Winsome, LLC

WATER RESOURCES
And
WASTEWATER REPORT
For
Winsome Filing No. 1

January 2020
PCD File Number: SP-18-006

Prepared By:

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CONSULTANTS, INC.

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Executive Summary:
Water Resources and Wastewater Report—Winsome Filing No. 1

Development at McCune Ranch by Winsome, LLC consists of 164.40 acres and 47 lots, located north of Hodgen Rd, and west of Meridian Rd. The development is primarily located in Section 24 (T11S R65W). Residential properties within the development will be provided water services through individual residential wells and wastewater served through individual on-site wastewater treatment systems (OWTS). The proposed phased development is planned as follows:

Filing No. 1 – 47 rural lots

It is expected that each rural residential home in Winsome Filing No. 1 will require an average of 0.60 annual acre-feet (which includes annual allocations for domestic use, irrigation, and stock water). This anticipated water demand constant is consistent with historic needs for nearby developments.

Filing No. 1 will be served by individual on-site residential wells and septic. An existing replacement plan is being amended to allocate Denver Basin water to serve the proposed development through the use of water from the Dawson Aquifer. The amount of water available for consumptive use from the Dawson Aquifer to serve the proposed development is estimated at 232.66 AF/year. Annual demand estimates using the residential constant described above comes to approximately 28.20 AF annually for Filing No. 1. Return flows from each individual OWTS will be dedicated to replace post-pumping depletions and are estimated at 12.69 AF annually, which will replace estimated depletions of 1.06 AF/year.

The proposed amendment to an existing replacement plan found in Water Right No. 1692-BD was submitted to the State Groundwater Commission on December 6th, 2018 to replace post-pump depletions from the Dawson Not-Nontributary Aquifer. The amendment to the existing water right for Phase 1 was reviewed and published on December 26, 2019. The amendment describes a replacement plan for 83 total lots at the Winsome development and supports 49.8 AF/year of use from the Dawson in this area. This water resources report for Filing No. 1 describes the use of annual water for 47 lots or 28.20 AF/year.

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SECTION 1 INTRODUCTION

The purpose of this study is to provide a preliminary outline of the water resources and wastewater needs that would be necessary for Filing No. 1 of the Winsome Subdivision development.

1.1 New Development Description:

Development at Filing No. 1 by Winsome, LLC consists of 164.40 acres and 47 lots, located north of Hodgen Rd, and west of Meridian Rd. The development is primarily located in Section 24 (T11S R65W). The proposed lots are to be provided water and sewer services through on-site individual wells and septic. Filing No. 1 is designated for 47 rural residential lots along with open space, drainageway, and trails.

Appendix A contains a preliminary Final Plat plan for the Winsome Filing No. 1.

SECTION 2 PROJECTION OF WATER NEEDS

2.1 *Analysis of Water Demands:*

Expected water demands are calculated in **Appendix B.** Table 2-1 below estimates the projected water demands for development at Winsome Subdivision Filing No. 1. Each Dawson Aquifer well is proposed to divert 0.6 acre-feet of water annually for in house use in one single family residence (0.3 acre-foot per residence for domestic indoor use; irrigation of up to 4,000 square feet of lawn, garden, and trees, which require 0.25 acre-feet; and watering of four large domestic animals, which require 0.05 acre-feet).

Table 2-1 -Projected Water Demands for Winsome Subdivision – Filing No. 1

# of Units	*Land Use*	*Water Use Per Unit (AF/Unit)*	*Annual Demand (AF)*	*Average Daily Flow (ADF) (GPD)*	*Maximum Daily Flow (MDF) (@ 2.5 x ADF) (GPD)*	*Peak Hour Flow (@ 1.5 x MDF) (GPM)*
47	**Residential (Rural, Well & OWTS)**	**0.6**	**28.20**	**25,175**	**62,938**	**66**

Total Annual Demand of the Winsome Subdivision is 90.8 acre-feet.

SECTION 3 PROPOSED WATER RIGHTS AND SYSTEM FACILITIES

3.1 Water Rights:

Water rights adjudications have been decreed by the State of Colorado, Water Division 2 District Court. The findings and relevant information are displayed in **Appendix C**.

Table 3-1
Summary of Available Legal Water Supply
for Winsome Subdivision Phases 1-4

Water	**Annual Supply* (Acre-Feet)**	**Notes**
Dawson NNT	232.66	28.20 acre-feet will be drawn from this formation annually as part of Winsome Filing No. 1
Denver NT	149.95	90 acre-feet/year may be sold to SRMD** leaving 60 acre-feet/year for Winsome Subdivision.
Arapahoe NT	113.00	Entirety to be sold to SRMD**
Laramie-Fox Hills NT	74.78	Entirety to be sold to SRMD**

*300-year annual supply
**Sterling Ranch Metropolitan District

The existing replacement plan associated with Water Right No. 1692-BD is to be amended to supply replacement water to augment post pumping depletions from the alluvial aquifer. The proposed replacement plan will utilize return flows from each on-site individual septic system on the order of 0.27 AF/Year-SFE, which is estimated to provide approximately 22.41 AF/year for 83 lots in Phase 1. Filing No. 1 return flows are estimated to total 12.69 AF/year which will be more than enough to offset potential alluvial depletions as a result of pumping from the not-non-tributary Dawson formation. It is possible that the current property owner may "leave behind" 60 AF/year of Denver Aquifer water to assist with possible replacement purposes. However, if the proposed replacement plan associated with water right 1692-BD is approved, then it is likely that the remainder of the allocated Denver Aquifer water will be sold as well. Water from the other two non-tributary formations associated with the property (Arapahoe and Laramie-Fox Hills) is being sold to another municipality and will not be used to serve the Winsome Subdivision.

Beneficial use of the water from the decrees includes domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds, piscatorial habitat less than 1000sqft, wildlife, replacement, and all other augmentation purposes.

Appendix D includes four decrees enumerated in Table 3-1 as the water decrees. Of the decrees, only Water Right No. 1692-BD and possibly a portion of No. 1691-BD will be associated with this development.

