The Chief Justice's Order had the effect of re-referring this case to the Water Judge, who referred the application to the Water Referee on October 11, 2006.

6. The land and water involved herein are not within the boundaries of a designated ground water basin.

II. Denver Basin Water Rights.

7. ("Property") consists of 39.77 acres owned by Applicant, consisting generally of the SE1/4 SE1/4 Section 12, Township 11 South, Range 66 West, 6<sup>th</sup> P.M. A map showing its location is attached as Figure 1. The Property is located in the Cherry Creek drainage.

8. The amount of water underlying the Property and which is available for appropriation is set forth in Table 1. The figures in Table 1 are based on the State Engineer's Determinations of Facts dated June 30, 2006. Pursuant to C.R.S. §37-92-305(11), the Court will retain jurisdiction to finally determine the amount of water available for appropriation, based on site-specific data when it becomes available, and to adjust upward or downward as appropriate the amount available for withdrawal from each aquifer. The Applicant need not refile, republish, or otherwise amend this decree to request or obtain such adjustment.

Table 1

Aquifer	Acreage	Specific Yield	Saturated Thickness (feet)	Total Storage (AF)	Ave. Annual Diversion (AF)
Dawson	39.77	.20	460	3659	36.6
Denver	39.77	.17	500	3380	33.8
Arapahoe	39.77	.17	260	1758	17.6
Laramie-Fox Hills	39.77	.15	210	1,253	12.5

9. The Denver Basin Rules, 2 CCR 402-6, indicate that the approximate depth to the top of the saturated portion of the Dawson aquifer, and the approximate depths to the tops and the bottoms of the remaining aquifers, are as follows:

Dawson:	150 feet to 1,070 feet
Denver:	1,110 feet to 1,950 feet
Arapahoe:	1,990 feet to 2,490 feet
Laramie-Fox Hills:	2,870 feet to 3,150 feet

10. Water in the Dawson aquifer in this location is not nontributary, and judicial approval of a plan for augmentation to replace stream depletions to the extent necessary to prevent injury to other vested and decreed conditional water rights is a prerequisite to pumping water from that aquifer. Water in the Denver, Arapahoe and Laramie-Fox Hills aquifers in this location is nontributary; two percent of the amount of water pumped from each such aquifer annually may not be consumed.

11. Applicant will withdraw water from the Dawson aquifer from seven wells, consistent with the plan for augmentation decreed herein. Applicant will withdraw water from one well in each of the Denver, Arapahoe and Laramie-Fox Hills aquifers, plus any additional wells required in order for Applicant to withdraw the full decreed amounts. Such wells may be constructed at any location on the Property, provided, however, that no wells may be located within 50 feet of the property boundary nor within 600 feet of another well in the same aquifer off the property unless approval is obtained for such a location pursuant to C.R.S §37-90-137(2)(b). Applicant waives the 600 foot spacing requirement for all wells located on the Property.

12. These water rights are decreed for commercial, indoor residential, stock water, irrigation and other landscape uses such as fountains and decorative ponds, swimming pools and hot tubs, fire fighting, dust suppression and augmentation purposes.

### III. Plan for Augmentation

13. Water Demand. Applicant proposes to subdivide the Property into seven lots for single family residences. Applicant projects that water for indoor uses will be 0.30 acre foot annually for each house, which may include incidental commercial uses such as a home office or a home-based business, landscape irrigation will require application of 0.04 acre foot annually per 1,000 square feet (1.75 acre feet per acre), and livestock watering will require 0.011 acre foot per horse per year (10 gallons per horse per day). Each hot tub is anticipated to use approximately 0.004 acre foot (1,400 gallons) annually, based on two fillings annually, and an average-sized swimming pool is anticipated to use approximately 0.025 acre foot (8,000 gallons) annually. Each Dawson aquifer well shall be limited to diversions of 1.0 acre foot (325,851 gallons) annually.

14. Water Consumption. Disposal of water used indoors for the single family dwellings shall be by non-evaporative septic tanks and leach fields ("septic systems"). Consumption of water used for indoor uses and so disposed of is no more than 10 percent of diversions. Because Applicant does not rely on return flows from any other water uses for replacement of depletions during pumping, their respective water consumption is not relevant.

15. Replacement during pumping. Stream depletions from pumping the Dawson aquifer wells will occur to tributaries of the South Platte and Arkansas Rivers. Applicant does not have the physical ability to replace these depletions to the Arkansas River, but shall instead replace all depletions to Cherry Creek, the drainage in which the Property is located. Based on assumed pumping of 7.0 acre feet annually for a 300 year period, the State Engineer's "DA02" computer model predicts that stream depletions will reach a maximum of 22.55 percent of pumping in the 300th year, resulting in 1.58 acre feet of total stream depletions that year. Septic system return flows from the Property will be used to replace such depletions. Annual septic return flows from seven single family dwellings will equal 1.89 acre feet annually, which exceeds the maximum amount of annual depletions which will occur at any time during the modeled 300 year pumping period.

16. Replacement of post-pumping depletions.

A. Applicant shall replace post-pumping depletions for the shortest of the following periods: the period provided by the Colorado Legislature, should it eventually specify one and if the Applicant obtains water court approval for such modification; the period determined by the State Engineer, should the State Engineer lawfully establish such a period; the period established through rulings of the Colorado Supreme Court in relevant cases; or until Applicant petitions the water court and after notice to parties in the case proves that it has complied with all statutory requirements. The Court finds that the provisions of this paragraph are adequate to comply with existing law and to prevent injury to others.

B. Replacement of post-pumping depletions shall commence whenever one of the following events has occurred: when 2100 acre feet of water have been pumped from any combination of the seven Dawson aquifer wells; when the Applicant's successors in interest acknowledge in writing that all withdrawals for beneficial use from the Dawson aquifer wells have permanently ceased; or when a period of ten consecutive years has occurred wherein no withdrawals of ground water have occurred through the Dawson aquifer wells.

C. The State Engineer's "DA02" computer model predicts that based on assumed pumping of 7.0 acre feet annually, and cessation of pumping in 300 years, post-pumping depletions will reach a maximum of 22.57 percent of pumping in the 310<sup>th</sup> year, and will gradually decline thereafter. However, constant pumping for 300 years is quite unlikely to occur. To determine the post-pumping replacement

obligation, at the time the obligation to replace such depletions commences pursuant to paragraph 16.B above, Applicant's successors shall at that time cause an analysis to be conducted, using the best information and computer modeling available at that time, to calculate the timing and the amount of post-pumping depletions. That analysis shall then be used to determine the amount of water to be replaced to Cherry Creek. Applicant's successors in interest shall be required to construct a Denver aquifer well pursuant to this plan for augmentation unless a different source of water is approved by the Court for replacement of post-pumping depletions, or unless the obligation is terminated pursuant to paragraph 16.A. above.

D. Reservation of Denver aquifer water. Applicant owns the right to withdraw approximately 3380 acre feet of water in the Denver aquifer which can be used to replace post-pumping depletions. Applicant shall reserve and dedicate to this plan for augmentation 1910 acre feet of such Denver aquifer water for the purpose of replacing post-pumping depletions caused by pumping 2100 acre feet of water. This reservation is adequate to replace post-pumping depletions because some depletions occur and are replaced during the 300 year pumping period. If at some time replacement of post-pumping depletions is no longer required pursuant to paragraph 16.A. above, or if Applicant receives judicial approval to use a different water source for replacement of post-pumping depletions, said reservation will become null and void.

E. Possible amendment of decree. At the projected rate of pumping for use on the Property, at the end of 300 years there will still be a substantial quantity of water legally available for withdrawal from the Dawson aquifer underlying the subdivision, and there will be a substantial quantity of water in the Denver aquifer, the use of which has not been reserved for the replacement of depletions caused by 300 years of pumping from the Dawson aquifer. Nothing in this paragraph 16 regarding replacement of post-pumping depletions is intended to preclude Applicant from seeking to amend this plan for augmentation to provide for continued pumping from the Dawson aquifer, or using additional water in the Denver aquifer for the replacement of the additional depletions caused thereby. Any such amendment shall require judicial approval after notice as required by law.

17. Based on indoor uses of 0.30 acre foot annually for each of seven single family dwellings, septic return flows of 90 percent, and total pumping of no more than 7.0 acre feet annually, return flows from septic systems from seven houses will always exceed gross stream depletions in the same year. Accordingly, so long as there are at least seven single family dwellings on the Property, it is only necessary to restrict total diversions to 7.0 acre feet annually, and not to otherwise restrict the types or places of use of water from the Dawson aquifer.

18. Applicant shall create restrictive covenants upon and running with the Property, which shall obligate the owners of the seven lots to be subdivided from the

Property to limit pumping of the Dawson aquifer well to no more than 1.0 acre foot (325,851 gallons) annually per lot, to use non-evaporative septic systems for wastewater disposal, and to carry out all requirements of this decree, including the possible construction of a Denver aquifer well for the replacement of post-pumping depletions. Said covenants shall indicate clearly that failure of the property owner to comply with the terms of this decree may result in an order of the Division Engineer's office to curtail or eliminate pumping of the non-complying owner's Dawson aquifer well. This decree and the restrictive covenants shall be recorded in the El Paso County records, so that a title examination of the Property, or any part thereof, shall reveal to all future purchasers of the lots to be created the existence of the decree and restrictive covenants. Said covenants shall be amended as necessary to conform to the provisions of any amendment to this augmentation plan.

19. All septic system return flows are dedicated to this plan for augmentation, and shall not be sold, leased or otherwise used for any other purpose.

20. As reasonably required by the Division Engineer, but no less than annually, Applicant shall complete and submit an accounting form that shows groundwater withdrawals. The accounting form must be acceptable to the Division Engineer, and may be changed from time to time if necessary. An accounting form acceptable to the Division Engineer at the present time is attached to this Ruling as Exhibit A. The well meters shall be read on October 31 of each year, or as close thereto as practicable, and the completed accounting form shall be submitted to the Division Engineer and Colorado Springs Utilities by November 30 of the same year.

