

MCGEHEE Minor Subdivision

WATER QUALITY REPORT

**For
McGehee Minor
Subdivision - Mountain
Shadows Vacate and Replat**

June 28, 2021

Prepared By:



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

Executive Summary:

Water Quality Report – Mountain Shadows Vacate and Replat

Chris D. Cummins of Monson, Cummins & Shohet, LLC, on behalf of the Applicant, Dale D. and Stephanie B. McGehee, (“Owner”), provides the following Water Quality Report in support of the McGehee Minor Subdivision-Mountain Shadows Vacate and Replat. The undersigned has been practicing water law almost exclusively, for over 18 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 McGehee Minor Subdivision/Replat (the “Subdivision/replat”), near Black Forest in El Paso County, Colorado.

The Property consists of approximately 10.5 acres located at the current street address of 16860 Thompson Rd, Colorado Springs, CO 80908, in the SW¼ of Section 19, Township 11 South, Range 65 West of the 6th P.M Each of the 2 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 minor subdivision/replat includes two residential lots. The proposed minor subdivision/replat is currently unimproved land, and includes two residential lots each being approximately 5.2 acres in size.

The water resources to be utilized on the residential lots in the Subdivision/replat is typical of rural residential development in areas east of the Black Forest in El Paso County, Colorado. The decree issued by Water Court, Water Division 1 in Case No. 17CW3054 on August 9, 2017, 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(b)(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 McGehee minor subdivision/replat, as proposed.

1.1 New Development Description: The Subdivision/replat consists of approximately 10.5 acres located at 16860 Thompson Rd, Colorado Springs, CO 80908, in the SW¼ of Section 19, Township 11 South, Range 65 West of the 6th P.M. The Property will be subdivided/replatted into two lots. **Exhibit A**, attached hereto, is the plan for the Subdivision/replat as proposed, prepared by Land Development Consultants, Inc., including an area/vicinity map, attached as **Exhibit B**.

II. PROJECTION OF WATER NEEDS

2.1 Analysis of Water Demands: It is expected that the two residential lots in the Subdivision/replat, will utilize one well drilled to the Dawson aquifer, to be utilized for domestic-type uses, including in-house, landscape/irrigation of lawn and gardens, watering of domestic animals and stock, commercial uses, home office use, and hot tub/and or swimming pool purposes from one individual well existing on the Property. An existing non-exempt well with Permit No. 81469-F will provide water supply to the lots. It is anticipated that the lots will each utilize 0.41 acre-feet annually, and the residences on both lots will each utilize 0.26 acre-feet annually, for a maximum total of 0.52 annual acre feet of water for in-house residential purposes. The existing well, permitted under Permit No. 81469-F, is constructed to and will produce from the not-nontributary Dawson aquifer at a flow rate of 10 to 15 gallons per minute. There are no other wells currently constructed on the property. 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 RIGHTS QUALITY

3.1 Water Rights: An Augmentation Plan for utilizing the underlying Dawson aquifer was decreed by Water Court, Division 1 on August 9, 2017, attached as **Exhibit C**, 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 an existing not-nontributary Dawson aquifer formation well. Consistent with El Paso County Land Development Code Section 8.4.7(B)(3)(c)(v), a minor subdivision/replat 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 D**. While no power has yet been ran to the existing well on the property, an existing neighboring well was sampled, and Owner has obtained new water quality testing from such well with Permit No. 226563. The Subdivision/replat will utilize a well pumping from a confined bedrock aquifer. As such, the Applicant believes that additional testing required for wells withdrawing from an unconfined bedrock aquifer does not need to include the Volatile Organic Chemical Contaminants and Synthetic Organic Chemical Contaminants described in LDC §8.4.7(B)(10)(a). Regardless, so as to ensure compliance with the Land Development Code in 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. Such samples were collected pursuant to explicit instructions provided by Owner’s Colorado-certified testing laboratory, SGS North America Inc. (“SGS”), 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 SGS were obtained from the Dawson aquifer at an existing well neighboring the project site and within ½ mile of the site (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 E**. 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/replat of the subject property into approximately 5-acre parcels is typical of the region, as is the proposed water source. Potential contaminates would be non-compliant or poorly located septic systems (which will not be permitted within the subdivision/replat), 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 28th day of June, 2021.

MONSON, CUMMINS & SHOHET, LLC

/s/ Chris D. Cummins

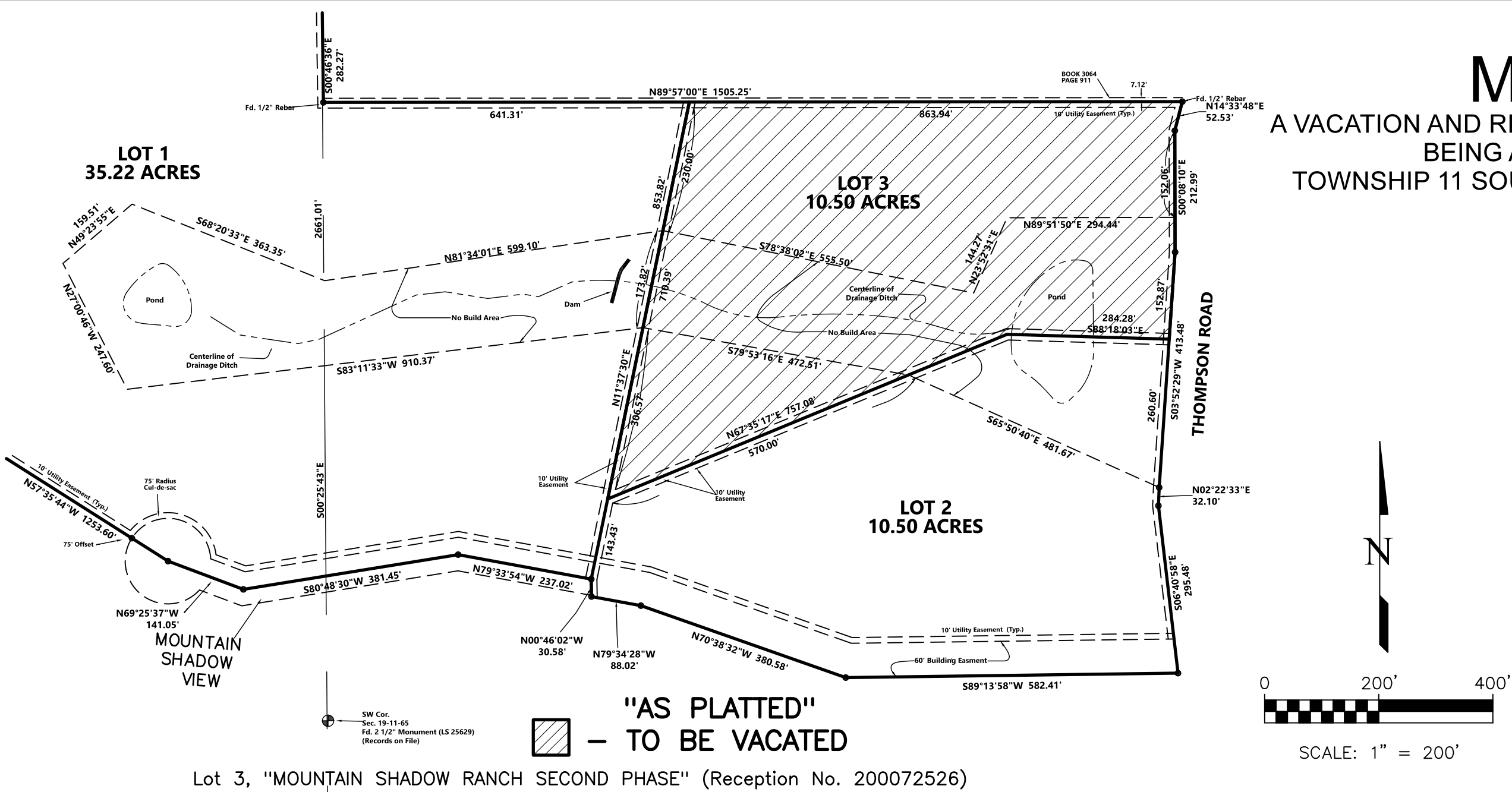
Chris D. Cummins

Exhibits:

- A – Final Plat of the Property
- B – Location of the Well
- C- 17CW3054 Decree
- D – Gazette article
- E – Well Testing Results