3.2 Source of Supply:

Domestic and commercial water demand will be met using individual wells drilled into the Dawson formation.

3.3 Water Quality and Treatment:

The water quality in the Dawson Aquifer in this area has typically been suitable for residential potable use. Water samples were obtained from an existing Dawson well located on a neighboring property (11745 Quiet Waters PT – Gowler Well), located north-east of and directly adjacent to the proposed Winsome Subdivision. Utilization of the adjacent well structure as a representative sample source for the individual residential wells was approved by Nina Ruiz with El Paso County Development Services on November 14th, 2018. Water samples were obtained from the Gowler Well on February 7th, 2019 with water quality testing performed by Colorado Analytical Laboratories per the El Paso County Land Development Code section 8.4.7(B). Final results from this water quality testing were received on March 7th, 2019 can be found in **Appendix G**. The only results of concern were for combined radium 226+228 and manganese.

Combined radium 226 + 228 – the Maximum Contaminant Limit (MCL) for this constituent is 5 pCi/l. The result for this constituent from water sampling the Gowler Well is 8.3 pCi/l. Of note, the Colorado Department of Health and Environment would not consider one result above the MCL as a violation of the

coRAD MCL and would instead take a series of samples over the entire year and take the average of these results to compare to the state MCL before issuing a violation. In addition, the presence of radium in an aquifer is rarely consistent with the potential that radium could be present in one well and then 100 feet away not exist at all. Moreover, the EPA has proposed that the standard MCL be raised to 20 pCi/l as the current MCL is well below levels in which health effects have been observed. For comparison purposes, the risk associated with consuming water containing 5 pCi/l of radium for one year is comparable to one chest X-ray. However, if residents of the development wish to provide an extra layer of protection on their source water and eliminate all potential of radium in their drinking water the installation of a water softener featuring ion exchange or a residential reverse osmosis unit is fairly simple. A list of manufacturers for these units can be provided to homebuilders, if desired.

Manganese – manganese is considered an aesthetic water quality issue and only features a secondary maximum contaminant level (SMCL). The SMCL for manganese is 0.05 mg/L while the results from the Gowler Well came in at 0.1171 mg/L. Manganese exists naturally and is found in several foods including nuts, legumes, seeds, teas, whole grains, and vegetables. However, if found in excess of the SMCL it can impair color, odor, or taste of the water. According to the EAP, however, health effects are not a concern until concentrations of manganese are found to be 10 times higher (or 0.5 mg/L). Regardless, manganese can be removed from drinking water using the same ion exchange or reverse osmosis units described above.

The commercial lot will most likely be classified as a transient non-community system with the Colorado Department of Health and Environment and will have its own public water system ID (PWSID). The source water will, at a minimum, be chlorinated, and a contract operator will be responsible for maintaining and monitoring the system on the commercial property. Water quality sampling and reporting will be conducted by the commercial developer, as described in section 4.1 of this report.

3.4 Water Storage:

Each single-family home and the commercial lot will have its own individual pressure tank. The size and pressure of the tanks are to be determined by the property owner.

3.5 Distribution and Transmission Lines:

There will be four (4) well sites on the Winsome Subdivision property to obtain the non-tributary water outlined in Table 3-1 for transmission to the Sterling Ranch Development for municipal uses. In addition, there will also be several transmission lines from the well sites to deliver water to Sterling Ranch Metropolitan District property. These transmission lines will not serve the Winsome Subdivision.

3.6 Impact on Existing Wells:

Well Permit 309240 - Matt Gowler facilitated the purchase of approximately 120 acres from McCune Ranch, LLC for the construction of three (3) homes on three (3) 40-acre lots (owned by the Gowlers, the Kings, and the Grothes). These three lots represent the remaining McCune Ranch acreage left behind after the purchase of the 766.66 acres by PT McCune, LLC. Each of these lots include a permitted exempt/small capacity well to the Dawson aquifer, two of which have already been drilled. None of these wells, including the Gowler property (well permit no. 309240) directly adjacent to the proposed development, will be impacted by the water resource plan proposed for the development. As illustrated by the Land Survey Plat and the Existing Well Locations Map included in **Appendix F**, the Winsome Subdivision property will not impact well no. 309240 nor do the properties, as platted, overlap. Well permit 309240 was issued on May 7th, 2018 and was permitted to serve 40-acres of land defined by the NE ¼ NE ¼ of Section 24, Township 11 South, Range 65 West in El Paso County. This description of the property to be served by the well was not properly represented in the original permit and will subsequently be impacted by the proposed preliminary plan boundaries created in the submittal. The current well owner, Matt Gowler, will submit a revised well permit depicting a correct description of his property that will accurately convey the 40-acres of land to be served by the well.

Well Permit 162283 - According to information available with the Colorado Division of Water Resources an exempt/small capacity Dawson aquifer well (permit no. 162283 as permitted by the Conway family), is said to be located on the proposed Winsome Subdivision, as illustrated in the Existing Well Locations Map in **Appendix F**. A search for the well structure was conducted on January 7th, 2019, resulting in no evidence that the structure exists at or near the location depicted in the permit. In addition, the current owner of the property, Mary Sue Liss with McCune Ranch, has indicated that she has never seen a well casing or structure since she has owned or lived on the property. At this time it can be assumed that this structure was never built according to Well Permit Number 162283. However, the developer has agreed to abandon the well per Colorado Well Construction Rules and Regulations should the well structure be found during construction of the development.

SECTION 4 WASTEWATER AND WASTEWATER TREATMENT

4.1 Wastewater Loads

Wastewater projections are based on similar District historical use. There are 47 initial residential units expected to be built as part of Filing No. 1 in the Winsome Subdivision. **Appendix B** includes a complete breakdown. Average daily wastewater loads are expected to be approximately 241 gallons per day per single family residence with maximum wastewater loads totalling approximately 294 gallons per day per single family residence.