21. Colorado Springs owns senior water rights in the Arkansas River drainage that could be impacted by the operation of this decree wherein the maximum modeled annual depletion of 0.49 acre foot to Monument Creek and its tributaries will not be replaced to the Arkansas River drainage, but will instead be replaced to the South Platte River system. Colorado Springs reserves the right to claim that the cumulative negative impacts of this and other similar decrees constitute injury to its senior Arkansas River system water rights. In the interest of settlement only, Colorado Springs consents to the entry of this decree. However, by doing so, Colorado Springs does not waive its right to claim injury and to seek relief in the future pursuant to the provisions of paragraphs 37 and 38.

22. The Court finds that under the terms and conditions herein the requirements of C.R.S. §37-90-137(9)(c) have been met.

23. The Court has considered the depletions from Applicant's proposed use of water, in quantity and in time, the amount and timing of augmentation water to be provided, and whether injury would be caused to any owner of or persons entitled to use water under a vested water right or a decreed conditional water right. The Court concludes that under

this plan for augmentation, no such injury will occur.

### **CONCLUSIONS OF LAW**

24. The Court has jurisdiction over the subject matter of this action and over all persons who could have appeared herein, whether or not they did so appear.

25. All conditions precedent to the granting of this decree have been completed.

26. The plan for augmenting depletions caused by pumping the not nontributary Dawson aquifer is required by C.R.S. §37-90-137(9), and is subject to the requirement of C.R.S. §§37-92-305(3) and 305(8) that no injury will occur to the owners of or persons entitled to use water under an absolute water right or decreed conditional water right as a result of implementing such plan for augmentation.

27. Applicant has complied with all the conditions of C.R.S. §§37-92-302(2)(b), 37-92-305(8) and all other relevant statutes.

28. Applicant has maintained dominion and control over its septic system return flows by determining the quantity of such return flows, as set forth above, and thus has the legal ability to use said return flows in this plan for augmentation. See, Public Service Co. v. Willows Water District, 856 P.2d 829 (Colo. 1993).

### **JUDGMENT AND DECREE**

29. The foregoing findings of fact and conclusions of law are hereby incorporated into this judgment and decree.

30. The application for adjudication of water rights from the Dawson, Denver, Arapahoe and Laramie-Fox Hills aquifers underlying the Property is approved as set forth above. The Court retains jurisdiction over this decree to finally adjudicate the amount of water available for withdrawal from each aquifer, based on site specific information from well logs when they become available.

31. Pursuant to 2 CCR 402-7, Rule 8.A., in any year, for that portion of the Denver aquifer water rights which is not reserved for replacement of post-pumping depletions, and for all of the water decreed to be available for withdrawal from the Arapahoe and Laramie Fox Hills aquifers, Applicant may withdraw the subject water in those aquifers from any combination of the wells applied for in the same aquifer as long as the total amount of water withdrawn in that year does not exceed the product of the total number of years after the date of determination of the right to ground water by the Court, multiplied by the allowed average annual amount of withdrawals for that aquifer. However, this "banking" provision shall not apply to any portion of the Dawson aquifer water, nor to

that portion of the Denver aquifer water which has been reserved for the replacement of post-pumping depletions in this case.

32. The wells must be constructed pursuant to applicable regulations of the Division of Water Resources. Each well must be equipped with a properly installed and maintained totalizing flow meter. Applicant must submit diversion records to the Division Engineer or his representative on an annual basis or as otherwise requested by the Division Engineer. All wells shall be cased so as to prevent withdrawal of water from more than one aquifer. For each Dawson aquifer well, plain casing shall be installed and grouted through all unconsolidated materials and shall extend a minimum of ten feet into the bedrock formation to prevent production through other zones. Pursuant to 2 CCR 402-7, Rule 9.A., geophysical logs will be required for all wells approved herein unless there is an existing geophysical log from that aquifer located within 1,320 feet of the proposed well that is acceptable to the State Engineer, and is representative of aquifer conditions at the location of the proposed well.

33. Upon receipt of properly completed well permit applications, accompanied by the appropriate fees, the State Engineer shall issue well permits for the wells approved pursuant to this decree, in accordance with C.R.S. §37-90-137(4) and/or (10) and in accordance with the decree entered herein.

34. The water rights so decreed are absolute water rights, and no applications for findings of diligence are required. The water rights are decreed for all beneficial uses except municipal uses.

35. No more than 98% of the water diverted from the nontributary Denver, Arapahoe and Laramie-Fox Hills aquifers shall be consumed.

36. The application for approval of a plan for augmentation to replace depletions caused by pumping water from the not nontributary Dawson aquifer is approved as set forth above in the findings of fact in this decree. No more than 1.0 acre foot may be pumped annually from each not nontributary Dawson aquifer well absent approval of an amendment to this plan for augmentation or approval of a new plan for augmentation replacing injurious depletions resulting from such additional pumping. The State Engineer shall curtail all out-of-priority diversions, the depletions from which are not replaced as to prevent injury to vested water rights or decreed conditional water rights.

37. The Court shall retain jurisdiction for so long as Applicant is required to replace depletions to Cherry Creek, to determine whether the replacement of depletions to Cherry Creek rather than to the Arkansas River system is causing material injury to water rights tributary to that stream system. Any person may invoke the Court's retained jurisdiction at any time Applicant is causing depletions (including ongoing post-pumping depletions) to the Arkansas River system and is aggregating such depletions and replacing

them to Cherry Creek. The person invoking the Court's retained jurisdiction shall have the burden of establishing a prima facie case that Applicant's failure to replace depletions to the Arkansas River system is causing injury to water rights owned by the person invoking the Court's retained jurisdiction, except that the State and Division Engineers may invoke the Court's retained jurisdiction by establishing a prima facie case that injury is occurring to any vested or conditionally decreed water rights. Applicant shall retain the ultimate burden of proving that no injury is occurring, or shall propose terms and conditions that prevent such injury. Among any other remedies it may impose, the Court may require that Applicant replace depletions to Cherry Creek or the Arkansas River system, or both.

38. Pursuant to C.R.S. §37-92-304(6), the Court also retains jurisdiction over the plan for augmentation decreed herein for reconsideration of the question of whether the provisions of this decree are necessary and/or sufficient to prevent injury to the vested water rights of others. The Court also retains jurisdiction for the purpose of determining compliance with the terms of the augmentation plan. Any person seeking to invoke the retained jurisdiction of the Court pursuant to this paragraph shall file a verified petition with the Court. The petition to invoke retained jurisdiction or to modify the decree shall set forth with particularity the factual basis upon which the requested reconsideration is premised, together with proposed decretal language to effect the petition. The person lodging the petition shall have the burden of going forward to establish prima facie facts alleged in the petition. If the Court finds those facts to be established, Applicant shall thereupon have the burden of proof to show: (1) that any modification sought by Applicant will avoid injury to other appropriators, or (2) that any modification sought by the person filing the petition is not required to avoid injury to other appropriators, or (3) that any term or condition proposed by Applicant in response to the petition does avoid injury to other appropriators.

Dated: February 20, 2017

  
\_\_\_\_\_  
John Cowan  
Water Referee  
Water Division 1

NO PROTEST WAS FILED IN THIS MATTER. THE FOREGOING REFEREE'S RULING IS HEREBY CONFIRMED AND APPROVED, AND IS MADE THE JUDGMENT AND DECREE OF THE WATER COURT.

Dated: \_\_\_\_\_.

---

Roger A. Klein  
Water Court Judge  
Water Division 1

5062 II NE  
(GREENLAND)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

T. 11 S., R. 65 W., 6<sup>th</sup> P.M.

*Obew 100*

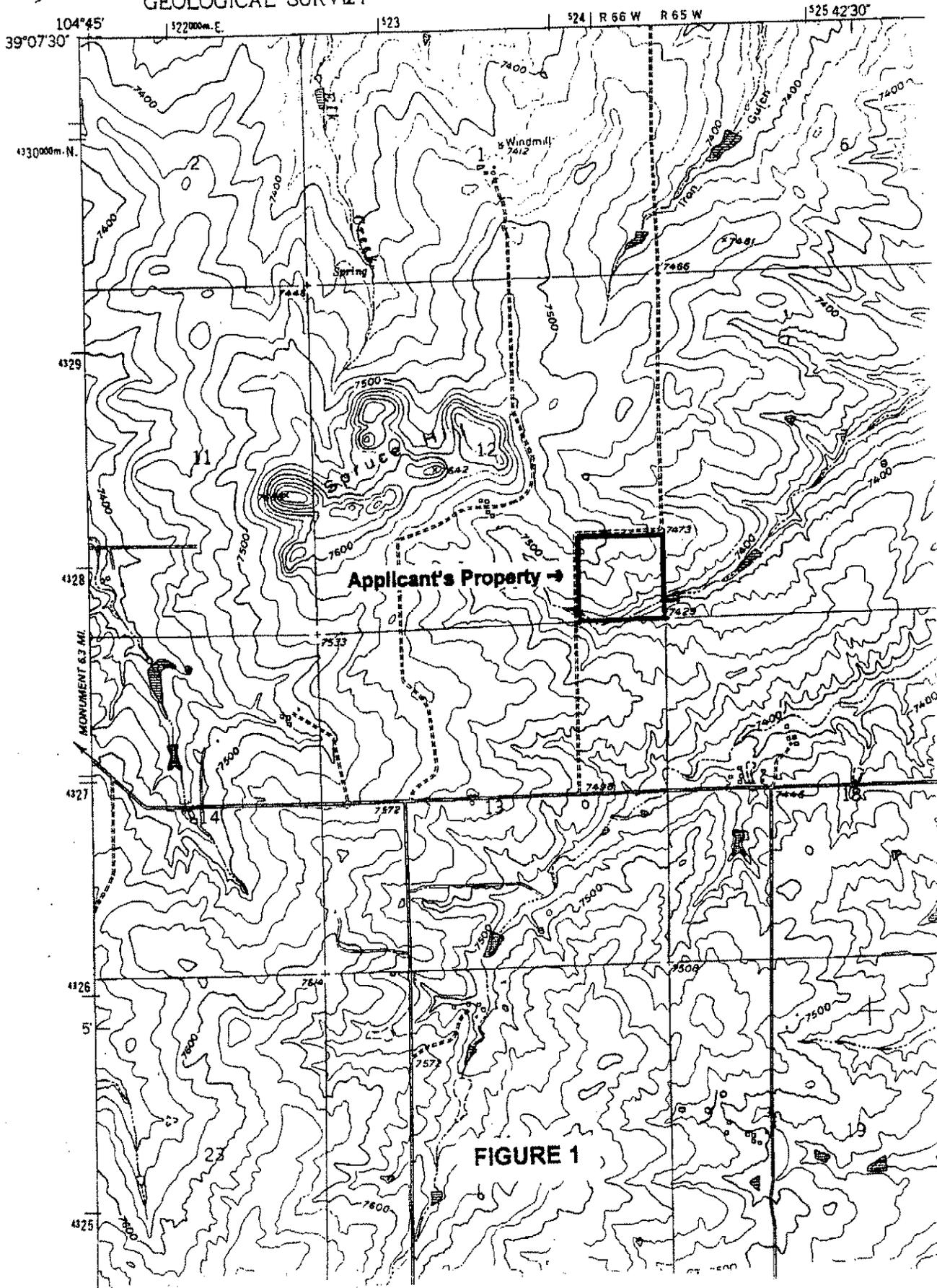


FIGURE 1

**ACCOUNTING FORM**

Exhibit A to Decree  
 Case No. 06CW100, Water Division 1  
 Kenneth I. Rushing and Carol A. Rushing Revocable Trust