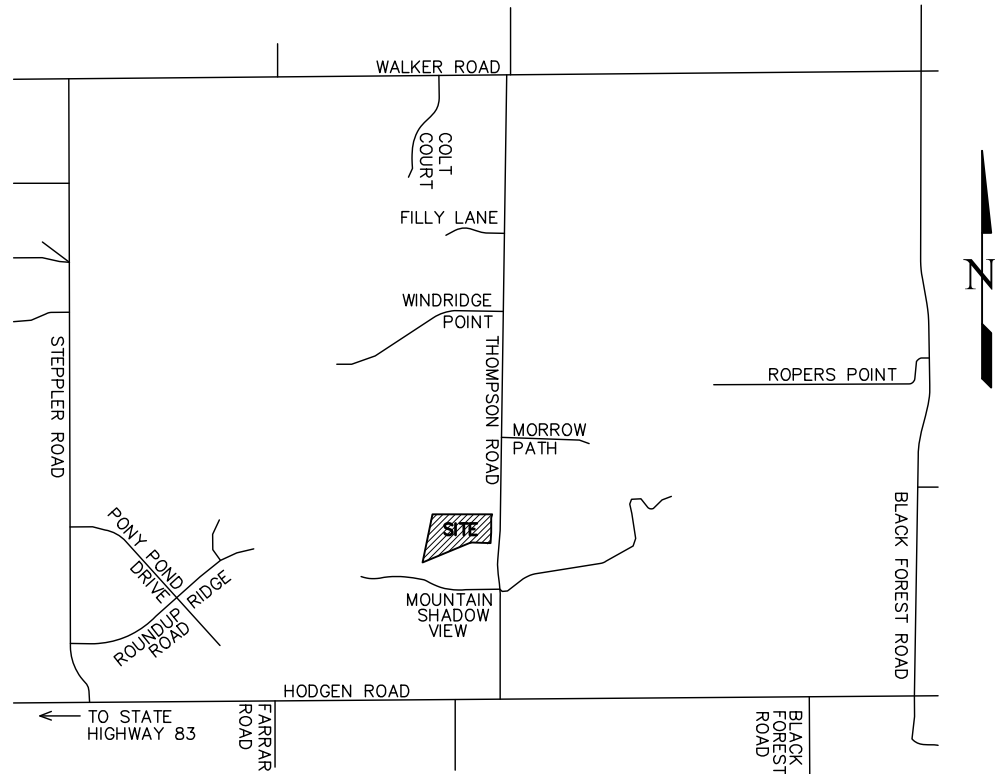
MCGEHEE SUBDIVISION

A VACATION AND RESUBDIVISION OF LOT 3, "MOUNTAIN SHADOW RANCH SECOND PHASE",
BEING A PORTION OF THE SOUTHWEST QUARTER OF SECTION 19,
TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO



NOTES:

- - Indicates survey monument set with a #4 rebar with Surveyor's Cap, PLS No. 20681.
 - - Indicates survey monument found as noted.
 - * - Indicates not a part of this Resubdivision Plat.
 - 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 EMPIRE TITLE OF COLORADO SPRINGS, LLC on behalf of STEWART TITLE GUARANTY COMPANY, File No. 80972ECS dated January 11, 2021 at 7:30 a.m.
 - The approval of this Resubdivision Plat vacates all prior plats for the area described by this resubdivision plat.
 - The El Paso County Planning and Community Development Director must be contacted prior to the establishment of any new driveway. Access to and from Lot 1 and Lot 2 is planned via a common private access drive (single driveway cut) per Easement Agreement created and recorded by separate document.
 - Utility services for this Resubdivision are to be provided by, but not limited to, the following entities: Electric service by MOUNTAIN VIEW ELECTRIC ASSOCIATION, INC.; natural gas service by individual lot propane tank; water and wastewater service to be provided by an individual well for both lots and an individual on-site wastewater treatment system for each lot.
 - Basis of Bearings: All bearings are based on the Northerly line of this Resubdivision, monumented as shown and assumed to bear N89°57'00"E, a distance of 863.94 feet.
 - Unless otherwise indicated, all side, front and rear lot lines are hereby platted on either side with a ten (10) foot public utility and drainage easement. All exterior subdivision boundaries are hereby platted with a twenty (20) foot 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.
 - FEDERAL EMERGENCY MANAGEMENT AGENCY, Flood Insurance Rate Map Numbers 08041C0305 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).
 - 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. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.
 - The following reports have been submitted and are on file at the El Paso County Planning and Community Development Department: Drainage Report, Water Resources Report, Water Quality Report, Soils Geology Geologic Hazard Study and OWTS Wastewater Study.
 - Mailboxes shall be installed in accordance with all El Paso County Department of Transportation and United States Postal Service regulations.
 - Property within this subdivision is subject to the terms and provisions of the El Paso County Road Impact Fee Program (Resolution 16-454) and any subsequent amendments. Fees for each lot within this subdivision shall be paid in full at the time of building permit issuance.
 - Each individual property owner is responsible for the construction and operation of a non-evaporative wastewater disposal system approved by the El Paso County Health Department. The Health Department may require a specifically designed or "engineered" system system prior to permit approval. Engineered systems may cost more to design, install and maintain than systems which are not engineered.
 - The individual well in the Dawson aquifer will be the shared responsibility of the lot owners. At such time that additional wells may be drilled, the individual wells in the Dawson aquifer will then be the responsibility of each individual lot owner. Permits for such wells must be obtained from the Colorado Division of Water Resources. Ground water rights and an associated augmentation plan associated with the subdivision were decreed in Case No. 17CW3054, Water Division 1 (as consolidated with Case No. 17CW3015, Water Division 2).
- The plan for augmentation was designed to allow pumping of 0.82 acre foot annually from one Dawson aquifer well in the subdivision. Applicant, it successors and assigns at the time of lot sales, shall transfer rights to underlying ground water and well rights to the initial purchaser of each lot in an amount at least sufficient to satisfy the 300 year water supply requirement of El Paso County for two lots, or 123 acre feet from the Dawson aquifer and 126 acre feet from the Laramie-Fox Hills aquifer, as well as an undivided interest in the plan for augmentation and right to use the Dawson aquifer well for water supply. This provision is included only to be consistent with the provisions of the augmentation plan, and does not imply the future approval by El Paso County of further subdivision of either of the two lots. Such conveyance may be accomplished either by separate quit claim deed, by other appropriate deed of the water rights associated with the lot, or by specifically identifying and transferring the water rights in the warranty deed which transfers the real property to the individual lot purchaser.
- Water in the Denver Basin aquifers is allocated based on a 100 year aquifer life. However, for El Paso County planning purposes, water in the Denver Basin aquifers is evaluated based on a 300 year aquifer life. Applicant, and all future owners of lots in the subdivision, should be aware that the economic life of a water supply in the Dawson aquifer may be less than either 100 years or 300 years indicated due to anticipated water level declines.
- Fire protection to be provided by Black Forest Fire/Rescue Protection District.
 - 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/or the U.S. Fish and Wildlife Service regarding the Endangered Species Act, particularly as it relates to the listed species, if applicable.



VICINITY MAP
NO SCALE

SURVEYOR'S CERTIFICATION:

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

I attest the above on this ____ day of _____, 20____.

David V. Hostetler
Colorado Professional Land Surveyor No. 20681

PRELIMINARY COPY
SUBJECT TO FINAL
COUNTY APPROVAL

BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

This plat for MCGEHEE SUBDIVISION was approved for filing by the El Paso County, Colorado

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

President, Board of County Commissioners

Date

COUNTY APPROVAL:

Approval is granted this ____ day of _____, 20____ A.D.

Planning and Community Development Director

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.

Chuck Broerman, Recorder

SURCHARGE: _____ BY: _____ Deputy

FEE: _____

FEES:

Park Fee: _____ Drainage Fee: _____

School Fee: _____ Bridge Fee: _____

BE IT KNOWN BY THESE PRESENTS:

That Dale D. and Stephanie B. McGehee, being the owners of the following described tract of land to wit:

A portion of the Southwest Quarter of Section 19, Township 11 South, Range 65 West of the 6th P.M., situate in El Paso County, Colorado, described as follows:

Lot 3, MOUNTAIN SHADOW RANCH SECOND PHASE (Reception No. 200072526, El Paso County, Colorado records);

Containing 10.495 acres, more or less.

DEDICATION:

The above owners have caused said tract of land to be surveyed, vacated and resubdivided into lots 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 of land and the locations of said lots and easements. Said lot, as resubdivided, shall be known as MCGEHEE SUBDIVISION, El Paso County, Colorado.

IN WITNESS WHEREOF:

The aforementioned, Dale D. and Stephanie B. McGehee, have executed this

instrument this ____ day of _____, 20____ A.D.

Dale D. McGehee

Stephanie B. McGehee

NOTARIAL:

STATE OF COLORADO }
COUNTY OF EL PASO }

The above and aforementioned was acknowledged before me this ____

day of _____, 20____ A.D., by Dale D. and Stephanie B. McGehee.

Witness my hand and seal

Notary Public

My commission expires _____

According to Colorado law, legal action based upon any defect in this survey must be commenced within the first three years after the date of recording. In no event, may any defect in this survey be the basis for legal action more than ten years from the date of the certification shown hereon.

CALL BEFORE YOU DIG ...