Table 4-1 - Projected Wastewater Loads for Winsome Subdivision

Wastewater Loads			
# of Units	*Type*	*Average Daily Flow (ADF) (GPD)*	*Maximum Daily Flow (GPD)*
47	**Residential**	**11,329**	**13,821**

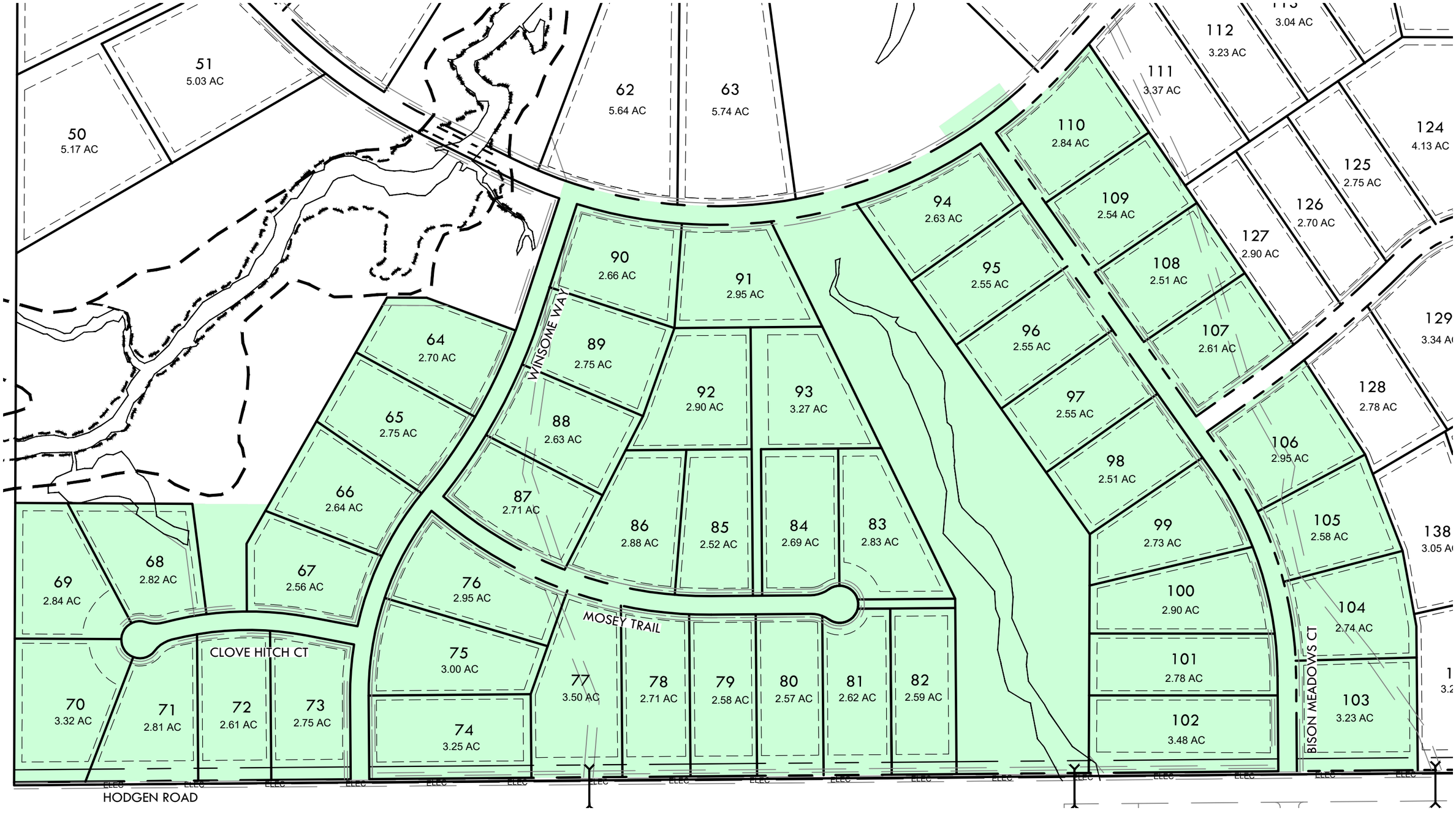
Total Expected Daily Loads of Winsome Subdivision Filing No. 1 is 11,329 gallons/day.

4.2 On-Site Wastewater Treatment Systems

47 single family homes will be served by individual on-site wastewater treatment systems. The site was evaluated for on-site wastewater treatment systems by Entech Engineering, Inc. in September 2018. Five (5) test borings, and ten (10) tactile test pits were performed on the site to determine general suitability of the site for the use of on-site wastewater treatment systems. Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Percolation test and tactile test pits were located in anticipated locations of proposed on-site wastewater treatment systems. The on-site soils are described to typically have slow to rapid permeabilities

Based on the evaluation, the site is suitable for on-site wastewater treatment systems. Contamination of surface and subsurface water resources should not occur provided the OWTS sites are evaluated and installed according to El Paso County and State guidelines and are properly maintained. Based on the testing performed, designed systems will likely be required for the majority of the lots. Each septic design will need to consider the wastewater loadings presented in Table 4-1 vs. the soil conditions found on each lot. The report does indicate that there are three properties that may need to be modified in order to accommodate the construction of an OWTS due to the presence of extensive drainage through each property or excessively steep slopes. Since the development of the soils report, the proposed platting of the Winsome development has been modified to accommodate OWTS development on lot 87 in Filing No. 1 and 111 on the overall development. The only lot that still may pose a challenge to accommodating an OWTS system is lot 44 in the overall development due to excessive slopes existing on the property. The Soil, Geology, and Geologic Hazard Report by Entech Engineering, Inc. dated September, 28th, 2018 is included in **Appendix E**.