Year: \_\_\_\_\_

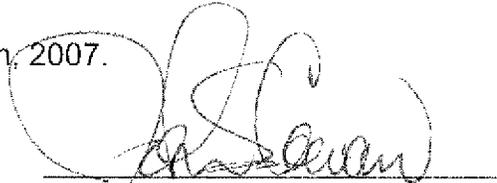
Lot Number	Owner Name	Well Permit No.	Reading on previous Oct. 31	Reading on this October 31	Amount Pumped
1					
2					
3					
4					
5					
6					
7					
TOTALS	--	--	--	--	

Note: Readings should be taken as close as practicable to October 31 of each year. The Homeowners Association is responsible for completing and submitting this form to the Water Commissioner and the City of Colorado Springs Utilities in November of each year.

Maximum annual pumping for each Dawson aquifer well is limited to 1.0 acre foot (325,851 gallons).

not required to avoid injury to other appropriators, or (3) that any term or condition proposed by Applicant in response to the petition does avoid injury to other appropriators. Any material changes to the decree that are not within the Court's retained jurisdiction may be made only as allowed by law, which may require the filing of an application and publication of notice requesting such change.

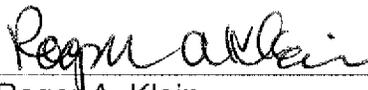
Dated this 20<sup>th</sup> day of March, 2007.



John Cowan  
Water Referee  
Water Division 1

**NO PROTEST WAS FILED IN THIS MATTER. THE FOREGOING REFEREE'S RULING IS HEREBY CONFIRMED AND APPROVED, AND IS MADE THE JUDGMENT AND DECREE OF THE WATER COURT.**

Dated: APR 13 2007.



Roger A. Klein  
Water Court Judge  
Water Division 1



Wm. CURTIS WELLS & CO. / consulting geologists  
13842 legend way #101 / broomfield, co 80020  
telephone (303) 466-3801 / fax 465-5859

## EXHIBIT C

May 9, 2006

Mr. Ken Rushing  
16865 Bar X Road  
Colorado Springs, CO 80908

Re: Ground Water Consultation, 40-Acre Rushing Property, El Paso County, Colorado.  
Job No. 64045

Dear Ken:

At your request I have prepared this brief report on your 40-acre property which occupies a part of Section 12, Township 11 South, Range 66 West. The attached Figure-1 illustrates the approximate outline of the property and reportedly you may be developing the property into seven single family homesites. I understand Hank Worley filed applications with the Greeley and Pueblo Water Courts to adjudicate the Denver Basin aquifer ground water beneath this property along with a plan for augmentation to legalize the use of the not non-tributary (NNT) ground water in the Dawson aquifer. The objective of this report is to provide Hank the information necessary to amend the Water Court applications, if necessary.

As you know there are four Denver Basin aquifers beneath this land. In descending stratigraphic order they are the Dawson, Denver, Arapahoe and Laramie Fox Hills formations. The base of these respective aquifers should be at depths of 1,100, 2,000, 2,500 and 3,200 feet below the ground surface. Ground water availability in each aquifer is computed by multiplying the property area by the formation saturated sand thickness, thence by specific yield (drainable porosity). Based on published aquifer information from the Colorado Division of Water Resources, I list on the table below my estimates of ground water beneath this subject parcel.

Aquifer		Sand Thickness (ft.)	Ground Water Storage (af.)
Dawson	NNT	463	3704
Denver	NT	497	3380
Arapahoe	NT	259	1761
Laramie Fox Hills	NT	209	1254



If the future seven homeowners were to use water at a rate of 1.0 acre feet per year per home, the El Paso County, 300-year required water supply would be 2,100 acre feet. This amount of ground water is only about 60 percent of the volume of ground water estimated to be in the Dawson aquifer. This amount of water would satisfy the in-house needs of 0.30 acre feet per year, the irrigation of about 10,000 square-feet of lawn or garden plus the watering of four horses, if desired.

Theoretically, when a Dawson well is pumped on this property, a percentage of the discharge water seeps out of over appropriated nearby streams. To predict the amount, time and place of this stream loss, I have operated the State Engineer's "DA02" computer, ground water flow model to develop stream depletion factors. These factors are listed on Table I and as shown, the maximum stream depletion is about 23 percent if the wells are pumped for 300 years. If the seven homeowners were to pump Dawson aquifer ground water at a rate of 7 acre feet per year, the maximum depletion would be 1.6 acre feet per year. The seven proposed homeowners should annually return 1.9 acre feet per year to the stream through their septic systems, thus during pumping, stream depletion should be adequately augmented.

Once well pumping ceases, theoretically at 300 years, the State Engineer and Water Court believe return flows will also cease. To cover stream depletions that can be computed to continue for centuries, non-tributary (NT) ground water in the Denver aquifer can be reserved. As shown above, the Denver aquifer ground water should equate to 3,380 acre feet or far more ground water than needed to support the post-pumping obligation.

I trust this information satisfies your immediate needs. If you have questions, please call.

Very truly yours,

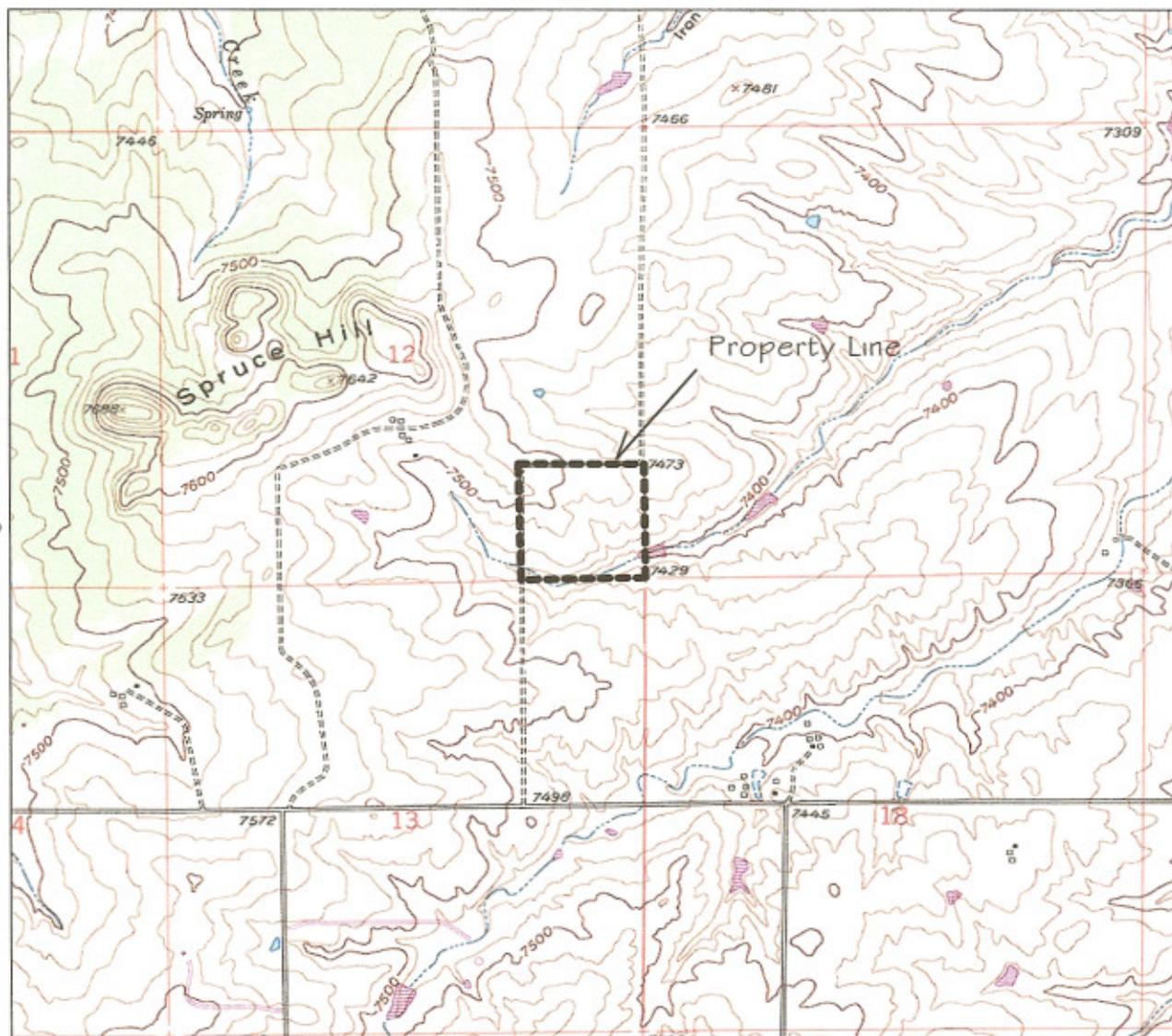
Wm. Curtis Wells & Co.