811
DIAL 811

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

No.	Description	By	Date

H Scale:	VARIES
V Scale:	N/A
Designed By:	N/A
Drawn By:	BRH
Checked By:	DWH
Date:	10/21/20



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

FINAL PLAT
MCGEHEE SUBDIVISION

Project No.: 20018

Sheet: 1 of 1



SEPTIC TANK
1500 GALLON CAPACITY
W/ EFFLUENT FILTER

*DISTRIBUTION BOX
(*RECOMMEND INSULATING AROUND
PERIMETER OF D-BOX W/ 2" FOAM BOARD
FOR ADDITIONAL FROST PROTECTION)

*DISTRIBUTION BOX

*DISTRIBUTION BOX

**CONFIRM WELL LOCATION
GREATER THAN 100' FROM
STA**

SOIL TREATMENT AREA (STA)
10 ROWS;
187 CHAMBERS (ARC 36)

STA DESIGNED
FOR 5 BEDROOMS

863.94' N89d57°00"E

PROPOSED
RESIDENCE

DRIVEWAY

SLOPE
↓

POND

Thompson Road

COLVERT AS N

***OPERATION AND SYSTEM MAINTENANCE**
HOMEOWNERS ARE RESPONSIBLE FOR EDUCATING THEMSELVES ABOUT THE COMPONENTS AND OPERATION OF THE ONSITE WASTEWATER TREATMENT SYSTEM (OWTS) TO ENSURE THAT THE SYSTEM FUNCTIONS PROPERLY. REGULAR INSPECTIONS & MAINTENANCE PROCEDURES ARE IMPORTANT TO THE PERFORMANCE & LIFESPAN OF THE OWTS. ANNUAL INSPECTIONS OF THE OWTS BY A CERTIFIED INSPECTOR ARE RECOMMENDED TO INSURE THE SYSTEM CONTINUES TO FUNCTION AS INTENDED AND TO DETERMINE WHEN THE SEPTIC TANK SHOULD BE PUMPED. ADDITIONAL INFORMATION CAN BE FOUND AT THE EL PASO COUNTY PUBLIC HEALTH WEBSITE OR YOUR LOCAL COUNTY HEALTH JURISDICTION.

- PLAN NOTES:
1. MINIMUM HORIZONTAL DISTANCE BETWEEN SPRING WELL AND STA TO BE 100 FT.
 2. MINIMUM HORIZONTAL DISTANCE BETWEEN SPRING WELL AND SEPTIC TANK TO BE 50 FT.

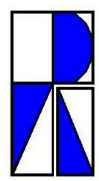
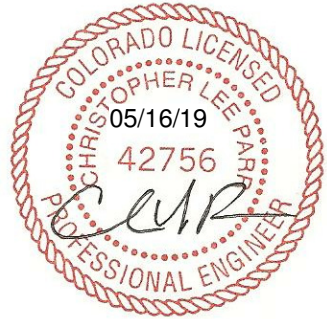
- FROM HOUSE TO SEPTIC TANK:
1. PROVIDE SCHEDULE 40 PIPE WITH CLEANOUT WITHIN 5 FT OF HOUSE.
 2. SEPTIC TANK TO BE NO DEEPER THAN 48" BELOW GRADE AND SHALL INCLUDE A RISER TO GRADE (WATER TIGHT) WITH SECURE LID.
 3. SEPTIC TANK MUST INCLUDE EFFLUENT SCREEN.

- FROM SEPTIC TANK TO STA:
1. PROVIDE SCHEDULE 40 PIPE FROM SEPTIC TANK TO STA.
 2. PROVIDE DISTRIBUTION BOX W/ RISER TO GRADE AT STA INLET.
 3. PROVIDE INSPECTION PORTS AT END OF EACH TRENCH

****LIMITATIONS: THIS DESIGN IS BASED ON INFORMATION AVAILABLE AT THE TIME OF THE PROFILE EVALUATION. THE SPECIFICATIONS PROVIDED HEREIN MUST BE COORDINATED & VERIFIED WITH FINAL SITE & HOME CONSTRUCTION CONDITIONS. (I.E., FINAL ELEVATIONS, LOCATION, LAYOUT & ORIENTATION OF STRUCTURES, ETC). DESIGN CHANGES MAY BE NECESSARY BASED ON FINAL CONDITIONS. IF ANY LIMITATIONS ARE ENCOUNTERED BETWEEN THIS DESIGN AND ACTUAL SITE CONDITIONS, PARR ENGINEERING & CONSULTING, INC. MUST BE NOTIFIED TO RE-EVALUATE THIS DESIGN ACCORDINGLY. PARR ENGINEERING & CONSULTING, INC SHALL NOT BE HELD LIABLE FOR DESIGN CHANGES & ADDITIONS WHICH ARE NECESSARY DUE TO UNFORSEEN CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION****

*****SPECIAL NOTE TO GENERAL CONTRACTOR & INSTALLER: AN EJECTOR PUMP MAY BE NECESSARY IF GRAVITY DISTRIBUTION CANNOT BE ACHIEVED BASED ON FINAL PLUMBING AT GRADING CONDITIONS**

1 Site Map
1" = 100'-0"



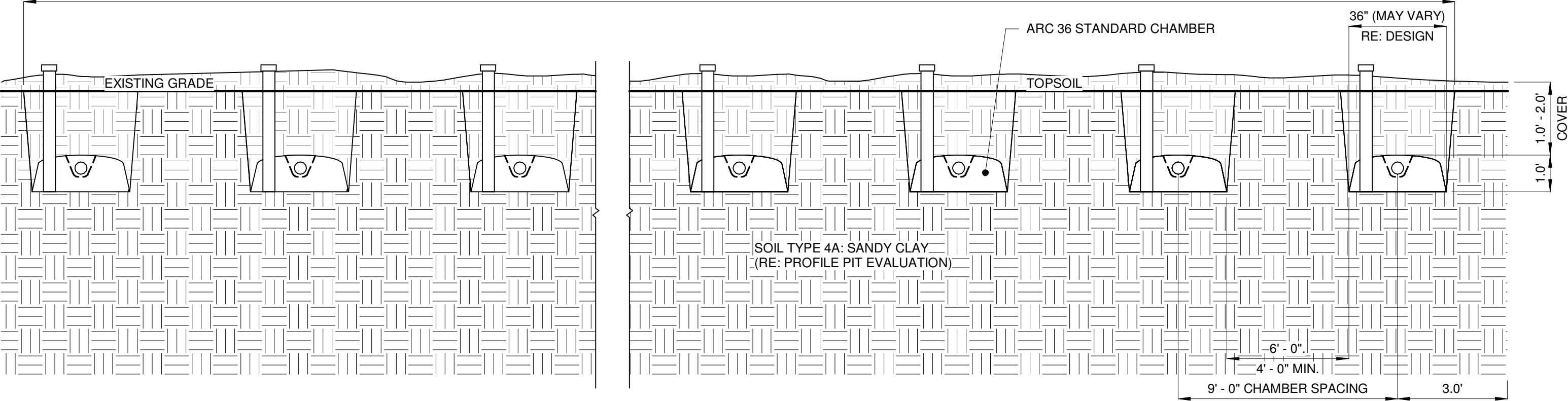
Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

16860 THOMPSON ROAD, 80908

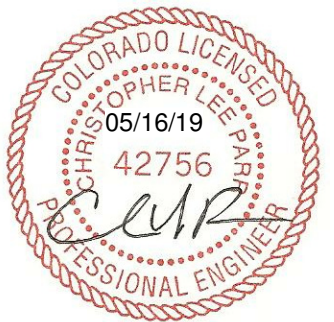
Site Map

Project number	19.144	C1 OF 3
Date	05/16/19	
Drawn by	C.PARR	
Checked by	C.PARR	
		Scale As indicated

10-ROW CHAMBER & TRENCH SYSTEM (NUMBER OF ROWS MAY VARY, RE: DESIGN)