Appendix A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BISON MEADOWS CT

WINSOME FILING NO. 1

A PORTION OF SOUTH HALF OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

KNOW ALL MEN BY THESE PRESENTS:

THAT PROTERA PROPERTIES, LLC, BEING THE OWNER OF THE FOLLOWING DESCRIBED TRACT OF LAND, TO WIT:

LEGAL DESCRIPTION:

A TRACT OF LAND BEING A PORTION OF SECTION 24, RANGE 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BASIS OF BEARINGS: THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN BEING MONUMENTED ON THE SOUTHERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "LS 28658" AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP STAMPED "LS 12103" BEING ASSUMED TO BEAR N00°14'25"E A DISTANCE OF 2636.99 FEET AS SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL PASO COUNTY, COLORADO.

COMMENCING AT THE WEST QUARTER CORNER OF SAID SECTION 24; THENCE S00°14'17"W, A DISTANCE OF 1,684.27 FEET TO THE POINT OF BEGINNING; THENCE S89°41'23"E, A DISTANCE OF 820.25 FEET; THENCE N29°41'56"E, A DISTANCE OF 768.98 FEET; THENCE S89°45'39"E, A DISTANCE OF 128.26 FEET; THENCE S69°47'19"E, A DISTANCE OF 306.30 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N69°47'19"W, HAVING A DELTA OF 2°06'42", A RADIUS OF 1,790.00 FEET, A DISTANCE OF 65.97 FEET TO A POINT A POINT OF TANGENT; THENCE N18°06'10"E, A DISTANCE OF 383.72 FEET; THENCE N19°13'35"E, A DISTANCE OF 60.00 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N19°13'35"E, HAVING A DELTA OF 50°01'50", A RADIUS OF 1,470.00 FEET, A DISTANCE OF 1,283.60 FEET TO A POINT ON CURVE; THENCE N30°48'16"W, A DISTANCE OF 58.07 FEET; THENCE N54°25'41"E, A DISTANCE OF 240.00 FEET; THENCE S40°33'13"E, A DISTANCE OF 117.62 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT WHOSE CENTER BEARS N40°33'13"W, HAVING A DELTA OF 7°37'13", A RADIUS OF 1,530.00 FEET A DISTANCE OF 203.49 FEET TO A POINT OF TANGENT; THENCE N41°49'33"E, A DISTANCE OF 100.05 FEET; THENCE S34°15'42"E, A DISTANCE OF 1,176.07 FEET TO A POINT ON CURVE; THENCE ON THE ARC OF A CURVE TO THE RIGHT WHOSE CENTER BEARS N38°44'46"W, HAVING A DELTA OF 3°31'19", A RADIUS OF 3,970.00 FEET, A DISTANCE OF 244.03 FEET TO A POINT OF TANGENT; THENCE S54°46'33"W, A DISTANCE OF 146.74 FEET; THENCE S35°13'27"E, A DISTANCE OF 60.00 FEET; THENCE N54°46'33"E, A DISTANCE OF 146.74 FEET TO A POINT OF CURVE; THENCE ON THE ARC OF A CURVE TO THE LEFT HAVING A DELTA OF 3°27'19", A RADIUS OF 4,030.00 FEET, A DISTANCE OF 243.03 FEET TO A POINT ON CURVE; THENCE S32°53'11"E, A DISTANCE OF 363.08 FEET; THENCE S21°16'12"E, A DISTANCE OF 333.95 FEET; THENCE S10°20'00"E, A DISTANCE OF 247.91 FEET; THENCE S00°29'45"E, A DISTANCE OF 484.81 FEET TO A POINT 30.00 FEET NORTH OF THE SOUTH LINE OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN; THENCE S89°30'15"W ON A LINE 30.00 FEET NORTH OF AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 24, A DISTANCE OF 4,535.40 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE N00°14'17"E ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 922.65 FEET TO THE POINT OF BEGINNING.

CONTAINING A CALCULATED AREA OF 7,161,246 SQUARE FEET OR 164.400 ACRES.

DEDICATION:

THE UNDERSIGNED BEING THE OWNER IN THE LAND DECRIBED HEREIN, HAVE LAID OUT, SUBDIVIDED, AND PLATTED SAID LANDS IN TO LOTS, TRACTS, STREETS AND EASEMENTS AS SHOW SHOWN HEREON SHALL BE KNOWN AS WINSOME FILING NO. 1. IN THE COUNTY OF EL PASO, STATE OF COLORADO. ALL STREETS HEREBY PLATED ARE HEREBY DEDICATED TO PUBLIC USE AND SAID OWNER DOES HEREBY PERSONALLY COVENANT AND AGREE THAT THE PUBLIC IMPROVEMENTS BILL BE CONSTRUCTED TO EL PASO COUNTY STANDARDS AND THAT PROPER DRAINAGE AND EROSION CONTROL FOR THE SAME WILL BE PROVIDED AT SAID OWNERS EXPENSE, ALL TO THE SATISFACTION OF THE BOARD OF COUNTY COMMISSIONERS OF EL PASO COUNTY, COLORADO. UPON ACCEPTANCE BY RESOLUTION , ALL PUBLIC IMPROVEMENTS SO DEDICATED WILL BECOME MATTERS OF MAINTENANCE BY EL PASO COUNTY , COLORADO. THE UTILITY EASEMENTS SHOWN HEREON ARE HEREBY DEDICATED FOR PUBLIC UTILITIES AND COMMUNICATION SYSTEMS AND OTHER PURPOSES AD 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 PROPERTYS FOR INSTALLATION, MAINTENANCE, AND REPLACEMENT OF UTILITY LINES AND ELATED FACILITIES.

OWNER:

THE AFOREMENTIONED, PROTERRA PROPERTIES, LLC , BY _____, _____, HAS EXECUTED THIS DOCUMENT ON THIS _____ DAY OF _____, 202_ A.D.