---

Wm. Curtis Wells CPG  
Consulting Ground Water Geologist

cc: Hank Worley

R 66 W R 65 W



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Location Map  
Rushing Property

Wm Curtis Wells & Co.  
consulting ground water geologists

Figure 1



Scale 1" = 2000'

Table I  
Dawson Aquifer Stream Depletion Factors  
Rushing Property  
(as % of pumping)

YRS	South Platte River	Arkansas River	Total	YRS	South Platte River	Arkansas River	Total
10	0.61	0.03	0.64	310	16.05	6.52	22.57
20	1.37	0.10	1.47	320	15.72	6.67	22.39
30	2.14	0.18	2.32	330	15.39	6.79	22.18
40	2.85	0.32	3.17	340	15.08	6.89	21.97
50	3.53	0.47	4.00	350	14.84	6.93	21.77
60	4.18	0.64	4.82	360	14.62	6.96	21.58
70	4.78	0.84	5.62	370	14.41	6.98	21.39
80	5.38	1.03	6.41	380	14.23	6.97	21.20
90	5.95	1.25	7.20	390	14.06	6.95	21.01
100	6.50	1.49	7.99	400	13.90	6.91	20.81
110	7.05	1.72	8.77	410	13.74	6.88	20.62
120	7.58	1.96	9.54	420	13.61	6.81	20.42
130	8.12	2.19	10.31	430	13.46	6.76	20.22
140	8.64	2.44	11.08	440	13.32	6.69	20.01
150	9.15	2.69	11.84	450	13.19	6.61	19.80
160	9.66	2.94	12.60	460	13.05	6.54	19.59
170	10.17	3.18	13.35	470	12.93	6.45	19.38
180	10.65	3.45	14.10	480	12.81	6.37	19.18
190	11.15	3.69	14.84	490	12.70	6.29	18.99
200	11.63	3.95	15.58	500	12.57	6.22	18.79
210	12.09	4.22	16.31	510	12.47	6.12	18.59
220	12.58	4.45	17.03	520	12.35	6.04	18.39
230	13.04	4.70	17.74	530	12.23	5.96	18.19
240	13.52	4.93	18.45	540	12.12	5.86	17.98
250	13.99	5.16	19.15	550	12.02	5.77	17.79
260	14.44	5.41	19.85	560	11.91	5.68	17.59
270	14.89	5.64	20.53	570	11.79	5.60	17.39
280	15.34	5.87	21.21	580	11.67	5.52	17.19
290	15.79	6.10	21.89	590	11.57	5.42	16.99
300	16.24	6.31	22.55	600	11.47	5.33	16.80

# **PRAIRIE RIDGE Minor Subdivision**

## **WATER QUALITY REPORT**

**For  
Prairie Ridge  
Subdivision**

**January 25, 2021**

**Prepared By:**



**13511 Northgate Estates Dr., Ste. 250, Colorado Springs, Colorado 80921**

## **Executive Summary:**

### **Water Quality Report – Prairie Ridge Subdivision**

Chris D. Cummins of Monson, Cummins & Shohet, LLC, on behalf of the Applicant, Sonship Properties c/o Justin Ensor, (“Owner”), provides the following Water Quality Report in support of the Prairie Ridge subdivision. The undersigned has been practicing water law almost exclusively, for over 17 years, and has substantial experience with Denver Basin groundwater resources, augmentation plans, designated basin replacement plans, subdivision proceedings, and rural water usage, and therefore should be considered a “qualified professional” as concerns water resources, as discussed at Section 8.4.7(B)(1)(c) of the El Paso County Land Development Code. This Report, prepared in conjunction with other professionals, is intended to demonstrate to the El Paso County Planning Commission and the BoCC, the sufficiency in terms of quality of the water rights and resources to be utilized in the proposed Prairie Ridge Subdivision (the “Subdivision”) in northern El Paso County, Colorado.

The Property consists of approximately 39.769 acres located to the south and east of Brown Road, and north of Walker Road, in the SE $\frac{1}{4}$  SE $\frac{1}{4}$  of Section 12, Township 11 South, Range 66 West of the 6th P.M. Each of the 7 lots in the Subdivision is to be provided water and sewer/septic services through an on-site individual well and Individual Septic Disposal Systems (“ISDS”). The proposed subdivision includes seven residential lots, each of approximately 5 acres in size. The sufficiency and adequacy of water resources are described in a separate Water Resources Report.

The water resources to be utilized on the residential lots in the Subdivision is typical of rural residential development in areas near the Black Forest in El Paso County, Colorado. The decree of the Division 1 Water Court in Case No. 06CW100 demonstrates a sufficient quantity and reliability of water to support compliance with El Paso County’s 300-year water supply rules for subdivisions of this nature, and the well-established water quality in the Dawson Aquifer in this part of the County, demonstrates a sufficient water quality consistent with Section 8.4.7(3)(d), and combined with quality testing completed for a nearby Dawson aquifer well, demonstrates a sufficient water quality.

## **I. INTRODUCTION**

The purpose of this report is to provide a preliminary outline of the water quality necessary for approval of the Prairie Ridge minor subdivision, as proposed.

1.1 **New Development Description:** The Subdivision consists of approximately 39.769 acres located to the south and east of Brown Road, and north of Walker Road, in the SE $\frac{1}{4}$  SE $\frac{1}{4}$  of Section 12, Township 11 South, Range 66 West of the 6th P.M. The Property will be subdivided into seven lots. **Exhibit A**, attached hereto, is a plat for the Subdivision as proposed, prepared by Owner’s consultants at M.V.E, Inc., including an area/vicinity map.

## II. PROJECTION OF WATER NEEDS

2.1 Analysis of Water Demands: It is expected that the seven residential lots in the Subdivision, will utilize seven individual wells drilled to the Dawson aquifer, to be utilized for domestic-type uses, including in-house, landscape/irrigation of lawn and gardens, and watering of domestic animals and stock. None of these wells have been constructed to date. It is anticipated that the residences on each lot will utilize a maximum total of 1.0 annual acre feet of water. The Dawson aquifer wells are anticipated to produce water at a flow rate of 10 to 15 gallons per minute, based upon past experience. Based on past experience with the numerous Dawson aquifer wells serving rural residential properties throughout El Paso County, this rate of production should be more than sufficient to meet demand for in-house use.

## III. PROPOSED WATER QUALITY

3.1 Water Rights: A decreed plan for augmentation to allow for the use of the underlying not-nontributary Dawson aquifer was approved by the Division 1 Water Court on April 13, 2007, and the sufficiency and dependability of such water supplies are described in a separate Water Resources Report.

3.2 Source of Supply: Rural residential water supply demand will be met using not-nontributary Dawson aquifer formation wells. Consistent with El Paso County Land Development Code Section 8.4.7(B)(3)(c)(v), a subdivision utilizing individual wells need not make a further showing as to source of supply.

3.3 Water Quality and Treatment: The water quality in the Dawson aquifer in this area is well established as being suitable for potable use with only in-house filtration for mineral deposits, with an estimated 27,000 households in El Paso County currently utilizing Denver Basin wells. See June 15, 2015 Gazette article – “*Where there is a well, there is a way...*”, attached hereto as **Exhibit B**. While no wells have to date been constructed on the property, an existing neighboring well was sampled, and Owner has obtained new water quality testing from such well with Division of Water Resources Permit No. 280006. So as to ensure compliance with Land Development Code Section 8.4.7(B)(3)(d), and all provisions of LDC Section 8.4.7(B)(10), Owner obtained full-spectrum water quality testing on said neighboring well, including chemical analysis (see LDC §8.4.7(B)(10)(a)), testing against all applicable MCL’s established by the EPCDHE (see LDC §8.4.7(B)(10)(b)), and analysis of all major ions (see LDC §8.4.7(B)(10)(c)). Such samples were collected by a professional representative of Owner pursuant to explicit instructions provided by Owner’s Colorado-certified testing laboratory, Colorado Analytical Laboratories, Inc. (“CAL”), who likewise assisted in maintaining a proper chain of custody on all such samples (see LDC §8.4.7(B)(10)(d)). All samples tested by CAL were obtained from the Dawson aquifer at an existing well neighboring the project site and within ½ mile (see LDC §8.4.7(B)(10)(e)). Owner believes the full-spectrum water quality testing evidences that the quality of the source water in the Dawson aquifer does indeed meet all standards of the Colorado Primary Drinking Water Regulations, and therefore believes LDC §8.4.7(B)(10)(f) to be inapplicable, while acknowledging that pursuant to LDC §§8.4.7(B)(10)(h) and (i), all

future water sources must continue to meet all such applicable standards, including other state or federal standards in addition to or supplemental of those of EPCDHE. Copies of those testing results are collectively attached hereto as **Exhibit C**. Newly constructed wells will meet all such regulatory requirements regarding quality testing before being utilized as a residential water source. Finally, while Owner believes the foregoing narrative to be in compliance with LDC §§8.4.7(B)(3)(d)(1) and (2), subsection (3) of such provision requires Owner to identify potential for water quality degradation from on-site and off-site sources – Owner has identified no unusual or atypical on-site or off-site sources of potential contamination which is likely to, or has the real potential to, contaminate the confined Dawson aquifer from which Owner’s source water is to be obtained. Owner’s requested subdivision of the subject property into approximately 5-acre parcels is typical of the region, as is the proposed water source. Potential contaminants would be non-compliant or poorly located septic systems (which will not be permitted within the subdivision), hazardous material spills, etc., that are contrary to existing law and regulation, and beyond the Owner’s control. Barring such misfeasance or malfeasance, Applicant does not believe any on or off-site hazards of note exist.

Respectfully submitted this 25<sup>th</sup> day of January, 2021.

MONSON, CUMMINS & SHOHET, LLC

*/s/ Chris D. Cummins*

Chris D. Cummins

cc: Client, M.V.E., Inc.