1 Infiltrator Trench Bed - Level (10-Rows)
3/8" = 1'-0"



Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

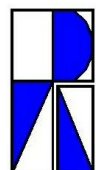
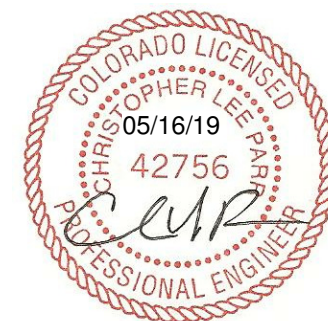
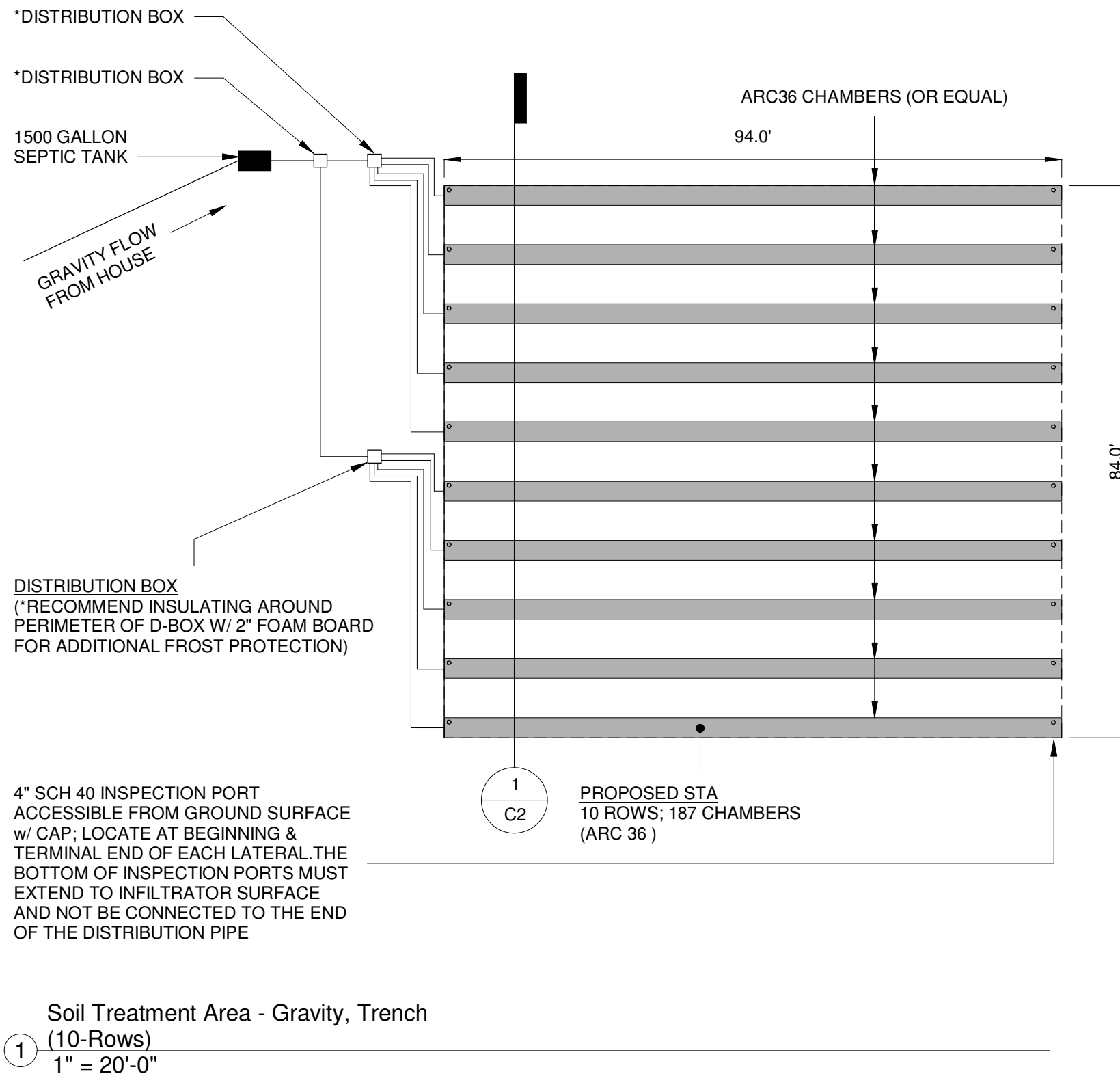
16860 THOMPSON ROAD, 80908

STA Section

Project number 19.144
Date 05/16/19
Drawn by C.PARR
Checked by C.PARR

C2 OF 3

Scale 3/8" = 1'-0"



Parr Engineering & Consulting, Inc.
11590 Black Forest Road, Suite 10
Colorado Springs, Colorado 80908
Phone: 719-494-0404

16860 THOMPSON ROAD, 80908

STA General Layout

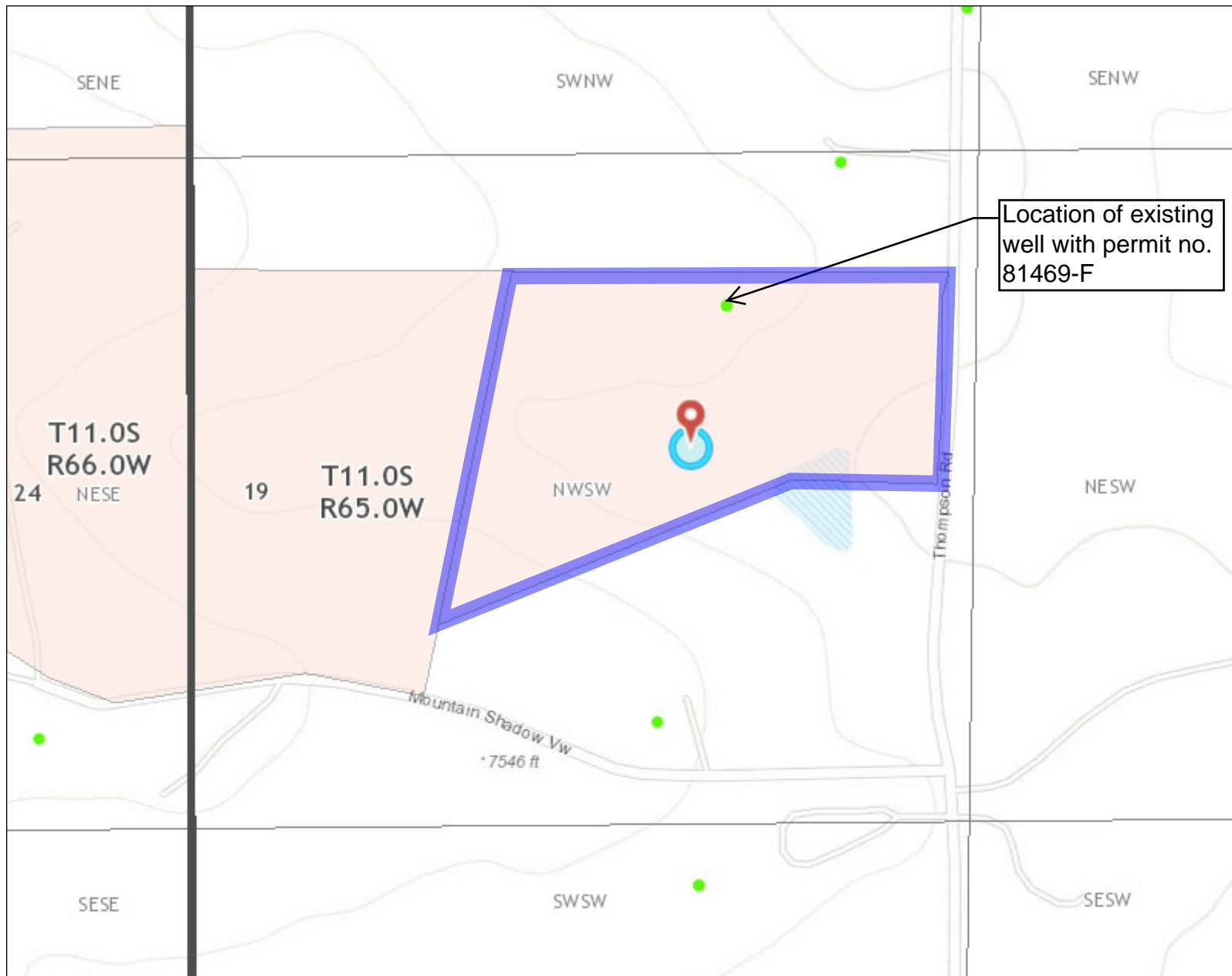
Project number 19.144
Date 05/16/19
Drawn by C.PARR
Checked by C.PARR

C3 OF 3

Scale 1" = 20'-0"



McGehee Minor Subdivision Location



Legend

- Well Constructed
- Township
- Section
- Q40
- County
- Decreed - Denver (TKD)
- Decreed - Laramie-Fox Hills (K)
- Decreed - Lower Arapahoe (L)
- Decreed - Lower Dawson (LTC)
- Decreed - Unnamed
- Decreed - Upper Arapahoe (UI)
- Decreed - Upper Dawson (UTI)

Location



Notes

585 0 292 585 Feet

1: 3,508



This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Date Prepared: 9/15/2020 1:29:22 PM

DISTRICT COURT, WATER DIVISION 1 WELD COUNTY, COLORADO Weld County Courthouse, 901 9 th Ave., P.O. Box 2038, Greeley, Colorado 80632	DATE FILED: August 31, 2017 10:16 AM CASE NUMBER: 2017CW3054
Concerning the Application for Water Rights of: DALE D. MCGEHEE AND STEPHANIE B. MCGEHEE In EL PASO COUNTY	<p style="text-align: center;">▲ COURT USE ONLY ▲</p> Consolidated Case Nos. 17CW3054 (Div. 1) and 17CW3015 (Div. 2)
FINDINGS OF FACT, CONCLUSIONS OF LAW, JUDGMENT AND DECREE	

The Court, having reviewed the application, the State Engineer's Determinations of Facts dated May 8, 2017, the Division Engineer's Summary of Consultation dated June 30, 2017, the Applicants' Response thereto dated July 15, 2017, and the other pleadings in this case, hereby enters the following Findings of Fact, Conclusions of Law, Judgment and Decree.