_____

MANAGER, PROTERRA PROPERTIES LLC

NOTARIAL:

STATE OF COLORADO)
) SS
COUNTY OF EL PASO)

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, 202_ A.D., BY _____ OF PROTERRA PROPERTIES, LLC

WITNESS MY HAND AND OFFICIAL SEAL:

MY COMMISSION EXPIRES: _____ _____
NOTARY PUBLIC

ACCEPTANCE CERTIFICATE FOR TRACTS:

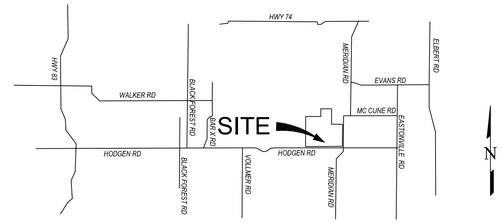
THE DECICATION OF TRACTS C, D, E AND F WITH ANY IMPROVEMENTS THEREON , WITH USES STATED IN THE TRACT TABLE, WILL BE CONVEYED FOR OWNERSHIP AND MAINTENANCE TO THE WINSOME METRO DISTRICT NO. 1 BY SEPARATE DOCUMENT.

BY: _____

AS _____
OF WINSOME METROPOLITAN DISTRICT NO. 1

NOTICE:

*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.*



GENERAL NOTES:

1. THE DATE OF PREPARATION IS JANUARY 10, 2020.
2. THE BASIS OF BEARING IS THE WEST LINE OF THE NORTHWEST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST WEST OF THE 6TH PRINCIPAL MERIDIAN BEING MONUMENTED ON THE SOUTHERLY END BY A 2-1/2" ALUMINUM CAP STAMPED "LS 28658" AND AT THE NORTHERLY END BY A 3-1/2" ALUMINUM CAP SHOWN IN LAND SURVEY PLAT RECORDED UNDER RECEPTION 218900072 RECORDS OF EL PASO COUNTY, COLORADO.
3. UNLESS SHOWN OTHERWISE, ALL FRONT LOT LINES ARE HEREBY PLATTED WITH A 15.00 FOOT WIDE PUBLIC UTILITY EASEMENT, SIDE AND REAR LOT LONE ARE HEREBY PLATTED WITH A 10.00 FOOT WIDE UTILITY EASEMENT, WITH THE SOLE RESPONSIBILITY FOR THE SURFACE MAINTENANCE OF EASEMENTS BEING VESTED WITH THE INDIVIDUAL PROPERTY OWNER. IN ADDITION A 20.00 FOOT FRONT EXTERIOR SUBDIVISION UTILITY EASEMENT SHALL BE PROVIDED.
4. THERE SHALL BE NO VEHICULAR ACCESS FROM ANY RESIDENTIAL LOT IN THIS SUBDIVISION TO HODGEN ROAD OR MERIDIAN ROAD.
5. THE FOLLOWING REPORTS HAVE BEEN SUBMITTED AND ARE ON FILE AT THE COUNTY PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT: WATER RESOURCE REPORT; WAITS WATER DISPOSAL REPORT; GEOLOGY AND SOILS REPORT FIRE PROTECTION REPORT , WILDLIFE HAZARD REPORT; NATURAL FEATURES REPORT; TRANSPORTATION IMPACT STUDY.
6. DEVELOPER SHALL COMPLY WITH FEDERAL AND STATE LAWS, REGULATIONS, ORDINANCES, REVIEW AND PERMIT REQUIREMENT, AND OTHER AGENCY REQUIREMENTS, IF ANY, OF APPLICABLE AGENCIES INCLUDING, BUT NOT LIMITED TO, THE COLORADO DEPARTMENT OF WILDLIFE, COLORADO DEPARTMENT OF TRANSPORTATION, U.S. ARMY CORP. OF ENGINEERS, THE U.S FISH & WILDLIFE SERVICE AND/OR COLORADO DEPARTMENT OF WILDLIFE REGARDING THE ENDANGERED SPECIES ACT.
7. FLOODPLAIN STATEMENT: THIS PROPERTY, IS LOCATED WITHIN ZONE X, (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANGE FLOODPLAIN) AS DETERMINED BY FEMA PER FIRM PANEL 0804C0350G, EFFECTIVE DATE DECEMBER 7, 2018.,
8. ALL PROPERTY OWNERS ARE RESPONSIBLE FOR MAINTAINING PROPER 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.
9. NO LOT OR INTEREST THEREIN, SHALL BE SOLD, CONVEYED OR TRANSFERRED WHETHER BY DEED OR BY CONTRACT, NOT SHALL BUILDING PERMITS BE ISSUED, UNTIL AND UNLESS THE REQUIRED PUBLIC IMPROVEMENTS HAVE BEEN CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENTS AGREEMENT BETWEEN THE APPLICANT AND EL PASO COUNTY AS RECORDED AT RECEPTION NO. _____, IN THE OFF OF THE CLERK AND RECORDED OF EL PASO COUNTY COLORADO, OR THE ALTERNATIVE, OTHER COLLATERAL IS PROVIDE WITH IS SUFFICIENT IN THE JUDGEMENT OF THE BOARD OF COUNTY COMMISSIONERS, TO MAKE PROVISION FOR THE COMPLETION OF SAID IMPROVEMENTS.
10. THIS PLAT IS REGULATED BY A P.U.D. DEVELOPMENT PLAN AS RECORDED UNDER RECEPTION NUMBER _____ AND P.U.D. DEVELOPMENT GUIDELINES AS RECORDED UNDER RECEPTION NUMBER _____ OF THE RECORD OF EL PASO COUNTY, COLORADO.
11. MAILBOXES SHALL BE IN STALLED IN ACCORDANCE WITH THE EL PASO COUNTY DEPARTMENT OF TRANSPORTATION AND UNTIED STATE POSTAL SERVICE REGULATIONS.
12. A DRIVEWAY PERMIT IS REQUIRED TO BE APPLIED FOR FOR AN D APPROVED BY EL PASO COUNTY PRIOR TO THE ESTABLISHMENT OF ANY DRIVEWAY.
13. TRACTS A AND B ARE TO BE DEDICATED AS PUBLIC RIGHT-OF-WAY.
14. TRACTS C, D, E, F AND G ARE TO BE OWNED AND MAINTAINED BY THE WINSOME METRO DISTRICT NO. 1
15. THE WINSOME METRO DISTRICT NO. 1 IS ESTABLISHED IN THE DOCUMENT RECORDED UNDER RECEPTION NUMBER _____, RECORDS OF EL PASO COUNTY, COLORADO.
16. AN ADDITIONAL 40.00 OF RIGHT-OF-WAY IS PERSEVERED ON THE NORTH SIDE OF HODGEN ROAD FOR POTENTIAL FUTURE WIDENING.
17. THIS PLAT DOES NOT CONSTITUTE A TITLE SEARCH BY EDWARD-JAMES SURVEYING, INC. TO: DETERMINE OWNERSHIP OF THIS TRACT, VERIFY THE DESCRIPTION SHOWN, VERIFY THE COMPATIBILITY OF THIS DESCRIPTION WITH THAT OF ADJACENT TRACTS, OR VERIFY EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHT-OF-WAY, OR TITLE OF RECORD, EDWARD-JAMES SURVEYING, INC. RELIED UPON ORDER NUMBER ABN55072022-14, PREPARED BY LAND TITLE GUARANTEE COMPANY WITH AN EFFECTIVE DATE OF NOVEMBER 19, 2019 AT 5:00 P.M.
18. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENTS OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.
19. THE LINEAR UNIT OF MEASURE IS THE U.S. SURVEY FOOT.