# PRAIRIE RIDGE

A SUBDIVISION OF THE SOUTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 12,  
TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE 6TH P.M.,  
EL PASO COUNTY, COLORADO

## NOTES:

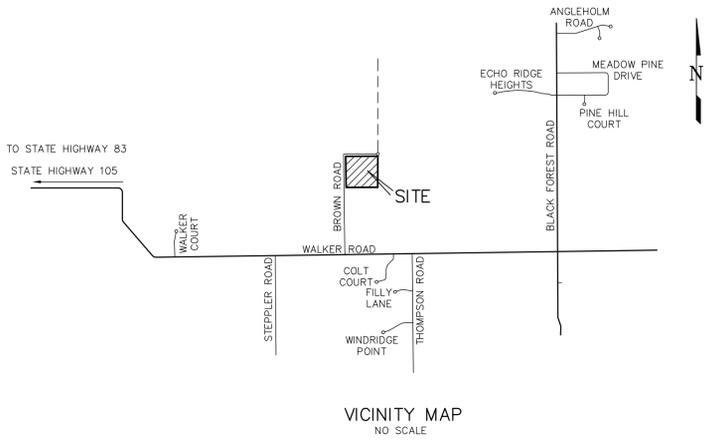
- o - Indicates survey monument set with a #4 rebar with Surveyor's Cap, P.L.S. #20681.
  - \* - Indicates recovered survey monument as noted.
  - \* - Indicates man-made fill data.
  - ◆ - Indicates section corner as noted.
- This survey does not constitute a title search by LDC, Inc. to determine ownership or easements of record. For all information regarding easements, rights-of-way and title of record, LDC, Inc. relied upon a Commitment for Title Insurance, prepared by STEWART TITLE OF COLORADO, INC. COLORADO SPRINGS DIVISION, Order No. 200772147JE-2 dated June 29, 2007 at 7:00 a.m.
- Item 10 An easement and right-of-way of unspecified width or location, conveyed to the Mountain View Electric Association, Incorporated, a Colorado Corporation, by instrument dated February 15, 1941, but not recorded until March 7, 1983 in Book 3684 at Page 510. The exact course of said easement is not set forth therein.
- Item 11 Terms, conditions and provisions of, and chargers associated with a perpetual non-exclusive easement, 30 feet wide, for ingress and egress and utility purposes over and along the North boundary line of the herein described parcel, as created in the instrument recorded September 3, 2004 at Reception No. 204150806.
- Item 12 An easement and right-of-way 20 feet wide, conveyed to the Mountain View Electric Association, Incorporated, a Colorado Corporation, by instrument recorded December 7, 2004 at Reception No. 204200417. The exact course of said easement is not set forth therein.
- Prior to the establishment of any driveway, an access permit must be granted by the El Paso County Development Service Department.
- Sewage treatment is the responsibility of each individual property owner. The El Paso County Health Department must approve each system and, in some cases, the Department may require an engineered system prior to permit approval.
- Basis of Bearings: All bearings are based on a portion of the South line SE1/4 SE1/4 SEC. 12, with a found alloy capped steel pin at its Easterly end and a found alloy capped steel pin at its Westerly end, as shown hereon and assumed to bear S89°04'51"W, a distance of 1335.15 feet.
- Unless otherwise indicated, all side and rear lot lines are hereby platted on each side with a ten foot (10') Public Utility and Drainage Easement. The exterior boundary shall have a twenty foot (20') Public Utility and Drainage Easement. The sole responsibility for maintenance of these easements is hereby vested with the individual property owners.
- All structural foundations shall be located and designed by a Professional Engineer, currently registered in the State of Colorado.
- Individual wells are the responsibility of each individual property owner. Permits for individual domestic wells must be obtained from the State Engineer who by law has the authority to set conditions for the issuance of these permits, subject to the provisions of the decree entered by the Water Court, Water Division 1, in Consolidated Case Nos. 06CW100 (Div. 1) and 06CW20 (Div. 2) on April 13, 2007 (the "Water Decree").

Water in the Denver Basin Aquifers is allocated based on a 100 year aquifer life; however, for El Paso County Development Services purposes, water in the Denver Basin Aquifers is evaluated based on a 300 year aquifer life. Applicants and all future owners in the subdivision should be aware that the economic life of a water supply based on wells in a given Denver Basin Aquifer may be less than either the 100 years or 300 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon nonrenewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply.

Water withdrawal and wells are subject to the terms, restrictions and responsibilities as found within the Water Decree and the Declaration of Covenants, Conditions and Restrictions of Prairie Ridge recorded in the El Paso County records.

NOTE: All wells will be drilled at a minimum of 400' apart.

- FEDERAL EMERGENCY MANAGEMENT AGENCY, Flood Insurance Rate Map Number 08041C0325 F, effective date March 17, 1997, indicates the area in the vicinity of this parcel of land to be a Zone X (area determined to be out of the 500 year flood plain).
- ~~(19339)~~ - Indicates property address. The addresses exhibited on this plat are for informational purposes only. They are not the legal description and are subject to change.
- All property owners are responsible for maintaining proper storm water drainage in and through their property.
- Mailboxes shall be installed in accordance with all El Paso County Development Services Department and United States Postal Service regulations.
- According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.
- The following listed lots have been found to be the most impacted by the listed geologic hazards listed below. Mitigation measures and a map of the hazard areas can be found in the report, Soil, Geology, and Geologic Hazard Study, Prairie Ridge Properties, El Paso County, Colorado, by Entech Engineering, Inc., dated May 31, 2007, and addendum dated September 17, 2007, in File SP-07-016 at the El Paso County Development Services Department:
  - Potentially shallow groundwater area - Lots 4, 5, 6, and 7
  - Seasonally shallow groundwater - Lots 4, 5, 6 and 7
  - Man-made fill - Lots 1, 2, 5 and 6
- NOTE: If foundations are to be located within areas of man-made fill, then additional investigation will be required.
- NOTE: Septic systems must be setback 25' from areas of Potentially Shallow Ground Water and areas of Seasonally Shallow Ground Water.
- The following reports and/or letters have been submitted and are on file at the El Paso County Development Services Department: Soils and Geology, Drainage, Water Resources, and Wildfire Mitigation.
- No lot or interest therein, shall be sold, conveyed, or transferred whether by deed or by contract, nor shall building permits be issued, until and unless the required public improvements have been constructed, completed, and accepted by Board resolution in accordance with the Subdivision Improvements Agreement between the applicant/owner and El Paso County as recorded under Reception Number \_\_\_\_\_ in the Office of the Clerk and Recorder of El Paso County, Colorado or in the alternative, other collateral is provided which is sufficient in the judgment of the Board of County Commissioners, to make provision for the completion of said improvements. The developer is responsible for fine grading and placing two (2) inches of compacted gravel on Brown Road from Walker Road to the Emergency Turnaround Easement.
- Developer shall comply with federal and state laws, regulations, ordinances, review and permit requirements, and other agency requirements, if any, of applicable agencies including, but not limited to, the Colorado Division of Wildlife, Colorado Department of Transportation, U.S. Army Corps of Engineers, and the U.S. Fish & Wildlife Service.
- All homes are required to have in-home fire sprinklers installed per NFPA Code 13R, Section 901.2. Sprinkler systems shall be installed, repaired, tagged, and maintained by a FSC-A contractor licensed by the Pikes Peak Regional Building Department.
- Site plans shall include topography, width and percent of grade of access roads, landscape, vegetation details including proposed defensible space, locations of structures or building envelopes, existing or proposed overhead utilities, occupancy classification of buildings, structures and their appendages, roof classification of buildings, site water supply systems and anything else deemed necessary by the Fire Code Official. All site plans shall be submitted and approved by the Fire Code Official prior to the issuance of the building permit and prior to combustible construction materials being delivered to the site.
- Individual lot owners are responsible for constructing driveways, including necessary drainage culverts from Brown Road per Land Development Code Section 6.3.3.C.2 and 6.3.3.C.3. Due to their length, driveways for Lots 5 and 6 will need to be specifically approved by the Tri-Lakes/Monument Fire Rescue Authority.
- Access Easement shown on Lot 5 is for the benefit of Lot 2's owner with said Easement owned by Lot 5's owner. Maintenance to the driveway of Lot 2's garage is the responsibility of Lot 2's owner.
- Access Easement shown on Lot 6 is for the benefit of Lot 1's owner with said Easement owned by Lot 6's owner. Maintenance to the driveway of Lot 1's garage is the responsibility of Lot 1's owner.
- The Temporary Right-of-Way Easement within Lot 1 is subject to an Easement Agreement (Reception No. \_\_\_\_\_ El Paso County, Colorado records). This Easement is to remain in place until such time as Brown Road is extended to the North or West.
- The Temporary Emergency Turnaround Easement within Lot 3 and Lot 4 is subject to an Easement Agreement (Reception No. \_\_\_\_\_ El Paso County, Colorado records).
- At time of closing on each lot a sum of \$3,857.00 will be paid to El Paso County to be deposited to the Public Improvement Contribution Fund (Reception No. \_\_\_\_\_) for off-site public improvements to Brown Road. These funds will be held by El Paso County in a fund setup solely for those improvements.



VICINITY MAP  
NO SCALE

## KNOW ALL MEN BY THESE PRESENTS:

That K & C RUSHING, LLLP, a Nevada Limited Liability Limited Partnership, being the owner of the following described tract of land to wit:

A parcel of land situated in the Southeast Quarter of the Southeast Quarter of Section 12, Township 11 South, Range 66 West of the 6th P.M., County of El Paso, State of Colorado, to wit:

The Southeast Quarter of the Southeast Quarter of said Section 12, except the Westerly 30.00 feet for public road purposes, and being described as follows:

Beginning at the Southeast corner of said Section 12, said corner monumented by an alloy capped steel pin marked PLS No. 23875;

thence S89°04'51"W, along the South line of the Southeast Quarter of the said Section 12, a distance of 1305.15 feet to a point 30.00 feet Easterly of the Southwest corner thereof, said corner monumented by a plastic capped steel pin marked PLS No. 23875;

thence N00°13'51"W, 30.00 feet Easterly of and parallel with the West line of the said Southeast Quarter of the Southeast Quarter of the said Section 12, a distance of 1325.59 feet to a point on the North line thereof, said corner monumented by a plastic capped steel pin marked PLS No. 23875;

thence N89°01'29"E, along the North line of the said Southeast Quarter of the Southeast Quarter of the said Section 12, a distance of 1307.46 feet to the Northeast corner thereof, said corner monumented by an alloy capped steel pin marked PLS No. 13830;

thence S00°07'55"E, along the East line of the said Southeast Quarter of the Southeast Quarter of the said Section 12, a distance of 1326.90 feet to the Point of Beginning;

Containing 39.769 acres, more or less.