FINDINGS OF FACT

I. Basic information.

1. The applicants 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, are Dale D. McGehee and Stephanie B. McGehee, 10958 Mt. Evans Road, Falcon, CO 80831, e-mail dalemcgehee@comcast.net; phone 719.749.7327.
2. The application in this case was filed on March 31, 2017, in Water Divisions 1 and 2.
3. The application was 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. Proof of publication has been filed.
4. No 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 Applicants' Motion, on June 29, 2017, the Chief Justice of the Colorado Supreme Court consolidated the Water Division 1 and Water Division 2 applications in Water Division 1 in Greeley. Also pursuant to Applicants' Motion, on July 6, 2017, the water judge referred the consolidated cases to the water referee.
6. The Court has reviewed the State Engineer's Determinations of Facts and the Division Engineer's Consultation Report of the Division Engineer, as well as the Applicants' Response thereto which was filed on July 18, 2017. The decree entered herein is consistent with those documents.

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

II. Denver Basin Water Rights.

8. The property beneath which the water is sought to be adjudicated is described as “Lot 3 Mountain Shadows Ranch Second Phase,” a 10.5 acre parcel of land located in the SW1/4 Section 19, T. 11 S., R. 65 W., 6th P.M. The street address is 16860 Thompson Road, Colorado Springs, CO 80908. A map showing the location of the Property is attached as Figure 1.

9. Applicants have not conveyed or otherwise transferred their inchoate right to appropriate the water in the Denver Basin aquifers underlying the Property.

10. There are no liens of record against the Property; thus, the notification requirements of C.R.S. §37-92-302(2)(b) are not applicable.

11. The State Engineer’s Determinations of Facts indicate that the amounts of water underlying the Property which are available for appropriation and may be adjudicated herein are as set forth on Table I:

Table I

Aquifer	Acreage	Specific Yield	Saturated Thickness (ft)	Total Amount (AF)	Annual Amount (AF) ¹
Dawson	10.5	.20	490	1,029	10.3
Denver	10.5	.17	510 ²	910	9.1
Arapahoe	10.5	.17	240	428	4.3
L-Fox Hills	10.5	.15	200	315	3.2

12. The estimated depths and tributary status of the four aquifers beneath the Property are shown on Table II:

¹ This amount is based on annual withdrawals of one percent of the total amount appropriated, as provided in C.R.S. §37-90-137(4)(b). The plan for augmentation decreed herein provides that some of the water in the Dawson and Denver aquifers must be withdrawn at a lower rate.

² This amount includes 253 acre feet which the State Engineer had allocated to permit no. 257593, which has not been constructed. Applicants will allow that permit to expire without constructing the well. Any future well constructed into the Denver aquifer shall be permitted pursuant to C.R.S. 37-90-137(4). In addition no new exempt wells approved pursuant to C.R.S. 37-92-602 will be allowed pursuant to the water supply plan for the subdivision of August 18, 1999 since the Denver aquifer water is decreed and reserved to replace the post pumping augmentation requirements.

Table II

Aquifer	Depth below surface	tributary status
Dawson	near surface to 1,060 feet	not nontributary
Denver	1,075 feet to 1,935 feet	nontributary
Arapahoe	1,970 feet to 2,475 feet	nontributary
Laramie-Fox Hills	2,830 feet to 3,115 feet	nontributary

13. Subject to the limitations in this decree, Applicants may withdraw water from one well in each of the Dawson, Denver, Arapahoe and Laramie-Fox Hills aquifers, plus any additional wells required in order for Applicants to withdraw the full decreed amounts. Such wells may be constructed at any location on the Property, subject to the provisions of C.R.S. §37-90-137(4); provided, however, that no wells may be located within 100 feet of the Property boundary.

14. Subject to the terms, conditions and limitations of this decree, and the issuance by the State Engineer of a well permit that authorizes the specific use or uses, the water rights adjudicated herein may be used for all beneficial uses except municipal uses.

III. Plan for Augmentation.

15. Applicants seek the right to divert 0.82 acre foot (267,198 gallons) annually for 300 years from the Dawson aquifer through one well on the Property, and any supplemental or replacement wells. The water may be used for indoor residential uses and a guest cottage, commercial uses, livestock water, home office use, irrigation, hot tub and /or swimming pool purposes, and augmentation of depletions in this plan for augmentation through return flows from a non-evaporative septic system.

16. The State Engineer has issued an informal guideline estimating that conservatively, water use in single family dwellings will equal at least 0.2 acre feet of water annually for indoor uses, and that use of non-evaporative septic systems results in consumption of not more than 10 percent of such use, resulting in return flows of at least 0.18 acre foot annually. Because various components of this plan for augmentation are predicated on these estimations, Applicants are required to use a non-evaporative septic system to treat and dispose of water used for indoor residential uses.

17. Replacement of depletions during pumping. Applicants shall replace all depletions caused during pumping of the Dawson aquifer water. Based on constant annual pumping of 0.82 acre feet over a 300 year pumping period, combined depletions to the Arkansas and South Platte River systems will gradually increase to a maximum of approximately 21.95 percent of annual pumping, or 0.18 acre feet annually, in the 300th year. Applicants' septic system return flows will be used to replace depletions during the projected 300 year pumping period. As indicated in paragraph 16, septic system return flows are assumed to equal at least 0.18 acre feet annually, so they will equal or exceed the greatest amount of annual depletions that are projected to occur during the projected 300 year pumping period. Because septic system return flows alone are adequate to replace stream depletions, if the remaining 0.62 acre feet of the 0.82 acre feet of

allowable annual pumping is used and re-used to extinction, at any location and for any purpose, its consumption will not cause injury to the owners of or persons entitled to divert water under vested or conditionally decreed water rights.

18. Replacement of post-pumping depletions.

A. Unless modified by the Court under its retained jurisdiction, Applicants shall replace the actual depletions from pumping the Dawson aquifer well that impact the stream after pumping ceases. The Court finds that this requirement is adequate to comply with existing law and to prevent injury to others.

B. To determine the post-pumping replacement obligation, after the earliest of the four following events have occurred: (1) 300 years of pumping from the Dawson aquifer have occurred; or (2) ten consecutive years have passed with no pumping from the Dawson aquifer well; or (3) when Applicants or their successors acknowledge in writing that all withdrawals for beneficial use from the Dawson aquifer have permanently ceased; or (4) accounting shows that return flows from the use of the water being withdrawn from the Dawson aquifer well is insufficient to replace depletions that already occurred, Applicants or their successors shall at that time cause a depletion analysis to be conducted, using the computer model generally accepted as being most accurate at that time, to calculate the amount and timing of post-pumping depletions which must be replaced, based on average annual withdrawals over the applicable pumping period. That amount of water shall then be pumped at the appropriate times from the Denver aquifer, or from such other source of water as receives judicial approval after notice, and delivered to the South Platte River system in a manner that will adequately replace all depletions from pumping of the Dawson aquifer well listed in this decree or any replacement or additional wells constructed on the Property. Applicants' successors in interest shall be required by the terms of this decree to construct a Denver aquifer well pursuant to this plan for augmentation at the time replacement of post-pumping depletions must commence pursuant to this decree, unless a different source of water is approved by the court for replacement of post-pumping depletions, or unless the obligation is modified or terminated pursuant to ¶ 18.A. above.

C. Applicants shall reserve and dedicate to this plan for augmentation 225 acre feet of the Denver aquifer water decreed herein for the purpose of replacing all post-pumping depletions to the South Platte River system. This amount has been calculated as follows:

I. Based on a maximum allowable annual pumping of 0.82 acre foot for 300 years, a total of 246 acre feet may be pumped under this plan for augmentation. Approximately 27 acre feet of stream depletions will occur during the pumping period, and there will be approximately 219 acre feet of post-pumping depletions.

II. Rule 8 of the Denver Basin Rules, 2 CCR 406-2, requires that only 98 percent of nontributary Denver Basin water may be consumed. The amount of water which must be reserved to replace post-pumping depletions is 224 acre feet, which was calculated by dividing post-pumping depletions of approximately 219 acre feet by 0.98 and rounding to the next larger whole acre foot.

D. If at some time replacement of post-pumping depletions is no longer required pursuant to ¶18.A. above, or if Applicants receive judicial approval to use a different water source for augmentation purposes, Applicants may petition the Court pursuant to its retained jurisdiction to modify or terminate the reservation of Denver aquifer water to replace post-pumping depletions. Unless and until the reservation is modified by the Court, the reserved Denver aquifer water shall be appurtenant to the Property and its use shall be limited as described herein.

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. Septic system return flows are necessary to provide an adequate source of water to replace stream depletions during the pumping period under the plan for augmentation as decreed. Accordingly, in order to pump the Dawson aquifer ground water described in the plan for augmentation: (1) there must be a single family dwelling on the Property; (2) the Dawson aquifer well must provide water to the single family dwelling on the Property for indoor residential use (to ensure maintenance of septic system return flows); (3) the Dawson aquifer well must be limited to withdrawal of 0.82 acre feet annually and 246 acre feet total; (4) the State Engineer must approve the uses to be made of the Dawson aquifer water in a manner not inconsistent with this decree and the plan for augmentation approved herein, or any modified decree and plan; and (5) replacement of post-pumping depletions must be made in accordance with the requirements of this decree or any modified decree.