TRACT TABLE:

LIMITATION OF ACTIONS AGAINST LAND SURVEYORS:

ALL ACTIONS AGAINST ANY LAND SURVEYOR BROUGHT TO RECOVER DAMAGES RESULTING FROM ANY ALLEGED NEGLIGENT OR DEFECTIVE LAND SURVEY SHALL BE BROUGHT WITHIN THREE YEARS AFTER THE PERSON BRINGING THE ACTION EITHER DISCOVERED OR IN THE EXERCISE OF REASONABLE DILIGENCE AND CONCERN SHOULD HAVE DISCOVERED THE NEGLIGENCE OR DEFECT WHICH GAVE RISE TO SUCH ACTION, AND NOT THEREAFTER, BUT IN NO CASE SHALL SUCH AN ACTION BE BROUGHT MORE THAN TEN YEARS AFTER THE COMPLETION OF THE SURVEY UPON WHICH SUCH ACTION IS BASED.

SURVEYOR'S STATEMENT:

I, JONATHAN W. TESSIN, A PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY STATE THAT THIS PLAT HAS BEEN PREPARED UNDER MY DIRECTION IN ACCORDANCE WITH THE COLORADO REVISED STATUTES, AS AMENDED, AND THAT THIS PLAT DOES ACCURATELY SHOW THE DESCRIBED TRACTS OF LAND AND THE SUBDIVISION THEREOF, AND THAT THE REQUIREMENTS OF TITLE 38 OF THE COLORADO REVISED STATUTES, 1973 AS AMENDED, HAVE BEEN MET TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____
JONATHAN W. TESSIN, PROFESSIONAL LAND SURVEYOR
COLORADO P.L.S. NO. 33196
FOR AND ON BEHALF OF EDWARD-JAMES SURVEYING, INC.

BOARD OF COUNTY COMMISSIONERS:

THAT THIS PLAT OF WINSOME FILING NO.1 WAS APPROVED FOR FILING BY THE EL PASO COUNT, COLORADO BOARD OF COUNTY COMMISSIONERS ON THIS _____DAY OF _____, 202_ A.D. SUBJECT TO ANY NOTES SPECIFIED HEREON AND THE PUBLIC (STREETS AND EASEMENTS) ARE ACCEPTED, BUT PUBLIC IMPROVEMENTS THEREON WILL NOT BECOME MAINTENANCE RESPONSIBILITY OF EL PASO COUNTRY UNTIL PRELIMINARY ACCEPTANCE OF THE PUBIC IMPROVEMENTS IN ACCORDANCE WITH THE REQUIREMENTS OF LAND DEVELOPMENT CODE AND ENGINEERING CRITERIA MANUAL, AND SUBDIVISION IMPROVEMENTS AGREEMENT.

_____ _____
CHAIR, BOARD OF COUNTY COMMISSIONERS DATE

_____ _____
DIRECTOR OF PLANNING AND
COMMUNITY DEVELOPMENT DEPARTMENT DATE

_____ _____
COUNTY ASSESSOR DATE

CLERK AND RECORDER:

STATE OF COLORADO)
) SS
COUNTY OF EL PASO)

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN MY OFFICE AT

___ O'CLOCK ___.M., THIS _____ DAY OF_____, 202__A.D., AND

IS DULY RECORDED UNDER RECEPTION NUMBER _____ OF THE

RECORDS OF EL PASO COUNTY, COLORADO.

CHUCK BROERMAN, RECORDER

BY: _____
DEPUTY

FEES:

SCHOOL FEE: _____

BRIDGE FEE: _____

PARK FEE: _____

DRAINAGE FEE: _____

REVISIONS		
NO.	DESCRIPTION	DATE

EDWARD-JAMES SURVEYING, INC.
926 Elkton Drive
Colorado Springs, CO 80907
Office: (719) 576-1216
Fax: (719) 576-1206
4732 Eagleridge Circle
Pueblo, CO 81008
Office: (719) 545-6240
Fax: (719) 545-6247