## DEDICATION:

The above owner has caused said tract of land to be surveyed and platted into lots, public right-of-way and easements as shown on the accompanying plat, which plat is drawn to a fixed scale as indicated thereon and accurately sets forth the boundaries and dimensions of said tract and the locations of said lots, public right-of-way and easements, and which tract so platted shall be known as PRAIRIE RIDGE, El Paso County, Colorado. Upon acceptance by resolution, all streets so dedicated will become matters of maintenance by El Paso County, Colorado.

## IN WITNESS WHEREOF:

The aforementioned, K & C RUSHING, LLLP, a Nevada Limited Liability Limited Partnership, has executed this instrument this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D.

K & C RUSHING, LLLP, a Nevada Limited Liability Limited Partnership

By: KCR Management Trust dated May 2, 2007, General Partner

\_\_\_\_\_  
Kenneth I. Rushing, Trustee  
\_\_\_\_\_  
Carol A. Rushing, Trustee

## NOTARIAL:

STATE OF COLORADO }  
COUNTY OF EL PASO }SS

The above and aforementioned was acknowledged before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D., by Kenneth I. Rushing, Trustee and Carol A. Rushing, Trustee of the KCR Management Trust dated May 2, 2007, General Partner of K & C Rushing, LLLP, a Nevada Limited Liability Limited Partnership.

Witness my hand and seal \_\_\_\_\_

My commission expires \_\_\_\_\_

## FEES:

Park Fee: \_\_\_\_\_ Drainage Fee: \_\_\_\_\_

School Fee: \_\_\_\_\_ Bridge Fee: \_\_\_\_\_

## SURVEYOR'S CERTIFICATION:

The undersigned Colorado Registered Professional Land Surveyor does hereby certify that the accompanying plat was surveyed and drawn under his direct responsibility and supervision and accurately shows the described tract of land, and subdivision thereof, and that the requirements of Title 38 of the Colorado Revised Statutes, 1973, as amended, have been met to the best of his professional knowledge, belief and opinion.

David V. Hostetler  
Colorado Professional Land Surveyor No. 20681

## APPROVALS:

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

\_\_\_\_\_  
Development Services Director

Approved by the Board of County Commissioners of El Paso County, Colorado, this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D.

\_\_\_\_\_  
Chair

## RECORDING:

STATE OF COLORADO }  
COUNTY OF EL PASO }SS

I hereby certify that this instrument was filed for record in my office at \_\_\_\_ o'clock \_\_\_\_M., this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_ A.D., and is duly recorded under Reception No. \_\_\_\_\_ of the records of El Paso County, Colorado.

Robert C. Balink, Recorder

SURCHARGE: \_\_\_\_\_ BY: \_\_\_\_\_ Deputy  
FEE: \_\_\_\_\_

# EXHIBIT A

REVISIONS	No.	Date	By	Description
	1	09/13/07	MTC	COUNTY COMMENTS
	2	10/29/07	MTC	BOUNDARY CONFIGURATION
	3	12/06/07	KLW	COUNTY COMMENTS
	4	12/11/07	KLW	COUNTY COMMENTS
	5	10/13/08	PAC	COUNTY COMMENTS

H Scale:	N/A
V Scale:	N/A
Designed By:	MTC
Drawn By:	DWH
Checked By:	
Date:	07/11/07

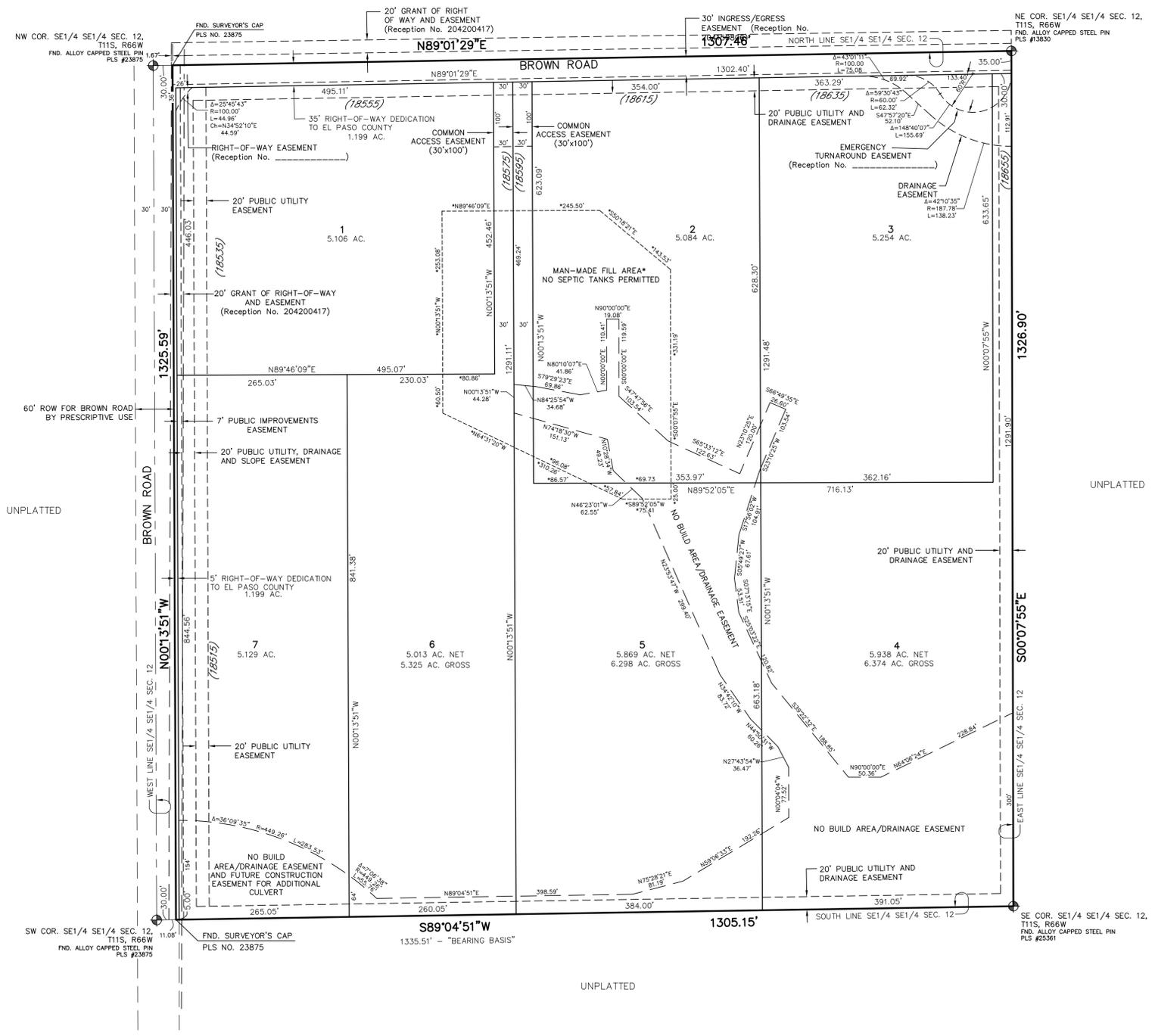
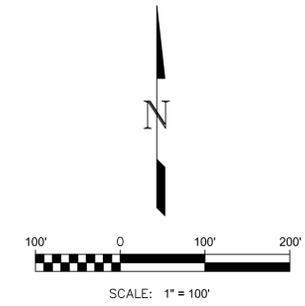
**Land Development Consultants, Inc.**  
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 www.ldc-inc.com • TEL: (719) 528-6133 • FAX: (719) 528-6888  
 2850 Sewardship Circle West • Colorado Springs, CO 80917

**FINAL PLAT**  
**PRAIRIE RIDGE**

Project No.: **07051**  
Sheet: \_\_\_\_\_

# PRAIRIE RIDGE

A PORTION OF THE SOUTHEAST ONE-QUARTER OF THE SOUTHEAST ONE-QUARTER OF SECTION 12, TOWNSHIP 11 SOUTH, RANGE 66 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO



No.	Date	By	Description
1	09/13/07	MTC	COUNTY COMMENTS
2	10/23/07	MTC	BOUNDARY CONFIGURATION
3	12/06/07	KLW	COUNTY COMMENTS
4	12/11/07	KLW	COUNTY COMMENTS
5	02/07/08	ROG	COUNTY COMMENTS
6	02/08/08	KLW	COUNTY COMMENTS

H Scale:	1" = 100'
V Scale:	N/A
Designed By:	MTC
Drawn By:	DWH
Checked By:	DWH
Date:	07/11/07

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 2850 Sewardship Circle West · Colorado Springs, CO 80917

**FINAL PLAT**  
**PRAIRIE RIDGE**

Project No.: **07051**  
 Sheet: **2 of 2**

F:\07000\07051-Prarie Ridge\Surveying\land\_Plat\07051-PR11.dwg 5/30/2007

# **The Country Life: Where there's a well, there's a way to get water - hopefully**

By: **Bill Radford** (</author/Bill+Radford>) • June 15, 2015 • *Updated: June 15, 2015 at 4:10 am*

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## EXHIBIT C



About 27,000 households are served by individual water wells in El Paso County. BILL RADFORD, THE GAZETTE

[View Gallery !\[\]\(3a826c315649e5ff8d9ba7aee7a8e49e\_img.jpg\) \(/gallery/articleid/1553752/pictures?display=flexFullscreen&galleryTheme=lightTheme\)](/gallery/articleid/1553752/pictures?display=flexFullscreen&galleryTheme=lightTheme)

[Log in to comment \(/comments/1/1553752\)](/comments/1/1553752)

When a well was drilled for a neighbor's new home recently, it was another "straw" dipping into the water beneath our feet.

There's a lot of such straws in the area. An estimated 27,000 homes - about 67,500 residents - are served by private water wells in El Paso County. That's about 11 percent of residents; the rest are served by public drinking water systems, from the biggie - Colorado Springs Utilities - to smaller ones such as Donala Water and Sanitation District, Cherokee Metro and the city of Fountain. The public systems draw their water from surface water, groundwater or both.