20. A certified copy of this decree shall be recorded in the real estate records of El Paso County and shall constitute a covenant running with the land, notifying Applicants and their successors in interest of the requirements of this decree and plan for augmentation, including the requirement to construct a Denver aquifer well or take other measures as necessary to replace 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 from the State Engineer office to curtail pumping from the Dawson aquifer. Said covenants shall be amended as necessary to conform to the provisions of any amendment to this augmentation plan. Any proposed change in the method of wastewater treatment and disposal shall require water court approval after notice in the water resume and publication in a newspaper of general circulation in El Paso County. This plan for augmentation, the right to 246 acre feet of Dawson aquifer water which may be pumped pursuant to the plan for augmentation, and the right to 225 acre feet of Denver aquifer water reserved for replacement of post-pumping depletions, shall be considered as appurtenances to the Property and shall be conveyed as such in any deed conveying the Property, whether or not the plan for augmentation and the water rights are specifically referenced in the deed; provided, however, that if a different source of augmentation water for replacement of post-pumping depletions is approved pursuant to ¶18.A. and C. above, then subsequently, whether a deed which does not specifically reference the reserved Denver aquifer water conveys such water rights shall be interpreted pursuant to conventional rules regarding interpretation of deeds.

21. All wells permitted pursuant to this decree shall be equipped with a properly installed and calibrated meter. Applicants shall record their metered usage on a monthly basis, and shall submit reports of such pumping as required by the water commissioner, but no less frequently than annually.

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, and that no injury will be caused to the owner of or anyone entitled to use water under a vested water right or decreed conditional water right.

CONCLUSIONS OF LAW

23. 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.

24. All conditions precedent to the granting of this decree have been performed.

25. 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. Applicants have complied with all the conditions of C.R.S. §37-92-305(3), (8) and all other relevant statutes.

26. Applicants have maintained dominion and control over the septic system return flows by determining the quantity of such return flows, as set forth above, and thus have 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

27. The forgoing findings of fact and conclusions of law are hereby incorporated into this judgment and decree.

28. Adjudication of Denver Basin water rights.

A. Applicants are granted a vested right to 1,029 acre feet of ground water in the Dawson aquifer underlying the Property, as may be modified by the Court under its retained jurisdiction. Pursuant to the augmentation plan set forth in this decree, Applicants may withdraw and use 246 acre feet of the Dawson aquifer water at a rate not to exceed 0.82 acre feet annually, or more than 15 gpm. The remaining Dawson aquifer water is not included in the augmentation plan approved in this decree and shall not be withdrawn for any purpose unless and until this decree is amended to allow such withdrawal and use, or until a separate court-approved plan for augmentation authorizing that water's withdrawal and use has been decreed.

B. Applicants are granted a vested right to the ground water from the Denver aquifer in the amount of 910 acre feet. Of that amount, 225 acre feet are reserved for replacement of post-pumping depletions after cessation of pumping the Dawson aquifer well as described in ¶18.B. and C., *supra*.

C. Applicants are granted a vested right to the ground water from the Arapahoe aquifer

in the amount of 428 acre feet. The Arapahoe aquifer water decreed herein may be pumped at an annual rate not to exceed 4.3 acre feet annually except pursuant to the “water banking” procedures of Rule 8.A. of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

D. Applicants are granted a vested right to the ground water from the Laramie-Fox Hills aquifer in the amount of 315 acre feet. The Laramie-Fox Hills aquifer water may be pumped at an annual rate not to exceed 3.2 acre feet annually except pursuant to the “water banking” procedures of Rule 8.A. of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

E. The “water banking” procedures of Rule 8.A. of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7, cannot be applied to the Dawson aquifer water, which may be pumped only pursuant to the provisions of the plan for augmentation decreed herein, or to that portion –225 acre feet – of the Denver aquifer water which is reserved for replacement of post-pumping depletions as described above. However, water banking procedures do apply to the “unreserved” 685 acre feet of the Denver aquifer water, to all of the Arapahoe aquifer water and all of the Laramie-Fox Hills aquifer water. The allowed annual amount of withdrawal from the unreserved portion of the Denver aquifer water and all of the Arapahoe and Laramie-Fox Hills aquifer water may exceed the allowed average annual amount of withdrawal for that aquifer as long as the total volume of water withdrawn from the well or wells does not exceed the product of the number of years since the date of entry of this decree, multiplied by the allowed average annual amount of withdrawal.

F. The water rights so decreed are vested water rights, and no applications for findings of diligence are required. 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 Applicants need not refile, republish, or otherwise amend this decree to request or obtain such adjustment.

G. The water rights are decreed for all beneficial uses except municipal uses. However, as set forth in ¶31 of this decree, such uses are subject to the State Engineer’s discretion to deny a well permit for uses that the State Engineer determines to be speculative at the time of the application for the permit.

29. Approval of Plan for Augmentation. The plan for augmentation described herein is approved. Depletions caused by pumping water from the Dawson aquifer shall be replaced as provided and decreed herein. Annual withdrawals from the Dawson aquifer shall not exceed 0.82 acre foot (267,198 gallons), and total Dawson aquifer withdrawals pursuant to the plan for augmentation decreed herein shall not exceed 246 acre feet. Any additional Dawson aquifer pumping may occur only if additional augmentation sources are approved by the Court under its continuing jurisdiction in this decree, or in a new plan for augmentation. The State Engineer shall curtail all diversions, the depletions from which are not replaced in a manner to prevent injury to vested water rights or decreed conditional water rights. In order to ensure replacement of depletions during the pumping period, pumping and use of the Dawson aquifer well for any beneficial uses other than indoor residential use shall not be allowed unless ground water is also being pumped and used for indoor residential use.

30. The water in the Denver aquifer which is not reserved for replacement of post-pumping depletions, and all of the Arapahoe and Laramie-Fox Hills aquifer water decreed herein, may be used at any location, including locations in other water divisions, provided that no less than two percent of the water pumped on an annual basis must be relinquished to the South Platte River system.

31. Upon a properly completed application by the Applicants, accompanied by the requisite fee, the State Engineer shall issue a new permit for each well on the Property, consistent with the terms of this decree and all applicable statutes and rules, provided that the State Engineer shall identify the specific uses which can be made of the ground water to be withdrawn, and shall not issue a permit for any proposed use, which use the State Engineer determines to be speculative at the time of the application or which would be inconsistent with the requirements of this decree and the plan for augmentation approved herein, or any modified decree and plan for augmentation.

32. All new wells on the Property must be constructed pursuant to applicable Colorado laws and regulations of the Division of Water Resources. Each well must be equipped with a totalizing flow meter. All wells shall be cased so as to prevent withdrawal of water from more than one aquifer. The entire length of the open bore hole shall be geophysically surveyed prior to casing and copies of the geophysical log submitted to the Division of Water Resources unless an exception is granted pursuant to Rule 9.A of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7, or pursuant to any other exemption approved by the State Engineer.

33. Additional provisions.

A. Applicants may construct additional and replacement wells in order to maintain levels of production, to meet water supply demands or to recover the entire amount of groundwater in the subject aquifers underlying the Property. As additional wells are planned, applications shall be filed in accordance with C.R.S. §37-90-137(10).

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

C. In considering applications for permits for wells or additional wells to withdraw the groundwater which is the subject of this decree, the State Engineer shall be bound by this decree and shall issue said permits in accordance with provisions of C.R.S. § 37-90-137(4) and C.R.S. § 37-90-137(10).

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

E. Each well shall be permanently identified by its permit number, this Water Court case number, and the name of the producing aquifer on the above-ground portion of the

well casing or on the pump house.

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

34. Retained jurisdiction provisions regarding quantity of water appropriated.

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

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

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

D. In the interim, the Court retains jurisdiction pursuant to C.R.S. §37-92-305(11).

35. Retained jurisdiction regarding consideration of injury. Pursuant to C.R.S. §37-92-304(6), the Court shall retain continuing jurisdiction over the plan for augmentation decreed herein for reconsideration of the question of whether the provisions of this decree are necessary and/or sufficient to prevent injury to vested water rights of others. The Court shall retain continuing jurisdiction for so long as the Applicants are required to replace depletions to the South Platte River stream system to determine whether the replacement of depletions only to the South Platte River stream system, with no replacements being made to the Arkansas River stream system, is causing material injury to water rights tributary to the Arkansas River stream system. Any person may invoke the Court's retained jurisdiction at any time Applicants are causing depletions (including ongoing post-pumping depletions) to the Arkansas River system and are aggregating such depletions and replacing them to the South Platte River system. The person invoking the Court's retained jurisdiction shall have the burden of establishing a *prima facie* case that Applicants' 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. Applicants shall retain the ultimate burden of proving that no injury is occurring, or shall propose terms and

conditions to prevent such injury. Among any other remedies it may impose, the Court may require that Applicants replace depletions to the Arkansas River system.