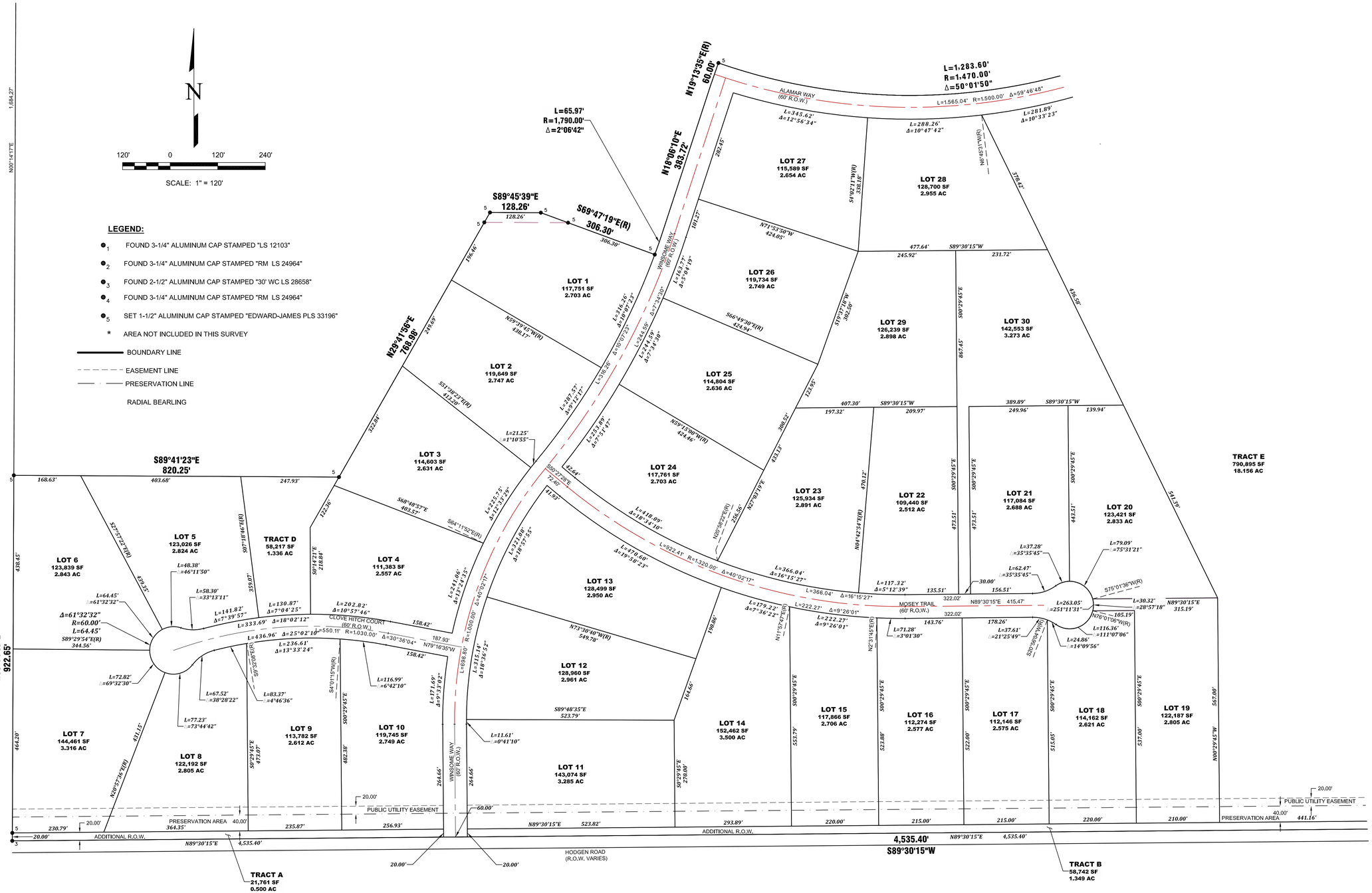
WINSOME FILING NO. 1
FINAL PLAT

A PORTION OF SOUTH HALF OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

DRAWN BY	JWT
CHECKED BY	TWS
H-SCALE	N/A
JOB NO.	1858-00
DATE CREATED	12/26/19
DATE ISSUED	1/14/20
SHEET NO	1 OF 3

WINSOME FILING NO. 1

A PORTION OF SOUTH HALF OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO



NO.	REVISIONS DESCRIPTION	DATE

EDWARD-JAMES SURVEYING, INC.
926 Elkton Drive
Colorado Springs, CO 80907
Office: (719) 576-1216
Fax: (719) 576-1206
4732 Eagleridge Circle
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Office: (719) 545-6240
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WINSOME FILING NO. 1
FINAL PLAT

A PORTION OF SOUTH HALF OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

DRAWN BY	JWT
CHECKED BY	TWS
H-SCALE	1" = 120'
JOB NO.	1858-00
DATE CREATED	12/26/19
DATE ISSUED	1/14/20
SHEET NO	2 OF 3

WINSOME FILING NO. 1

A PORTION OF SOUTH HALF OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

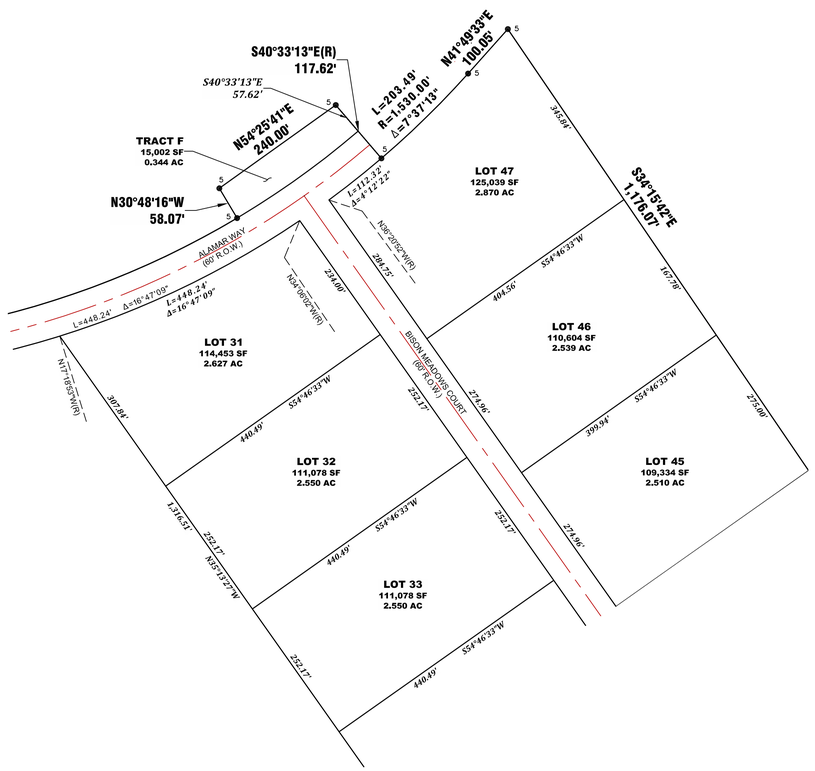
N

120' 0 120' 240'