In eastern El Paso County, where I live, most utilize groundwater - the water that lies beneath the Earth's surface. Our well reaches 870 feet into the Arapahoe Aquifer; it's one of four aquifers that make up the Denver Basin, which stretches from El Paso County to Weld County.

If you're looking for property in the country with plans to dig a well, do your homework first, cautions Mark Birkelo, general manager of Barnhart Pump Co. in Falcon.

"The first phone call you want to make is to a water well contractor," Birkelo said. A company such as Barnhart quickly can check on water quality and quantity in a given area.

"That phone call can save a lot of grief," Birkelo said.

Once a site is chosen, the homeowner must acquire a permit from the state Division of Water Resources. Residential permits include domestic and household use only; the latter means no outside water, so no water for lawns, livestock, etc.

Ready to drill a well? "The cost for drilling and pumping can be considerable," cautions El Paso County's "Code of the West." Expect to pay about \$22 to \$24 a foot for a well 600 feet or deeper, Birkelo said; the cost per foot will be less if under about 600 feet. Barnhart is not a drilling company, but does the oversight for 40 to 50 new wells a year, Birkelo said.

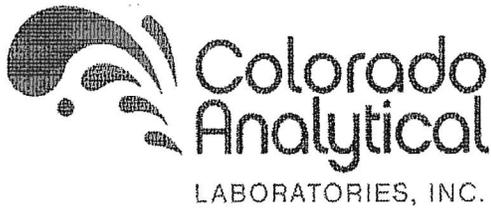
If moving to property with a well, test the water pump's production and the quality of the water, Birkelo advised; for information on water potability testing, visit El Paso County Public Health's website at [elpasocountyhealth.org/service/water-quality](http://elpasocountyhealth.org/service/water-quality).

Quality is one issue; quantity is another. One afternoon I turned on the tap and nothing came out. The immediate paranoid thought: Our well had run dry. But we had simply overtaxed the water pump; after a 10-minute break, water started to flow again. But long-term worry remains. As a water resources report on the county's website notes, "the aquifers found in the Denver Basin are not considered to be a long-range, renewable source of water. The bedrock aquifers are subject to depletion if withdrawals exceed the natural recharge rate, which is very slow, given that the water within these aquifers has accumulated over thousands of years. The negligible rate of natural recharge, the considerable increase in water withdrawal, and the semiarid climate of the region have led to a situation where the amount of withdrawal from the aquifers may be exceeding the amount of recharge."

Birkelo, who has been in the water business in El Paso County for 30 years, believes that rate of replenishment

depends on the area. There are some wells that have a higher water level than they did decades before, he said, even though "there have been more straws put into that glass of water over time." In other areas, he has seen water levels drop.

Bottom line: It's tough to know what's happening deep underground, he says. That's why oil companies "spend millions of dollars trying to see what's down there" and often end up with a hole in the ground and nothing to show for it. "We know more about outer space," Birkelo said, "than we do what's under our own two feet."



**Quotation for Analytical Services**

Quote ID: QBO20090077

**Prepared For:** Monument Valley Engineers - MVE Ci  
1903 Lelaray St

**Quote Date:** Thursday, September 24, 2020  
**Turn Around Time:** 10 Working Days

Colorado Springs, CO 80909

**Attn:** David R Gorman, P.E.

**CAL Task**  
201001048

**Project:**

DEW

Matrix	Description	Method	Qty	Price - each	Total
Water - Drinking	Langelier Index	N/A	1	\$57.00	\$57.00
Water - Drinking	Alkalinity	SM 2320-B	1	Incl.	Incl.
Water - Drinking	Ca as CaCO3	EPA 200.7	1	Incl.	Incl.
Water - Drinking	Carb/ Bicarb	SM 2320-B	1	Incl.	Incl.
Water - Drinking	Lang Index	SM 2330-B	1	Incl.	Incl.
Water - Drinking	pH/ Temp	SM 4500-H-B	1	Incl.	Incl.
Water - Drinking	TDS	SM 2540-C	1	Incl.	Incl.
Water - Drinking	Nitrate/ Nitrite Nitrogen	Calculation	1	\$0.00	\$0.00
Water - Drinking	Fe - Total	EPA 200.7	1	\$12.00	\$12.00
Water - Drinking	Ag - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Al - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	As - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Ba - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Be - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Cd - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Cr - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Hg	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Mn - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Sb - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Se - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Tl - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Zn - Total	EPA 200.8	1	\$15.00	\$15.00
Water - Drinking	Chloride	EPA 300.0	1	\$17.00	\$17.00
Water - Drinking	Nitrate Nitrogen	EPA 300.0	1	\$17.00	\$17.00
Water - Drinking	Nitrite Nitrogen	EPA 300.0	1	\$17.00	\$17.00
Water - Drinking	Sulfate	EPA 300.0	1	\$17.00	\$17.00
Water - Drinking	Fluoride	EPA 300.0	1	\$18.00	\$18.00
Water - Drinking	Total Coliform P/A	SM 9223	1	\$23.00	\$23.00
Water - Drinking	Cyanide-Total	EPA 335.4	1	\$38.00	\$38.00
Water - Drinking	Gross Alpha/Beta (Sub)	SM 7110-B	1	\$56.16	\$56.16
Water - Drinking	Radium 226 (Sub)	SM 7500-Ra B	1	\$75.60	\$75.60



**Quotation for Analytical Services**

Quote ID: QBO20090077

LABORATORIES, INC.

Water - Drinking	Radium 228 (Sub)	EPA Ra-05	1	\$118.80	\$118.80
Shipping	Cooler Shipment - UPS	UPS	1	\$10.00	\$10.00
Shipping	Sample Shipment to Outside Lab	UPS	1	\$30.00	\$30.00

**CAL Task** \_\_\_\_\_  
**201001048** **\$701.56**

**DEW**

Colorado Analytical Laboratory maintains certification by the Colorado Department of Health (CDPHE) and EPA Region 8 for Wyoming and Tribal Public Water Systems to analyze drinking water for organic contaminants (SOC's VOC's), inorganic contaminants (metals), nitrate nitrite, cyanide, fluoride and coliform bacteria.

Sub-Contract analysis pricing subject to change. Sub-Contract radiological analysis turn-around time is 4 to 8 weeks depending on sample matrix.

Billing terms are Net 30 on approved accounts, all other accounts are COD. Additional charges may apply for accelerated turn around.

We appreciate the opportunity to be of service to you. If you have questions please call us at 303-659-2313 or visit us at [www.coloradolab.com](http://www.coloradolab.com)



**Analytical Results**

**TASK NO: 201001048**

**Report To:** David R Gorman, P.E.

**Company:** Monument Valley Engineers - MVE Civil  
1903 Lelaray St  
Colorado Springs CO 80909

**Bill To:** David R Gorman, P.E.

**Company:** Monument Valley Engineers - MVE Ci  
1903 Lelaray St  
Colorado Springs CO 80909

**Task No.:** 201001048  
**Client PO:**  
**Client Project:**

**Date Received:** 10/1/20  
**Date Reported:** 10/9/20  
**Matrix:** Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time	Test	Result	Method	Date Analyzed
201001048-01C	Prarie Ridge	10/1/20 10:15 AM	Total Coliform	<b>Absent</b>	SM 9223	10/2/20
			E-Coli	<b>Absent</b>	SM 9223	10/2/20

**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

**Analytical Results**

**TASK NO: 201001048**

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Colorado Springs CO 80909

**Task No.:** 201001048  
**Client PO:**  
**Client Project:**

**Date Received:** 10/1/20  
**Date Reported:** 10/9/20  
**Matrix:** Water - Drinking

**Customer Sample ID** Prarie Ridge

**Sample Date/Time:** 10/1/20 10:15 AM

**Lab Number:** 201001048-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	48.9 mg/L as CaCO3	SM 2320-B	4	10/2/20	ECM
Calcium as CaCO3	32.3 mg/L	EPA 200.7	0.1	10/6/20	MBN
Carbonate	< 4 mg/L as CaCO3	SM 2320-B	4	10/2/20	ECM
Hydroxide	< 4 mg/L as CaCO3	SM 2320-B	4	10/2/20	ECM
Langelier Index	-1.72 units	SM 2330-B		10/7/20	SAN
pH	6.86 units	SM 4500-H-B	0.01	10/1/20	MBN
Temperature	20 °C	SM 4500-H-B	1	10/1/20	MBN
Total Alkalinity	48.9 mg/L as CaCO3	SM 2320-B	4	10/2/20	ECM
Total Dissolved Solids	120 mg/L	SM 2540-C	5	10/6/20	ISG

**Abbreviations/ References:**

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



DATA APPROVED FOR RELEASE BY

**Analytical Results**

**TASK NO: 201001048**

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Colorado Springs CO 80909

**Bill To:** David R Gorman, P.E.

**Company:** Monument Valley Engineers - MVE Ci  
1903 Lelaray St  
Colorado Springs CO 80909

**Task No.:** 201001048  
**Client PO:**  
**Client Project:**

**Date Received:** 10/1/20  
**Date Reported:** 10/9/20  
**Matrix:** Water - Drinking

**Customer Sample ID** Prarie Ridge  
**Sample Date/Time:** 10/1/20 10:15 AM  
**Lab Number:** 201001048-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Nitrate/ Nitrite Nitrogen	1.67 mg/L	Calculation	0.05 mg/L	10/6/20	MAT	
Chloride	2.0 mg/L	EPA 300.0	0.1 mg/L	10/2/20	MAT	
Fluoride	0.18 mg/L	EPA 300.0	0.09 mg/L	10/2/20	MAT	4
Nitrate Nitrogen	1.67 mg/L	EPA 300.0	0.05 mg/L	10/2/20	MAT	10
Nitrite Nitrogen	< 0.03 mg/L	EPA 300.0	0.03 mg/L	10/2/20	MAT	1
Sulfate	4.5 mg/L	EPA 300.0	0.1 mg/L	10/2/20	MAT	
Cyanide-Total	< 0.005 mg/L	EPA 335.4	0.005 mg/L	10/5/20	CES	0.02
<b>Total</b>						
Iron	< 0.005 mg/L	EPA 200.7	0.005 mg/L	10/6/20	MBN	0.3
Aluminum	0.003 mg/L	EPA 200.8	0.001 mg/L	10/2/20	IPC	0.05
Antimony	< 0.0012 mg/L	EPA 200.8	0.0012 mg/L	10/2/20	IPC	0.006
Arsenic	< 0.0006 mg/L	EPA 200.8	0.0006 mg/L	10/2/20	IPC	0.01
Barium	0.0655 mg/L	EPA 200.8	0.0007 mg/L	10/2/20	IPC	2
Beryllium	0.0001 mg/L	EPA 200.8	0.0001 mg/L	10/2/20	IPC	0.004
Cadmium	< 0.0001 mg/L	EPA 200.8	0.0001 mg/L	10/2/20	IPC	0.005
Chromium	< 0.0015 mg/L	EPA 200.8	0.0015 mg/L	10/2/20	IPC	0.1
Manganese	< 0.0008 mg/L	EPA 200.8	0.0008 mg/L	10/2/20	IPC	0.05
Mercury	< 0.0000 mg/L	EPA 200.8	0.0000 mg/L	10/6/20	MLT	0.002
Selenium	0.0012 mg/L	EPA 200.8	0.0008 mg/L	10/2/20	IPC	0.05