36. Retained jurisdiction regarding compliance with plan for augmentation. The Court also retains jurisdiction for the purposes of determining compliance with the terms of the augmentation, and to reconsider the post-pumping depletion replacement obligation for the Dawson aquifer withdrawals and the reservation of 225 acre feet of the Denver aquifer water decreed herein for that purpose. 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, Applicants shall thereupon have the burden of proof to show: (1) that any modification sought by Applicants will prevent injury to other appropriators, or (2) that any modification sought by the person filing the petition is not required to prevent injury to other appropriators, or (3) that any term or condition proposed by Applicants in response to the petition prevents injury to other appropriators.

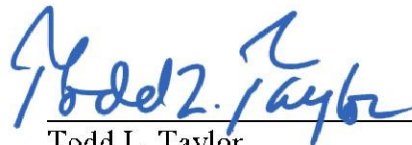
Date: August 9, 2017



John S. Cowan
Water Referee
Water Division 1

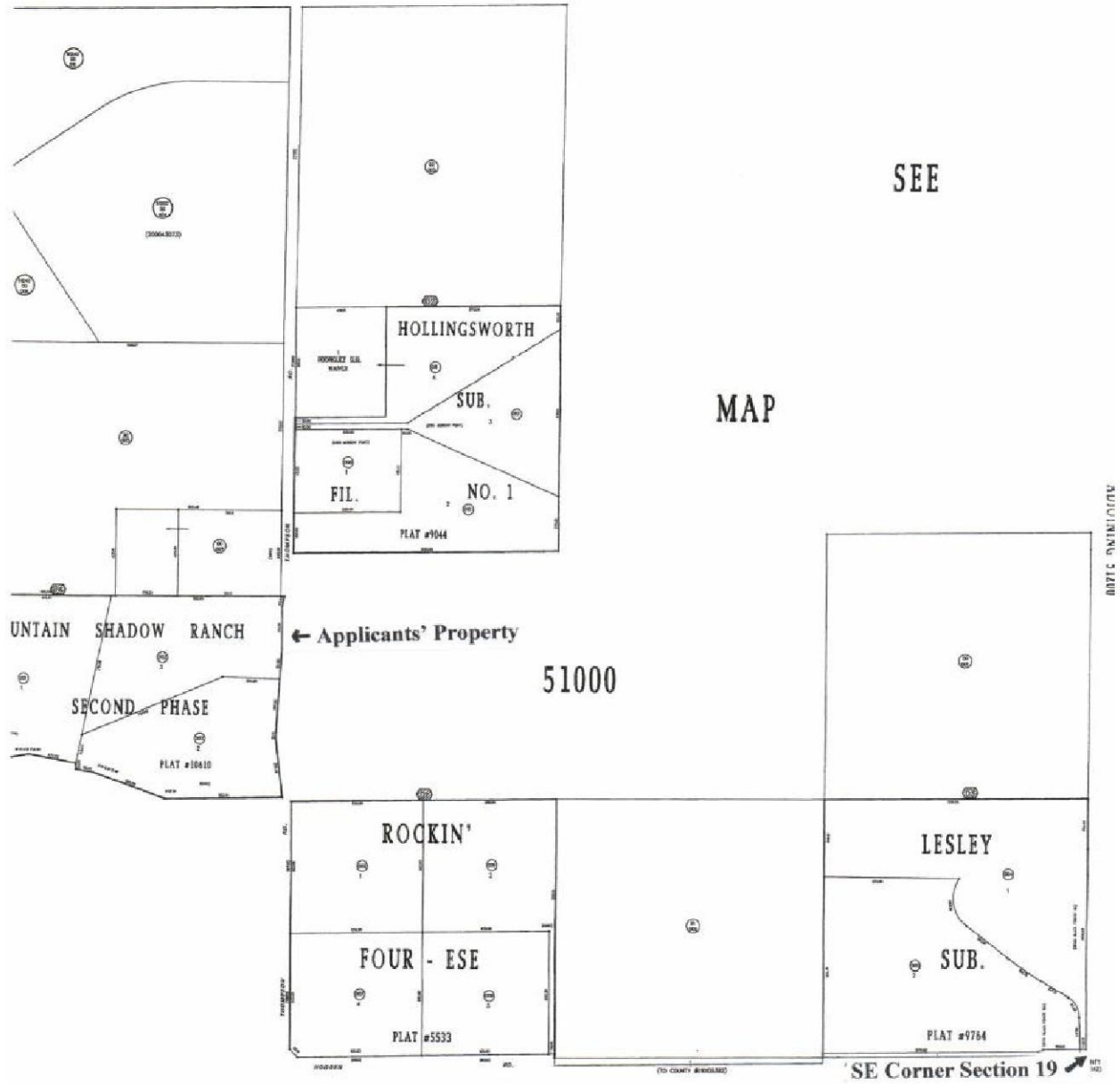
The court finds that no protest was filed in this matter. The foregoing ruling is confirmed and approved, and is made the judgment and decree of this Court.

Date: August 31, 2017



Todd L. Taylor
Alternate Water Judge
Water Division 1

FIGURE 1
Section 19, T. 11 S., R. 65 W. 6th P.M.



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*

EXHIBIT D

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

[View Gallery !\[\]\(4729e517bc6a7cd81c8025b9646574fb_img.jpg\)](/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.

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."

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dale McGehee

Drinking Water Testing

SGS Job Number: DA29400

Sampling Date: 10/02/20

Report to:

10958 Mount Evans Dr.
Falcon, CO 80831
dale.mcgehee@concast.net

ATTN: Dale McGehee

Total number of pages in report: 15



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Jason Savoie
General Manager

Client Service contact: Carissa Cumine 303-425-6021

Certifications: CO (CO00049), NE (NE-OS-06-04), ND (R-027), UT (NELAP CO00049)
LA (LA150028), TX (T104704511), WY (8TMS-L)

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Test results relate only to samples analyzed.

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Sample Summary

Dale McGehee

Job No: DA29400

Drinking Water Testing

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
DA29400-1	10/02/20	12:30 DM	10/02/20	DW	Drinking Water	5770 MSV
DA29400-1A	10/02/20	12:30 DM	10/02/20	DW	Drinking Water	5770 MSV
DA29400-1X	10/02/20	12:30 DM	10/02/20	DW	Drinking Water	5770 MSV

Summary of Hits

Page 1 of 1

Job Number: DA29400
Account: Dale McGehee
Project: Drinking Water Testing
Collected: 10/02/20

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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DA29400-1 5770 MSV

Barium	0.17	0.0020		mg/l	EPA 200.8
Iron	0.055	0.010		mg/l	EPA 200.8
Manganese	0.0011	0.0010		mg/l	EPA 200.8
Selenium	0.0020	0.00070		mg/l	EPA 200.8
Sodium	17.2	0.40		mg/l	EPA 200.7
Zinc	0.10	0.010		mg/l	EPA 200.8
Chloride	6.3	0.50		mg/l	EPA 300.0
Fluoride	0.14	0.10		mg/l	EPA 300.0
Nitrogen, Nitrate	7.2	0.50		mg/l	EPA 300.0
Nitrogen, Nitrate + Nitrite ^a	7.2	0.50		mg/l	EPA 300.0
Sulfate	21.3	0.50		mg/l	EPA 300.0

DA29400-1A 5770 MSV

Calcium	26.7	0.40		mg/l	EPA 200.7
Alkalinity, Total as CaCO ₃	60.0	5.0		mg/l	SM 2320B-2011
Hardness, Calcium ^b	66.7	1.0		mg/l	SM 2340B-2011
Solids, Total Dissolved	193	10		mg/l	SM 2540C-2011
pH	6.95			su	EPA 150.1
Temperature (Field)	10			Deg. C	FIELD

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

(b) Calculated as: (Calcium * 2.497) to convert to Calcium Carbonate

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: 5770 MSV

Lab Sample ID: DA29400-1

Matrix: DW - Drinking Water

Project: Drinking Water Testing

Date Sampled: 10/02/20

Date Received: 10/02/20

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Aluminum	< 0.050		0.050	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Antimony	< 0.00040	0.0060	0.00040	mg/l	1	10/07/20	10/14/20 JM	EPA 200.8 ⁶	EPA 200.8 ⁹
Arsenic	< 0.00080	0.010	0.00080	mg/l	1	10/07/20	10/13/20 JM	EPA 200.8 ⁵	EPA 200.8 ⁹
Barium	0.17	2.0	0.0020	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Beryllium	< 0.00030	0.0040	0.00030	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Cadmium	< 0.00015	0.0050	0.00015	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Chromium	< 0.0020	0.10	0.0020	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Iron	0.055		0.010	mg/l	1	10/07/20	10/10/20 JD	EPA 200.8 ⁴	EPA 200.8 ⁹
Manganese	0.0011		0.0010	mg/l	1	10/07/20	10/10/20 JD	EPA 200.8 ⁴	EPA 200.8 ⁹
Mercury	< 0.00010	0.0020	0.00010	mg/l	1	10/06/20	10/06/20 JD	EPA 245.1 ¹	EPA 245.1 ⁷
Nickel	< 0.0020		0.0020	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Selenium	0.0020	0.050	0.00070	mg/l	1	10/07/20	10/13/20 JM	EPA 200.8 ⁵	EPA 200.8 ⁹
Silver	< 0.00010	0.10	0.00010	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Sodium	17.2		0.40	mg/l	1	10/05/20	10/07/20 SJ	EPA 200.7 ²	EPA 200.7 ⁸
Thallium	< 0.00020	0.0020	0.00020	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹
Zinc	0.10	5.0	0.010	mg/l	1	10/07/20	10/10/20 JM	EPA 200.8 ³	EPA 200.8 ⁹