**Abbreviations/ References:**

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



DATA APPROVED FOR RELEASE BY

**Analytical Results**

**TASK NO: 201001048**

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Colorado Springs CO 80909

**Bill To:** David R Gorman, P.E.

**Company:** Monument Valley Engineers - MVE Ci  
1903 Lelaray St  
Colorado Springs CO 80909

**Task No.:** 201001048  
**Client PO:**  
**Client Project:**

**Date Received:** 10/1/20  
**Date Reported:** 10/9/20  
**Matrix:** Water - Drinking

**Customer Sample ID** Prarie Ridge  
**Sample Date/Time:** 10/1/20 10:15 AM  
**Lab Number:** 201001048-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
<i>Total</i>						
Silver	< 0.0005 mg/L	EPA 200.8	0.0005 mg/L	10/2/20	IPC	
Thallium	< 0.0002 mg/L	EPA 200.8	0.0002 mg/L	10/2/20	IPC	0.002
Zinc	0.006 mg/L	EPA 200.8	0.001 mg/L	10/2/20	IPC	5

**Abbreviations/ References:**

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



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

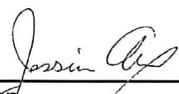
Lab Control ID: 20M02854  
Received: Oct 05, 2020  
Reported: Nov 17, 2020  
Purchase Order No.  
None Received

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 Axer  
Analytical Laboratories Director



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

Lab Control ID: 20M02854

Received: Oct 05, 2020

Reported: Nov 17, 2020

Purchase Order No.

None Received

Customer ID: 20040H

Account ID: Z01034

**ANALYTICAL REPORT**

Stuart Nielson  
 Colorado Analytical Laboratories, Inc.

<b>Lab Sample ID</b>			20M02854-001					
<b>Customer Sample ID</b>			201001059-01 - Prarie Ridge sampled on 10/01/20 @ 1015					
<b>Parameter</b>	<b>Units</b>	<b>Code</b>	<b>Result</b>	<b>Precision* +/-</b>	<b>Detection Limit</b>	<b>Method</b>	<b>Analysis Date / Time</b>	<b>Analyst</b>
Gross Alpha	pCi/L	T	2.1	1.9	0.1	SM 7110 B	10/7/20 @ 0852	KT
Gross Beta	pCi/L	T	6.1	2.4	3.8	SM 7110 B	10/7/20 @ 0852	KT
Radium-226	pCi/L	T	NR	-	-	SM 7500-Ra B	-	-
Radium-228	pCi/L	T	NR	-	-	EPA Ra-05	-	-

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

Certification ID's: CO/EPA CO00008; CT PH-0152; KS E-10265; MI 9070; NJ CO008;  
 NYSELAP (NELAC Certified) 11417; RI LAO00284; WI 998376610, TX T104704256-15-6

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

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



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

Lab Control ID: 20M02854  
 Received: Oct 05, 2020  
 Reported: Nov 17, 2020  
 Purchase Order No.  
 None Received

Customer ID: 20040H  
 Account ID: Z01034

**ANALYTICAL REPORT**

Stuart Nielson  
 Colorado Analytical Laboratories, Inc.

<b>Lab Sample ID</b>			20M02854-002					
<b>Customer Sample ID</b>			201001059-01A - Prarie Ridge sampled on 10/01/20 @ 1015					
<b>Parameter</b>	<b>Units</b>	<b>Code</b>	<b>Result</b>	<b>Precision* +/-</b>	<b>Detection Limit</b>	<b>Method</b>	<b>Analysis Date / Time</b>	<b>Analyst</b>
Gross Alpha	pCi/L	T	NR	-	-	SM 7110 B	-	-
Gross Beta	pCi/L	T	NR	-	-	SM 7110 B	-	-
Radium-226	pCi/L	T	0.9	0.3	0.1	SM 7500-Ra B	11/6/20 @ 0938	AS
Radium-228	pCi/L	T	3.5	1.0	0.3	EPA Ra-05	10/19/20 @ 1158	JR

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

Certification ID's: CO/EPA CO00008; CT PH-0152; KS E-10265; MI 9070; NJ CO008;  
 NYSELAP (NELAC Certified) 11417; RI LAO00284; WI 998376610, TX T104704256-15-6

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

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

**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\*

$$\text{Calculation: } \frac{(59.2) (1.000) - (0.4) (0.200)}{57.4} \times 100 = 103\%$$

Batch QC Evaluation:

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

\* Required for batch size greater than 10 samples.

Conclusions:

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

Reruns Required: \_\_\_\_\_

Narrative:

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

Batch Listing by Lab Control Number:

<u>20M02829</u>	<u>20M02865</u>
<u>20M02835</u>	<u>20M02867</u>
<u>20M02854</u>	<u>20M02742</u>
<u>20M02855</u>	<u>20M02743</u>
<u>20M02859</u>	<u>20M02772</u>
<u>20M02860</u>	<u>20M02825</u>
<u>20M02861</u>	_____
<u>20M02862</u>	_____
<u>20M02863</u>	_____
<u>20M02864</u>	_____

Evaluator:

*Glynn Rockwell* \_\_\_\_\_

10/12/2020

Date

**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\*

$$\text{Calculation: } \frac{(38.3) (1.000) - (0.0) (0.200)}{44} \times 100 = 87\%$$

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:

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

Reruns Required: \_\_\_\_\_

Narrative:

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

Batch Listing by Lab Control Number:

<u>20M02829</u>	<u>20M02865</u>
<u>20M02835</u>	<u>20M02867</u>
<u>20M02854</u>	<u>20M02742</u>
<u>20M02855</u>	<u>20M02743</u>
<u>20M02859</u>	<u>20M02772</u>
<u>20M02860</u>	<u>20M02825</u>
<u>20M02861</u>	_____
<u>20M02862</u>	_____
<u>20M02863</u>	_____
<u>20M02864</u>	_____

Evaluator:

*Gynnes Rockwell* \_\_\_\_\_

10/12/2020

Date

**Batch QC Summary Form**

Analyte: Radium-226

Control Standard/LFB: ID: NBL-6A pCi/mL: 23 (use 2 diluted)

Spike Solution: ID: NBL-6A pCi/mL: 23 (use 2 mL)

Spike Recovery Calculation: Sample: 20M02807-002c

$$\text{Calculation: } \frac{(46.9) (0.970) - (0.1) (0.950)}{46} \times 100 = 99\%$$

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:

20M02807 \_\_\_\_\_  
20M02829 \_\_\_\_\_  
20M02835 \_\_\_\_\_  
20M02841 \_\_\_\_\_  
20M02842 \_\_\_\_\_  
20M02854 \_\_\_\_\_  
20M02855 \_\_\_\_\_  
20M02856 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Evaluator:  
*Glynn Rockwell* \_\_\_\_\_

11/16/2020  
 \_\_\_\_\_  
 Date

**Batch QC Summary Form**

Analyte: Radium-228

Control Standard/LFB: ID: NBL-7A pCi/mL: 13.2 (use 10 diluted)

Spike Solution: ID: NBL-7A pCi/mL: 13.2 (use 10 mL)

Spike Recovery Calculation: Sample: 20M02871-001e

$$\text{Calculation: } \frac{(140.5) (1.000) - (1.7) (1.000)}{132} \times 100 = 105\%$$

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:

20M02783 \_\_\_\_\_  
20M02784 \_\_\_\_\_  
20M02807 \_\_\_\_\_  
20M02829 \_\_\_\_\_  
20M02835 \_\_\_\_\_  
20M02854 \_\_\_\_\_  
20M02855 \_\_\_\_\_  
20M02871 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Evaluator:  
 Lynnea Rockwell \_\_\_\_\_

10/22/2020  
 \_\_\_\_\_  
 Date

Sub-Lab Chain of Custody Form

20 mo?

<b>Report To Information</b> Company Name: <u>Colorado Analytical Laboratory</u> Report To: <u>Stuart Nielson</u> E-Mail: <u>stuartnielson@coloradolab.com</u>	<b>Bill To Information (If different from report to)</b>	<b>Project Name</b> -
<b>Address:</b> <u>10411 Heinz Way</u> <u>Commerce City, CO 80640</u>  Phone: <u>303-659-2313</u>	<b>Address:</b>	<b>Compliance Samples:</b> Submit Data to CDPHE:

Tests Requested

Sample Date/Time	Sample ID	Matrix	Radium 226 (Sub)	Gross Alpha/Beta (Sub)	Radium 228 (Sub)
10/1/20 10:15 AM	201001059-01 - Prarie Ridge	Water - Drinking			
10/1/20 10:15 AM	201001059-01A - Prarie Ridge	Water - Drinking			

Comment:

Relinquished by: (Signature) <i>[Signature]</i>	Date: Time: 10/2/20 1000	Received by: (Signature) <i>[Signature]</i>	Date: Time: 10/2/20 1442	Relinquished by: (Signature)	Date: Time:	Received by: (Signature)
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FedEx  
9128 4931 7369

Rec'd pres  
JK  
10/2/20