(1) Instrument QC Batch: MA13168

(2) Instrument QC Batch: MA13175

(3) Instrument QC Batch: MA13184

(4) Instrument QC Batch: MA13185

(5) Instrument QC Batch: MA13195

(6) Instrument QC Batch: MA13197

(7) Prep QC Batch: MP31372

(8) Prep QC Batch: MP31376

(9) Prep QC Batch: MP31378

RL = Reporting Limit

MCL = Maximum Contamination Level (40 CFR 141)

Report of Analysis

Client Sample ID:	5770 MSV	Date Sampled:	10/02/20
Lab Sample ID:	DA29400-1	Date Received:	10/02/20
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Project:	Drinking Water Testing		

General Chemistry

Analyte	Result	MCL	Units	DF	Analyzed	By	Method
Chloride	6.3		mg/l	1	10/02/20 15:05	JB	EPA 300.0
Cyanide, Total	< 0.0050	0.20	mg/l	1	10/06/20 11:52	SR	EPA 335.4
Fluoride	0.14	4.0	mg/l	1	10/02/20 15:05	JB	EPA 300.0
Nitrogen, Nitrate	7.2	10	mg/l	50	10/02/20 15:48	JB	EPA 300.0
Nitrogen, Nitrate + Nitrite ^a	7.2		mg/l	1	10/02/20 15:48	JB	EPA 300.0
Nitrogen, Nitrite	< 0.0040	1.0	mg/l	1	10/02/20 15:05	JB	EPA 300.0
Sulfate	21.3		mg/l	1	10/02/20 15:05	JB	EPA 300.0

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

MCL = Maximum Contamination Level (40 CFR 141)

Report of Analysis

Client Sample ID:	5770 MSV	Date Sampled:	10/02/20
Lab Sample ID:	DA29400-1A	Date Received:	10/02/20
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Project:	Drinking Water Testing		

Total Metals Analysis

Analyte	Result	MCL	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	26.7		0.40	mg/l	1	10/05/20	10/10/20 JM	EPA 200.7 ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA13190
(2) Prep QC Batch: MP31376

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 141)

Report of Analysis

Client Sample ID:	5770 MSV	Date Sampled:	10/02/20
Lab Sample ID:	DA29400-1A	Date Received:	10/02/20
Matrix:	DW - Drinking Water	Percent Solids:	n/a
Project:	Drinking Water Testing		

General Chemistry

Analyte	Result	MCL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3	60.0		mg/l	1	10/13/20	JD	SM 2320B-2011
Corrosivity, Langlier Index	-1.3			1	10/20/20	SUB	SM 203, 1985
Hardness, Calcium ^a	66.7		mg/l	1	10/10/20 13:42	JM	SM 2340B-2011
Solids, Total Dissolved	193		mg/l	1	10/08/20	AK	SM 2540C-2011
pH	6.95		su	1	10/02/20	SR	EPA 150.1

Field Parameters

Temperature (Field)	10		Deg. C	1	10/20/20	SUB	FIELD
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(a) Calculated as: (Calcium * 2.497) to convert to Calcium Carbonate

MCL = Maximum Contamination Level (40 CFR 141)

Subcontract Lab Data

Report of Analysis



Industrial LABORATORIES

Industrial Laboratories is your independent,
third-party analytical testing laboratory

To: SGS North America
4036 Youngfield St
Wheat Ridge, CO 80033

Test Report

Report # Rpt-201005009

Date Reported : 10/5/2020

Date Received : 10/2/2020

Client PO : DA29400X

SampleCode	Client Sample ID	Test Method	Result	Units	Date Analyzed
20100211-01A	DA29400X-1, 10/2/20, 12:30 PM				
		*Total Coliforms			NS
		IL-MIC-M-023 / SMEWW 9223 B - Colilert			10/2/2020 15:49
		Coliforms	Absent		

Digitally Signed By:

Kathie Inman

Date: 10/5/2020

12:04:50PM MT

Client Services/Sales

= Subcontracted Analysis

* = Scope Analysis

‡ = Case Narrative on Sample

Measurement of Uncertainty for Scope methods are available upon request.

~~Samples received in good condition unless otherwise noted in case narrative~~

4046 Youngfield Street • Wheat Ridge, Colorado 80033 • (303) 287-9691 • (303) 287-0964 FAX • www.industrialabs.net

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Receipt of analysis acknowledges the terms and conditions, which can be found at www.industrialabs.net

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CHAIN OF CUSTODY
 SGS North America Inc. - Wheat Ridge
 4036 Youngfield Street, Wheat Ridge, CO 80033
 TEL: 303-426-6021 FAX: 303-426-6854
 www.sgs.com/enusa

Page 1 of 1

Client / Reporting Information

Project Name

Project Information

Requested Analysis (see TEST CODE sheet)

Matrix Codes

Company Name:

SGS North America Inc.

Street Address

4036 Youngfield Street

City

Wheat Ridge, CO

State

8003

Zip

Project Contact

jeremy.declan@sgs.com

E-mail

Phone #

303-426-6021

Fax #

Client Purchase Order #

Project #

Project Manager

Attention:

City

State

Zip

Sample(s) Name(s)

DM

Field ID / Point of Collection

MECHD/VIA #

Date

Time

Sampled by

Mark

of bottles

RI

NaOH

HNO3

H2SO4

NONE

DI Water

MEDH

ENCORE

Turnaround Time (Business days)

Approved By (SGS Pkg. Data)

Commercial "A" (Level 1)

Commercial "B" (Level 2)

Commercial "C" (Level 3)

Commercial "D" (Level 4)

Commercial "E" (Level 5)

Commercial "F" (Level 6)

Commercial "G" (Level 7)

SGS Quick Reference
 303-426-6021
 303-426-6854
 DA29400

Matrix Codes
 DW - Drinking Water
 GW - Ground Water
 WW - Wastewater
 SW - Surface Water
 SO - Soil
 SL - Sludge
 SED - Sediment
 LIQ - Other Liquid
 AIR - Air
 SOL - Other Solid
 WPT - Wipe
 FB - Field Blank
 RB - Reagent Blank
 TB - Trip Blank

LAB USE ONLY

Sample is for compliance but does not need to be updated

http://www.sgs.com/enusa/chain-of-custody

Relinquished by Sample

Relinquished by Sample

Relinquished by Sample

Relinquished by Sample

Relinquished by Sample

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Relinquished by Sample

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS North America Inc. - Wheat Ridge
4036 Youngfield Street
Wheat Ridge, CO 80033-3862
303-425-6021; 877-737-4521
FAX: 303-425-6854
www.sgs.com/ehsusa

Client/Reporting Information		Billing Information (If different from reporting)		Project Information	
Company: Dale McGehee		Company: (Same)		PWSID or Project #:	
Street: 10958 Mount Evans Dr		Street:		System Name:	
City: FALCON	State: CO ZIP: 80831	City:	State:	ZIP:	System Address:
Contact: Dale McGehee Phone: 303-815-9834		Attention:		City:	State: ZIP:
Email: dalemcgehee@comcast.net		Client PO #:		Contact Person:	
Sampler: Dale McGehee Phone: 303-815-4834		SGS Quote/Bottle Order #: 2020 1383		Tel: Email	

[illegible]

EHSA-QAC-0028-00-FORM-Wheat Ridge - DW COC: Rev. Date: 4/10/18

NOTE: Sample taken from 5770 W. 4th St. near 11th Colorado Springs CO

DA29400: Chain of Custody

Page 1 of 2

SGS Accutest Sample Receipt Summary

Job Number: DA29400

Client: DALE MCGEHEE

Project:

Date / Time Received: 10/2/2020 2:35:00 PM

Delivery Method:

Airbill #'s: HD

Cooler Temps (Initial/Adjusted): #1: (5.2/5.2):

Cooler Security

Y or N

Y or N

- | | | | | | |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Cooler Temperature

Y or N

- | | | |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | Bar Therm; | |
| 3. Cooler media: | Ice (Bag) | |
| 4. No. Coolers: | 1 | |

Quality Control Preservation

Y or N

N/A

- | | | | |
|---------------------------------|-------------------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Samples preserved properly: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. VOCs headspace free: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Comments

Sample Integrity - Documentation

Y or N

- | | | |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

Sample Integrity - Condition

Y or N

- | | | |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recvd within HT: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample: | Intact | |

Sample Integrity - Instructions

Y or N N/A

- | | | | |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 2. Bottles received for unspecified tests | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 3. Sufficient volume recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 4. Compositing instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5. Filtering instructions clear: | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

DA29400: Chain of Custody

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