SCALE: 1" = 120'

LEGEND:

- ●1 FOUND 3-1/4" ALUMINUM CAP STAMPED "LS 12103"
- ●2 FOUND 3-1/4" ALUMINUM CAP STAMPED "RM LS 24964"
- ●3 FOUND 2-1/2" ALUMINUM CAP STAMPED "30' WC LS 28658"
- ●4 FOUND 3-1/4" ALUMINUM CAP STAMPED "RM LS 24964"
- ●5 SET 1-1/2" ALUMINUM CAP STAMPED "EDWARD-JAMES PLS 33196"
- * AREA NOT INCLUDED IN THIS SURVEY
- BOUNDARY LINE
- EASEMENT LINE
- PRESERVATION LINE
- RADIAL BEARING



NO.	REVISIONS DESCRIPTION	DATE

EDWARD-JAMES SURVEYING, INC.
926 Elkton Drive
Colorado Springs, CO 80907
Office: (719) 576-1216
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WINSOME FILING NO. 1
FINAL PLAT

A PORTION OF SOUTH HALF OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, COUNTY OF EL PASO, STATE OF COLORADO

DRAWN BY	JWT
CHECKED BY	TWS
H-SCALE	1"= 120'
JOB NO.	1858-00
DATE CREATED	12/26/19
DATE ISSUED	1/14/20
SHEET NO	3 OF 3

Appendix B

Appendix B
PT McCune, LLC- Winsome Subdivision
Water Demands and Wastewater Loads Estimate (Phase 1-4)

Residential Constants

Water (Rural)	***0.6***	***AF/Year-SFE***
Wastewater (Base Flow)	***241***	***GPD/SFE***
Wastewater (MDF)	***294***	***GPD/SFE***
Estimated Wastewater Flow	***0.27***	***AF/Year-SFE***

Commercial Constants - N/A

Water (Rural)	***5***	***AF/Year-SFE***
Wastewater (Base Flow)	***2009***	***GPD/SFE***
Wastewater (MDF)	***2452***	***GPD/SFE***
Estimated Wastewater Flow	***2.25***	***AF/Year-SFE***

Land Use	**Density**	**Water Demands**						**Wastewater Loads**			
		SFE	**Unit Use**	**Acre-Feet**	**ADF (GPD)**	**Max Daily Use (GPD)**	**Peak Hour (GPM)**	**Return Flow AF/Year**	**SFE**	**Average Daily Flow**	**Max Day Daily Flow**
Residential		47	0.6	28.2	25,175	62,938	66	12.69	47	11,327	13,818
Commercial - N/A											
Total Demand		47		28.2	25175	62938	66	12.69	47	11327	13818
				AF/Year	GPD	GPD	GPM	AF/Year		GPD	GPD

Appendix C

Appendix C
Winsome Subdivision
Overall Water Supply Inventory (Phases 1-4)

Land Formation/Aquifer	Finding/ Decree	Tributary Status	Volume	Annual Allocation 100 Year	Annual Allocation 300 Year	Notes	Saturated Sand Thickness	Saturated Specific Yield	Owner
			Acre-Feet	A-F/Year	A-F/Year				
Currently Available On-Site Ground Water Legal Sources (Note 1 & 2)									
Dawson	1692-BD	NNT	69,797	697.97	232.66	Entirety of McCune Ranch Subdivision demand will be met with water from Dawson Aquifer	455	20%	George F. McCune and Evelyn McCune
Denver	1691-BD	NT	44,985	449.85	149.95	60 acre-feet/year will be kept for McCune Ranch, with the remainder sold to Sterling Ranch	345	17%	George F McCune and Evelyn McCune
Arapahoe	1690-BD	NT	33,901	339.01	113.00	Water from this aquifer will be sold to Sterling Ranch and not used at the McCune Ranch Subdivision	260	17%	George F McCune and Evelyn McCune
Laramie-Fox Hills	1689-BD	NT	22,435	224.35	74.78	Water from this aquifer will be sold to Sterling Ranch and not used at the McCune Ranch Subdivision	195	15%	George F McCune and Evelyn McCune
Total Legal Supply			**171,118**	**1,711**	**570**				
Total Available for Use at McCune Ranch Subdivision			**75,797**		**293**				

Beneficial Uses *Domestic*
Industrial
Commercial
Irrigation
Augmentation
Stock watering
Recreational water feature ponds
Piscatorial
Wildlife
Replacement

Appendix D

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: DAWSON

DETERMINATION NO.: **1692-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
07/10/2008 03:13:17 PM
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Rec $36.00 1 of 7
208078575

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Dawson Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Dawson Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 81900 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 20 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 455 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 819 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is considered to be not-nontributary ground water. Withdrawal of water from the aquifer underlying the claimed land area would impact the alluvial aquifer of Kiowa Creek or its tributaries, which has been determined to be over-appropriated. Commission approval of a replacement plan - pursuant to Section 37-90-107.5, C.R.S., and Rule 5.6 of the Designated Basin Rules - providing for the actual depletion of the alluvial aquifer and adequate to prevent any material injury to existing water rights, would be required prior to approval of well permits for wells to be located on this land area to withdraw the allocated ground water from the aquifer.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Dawson Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 819 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. Commission approval of a replacement plan, providing for actual depletion of affected alluvial aquifers and adequate to prevent any material injury to existing water rights in such alluvial aquifers is required prior to approval of well permits for wells to be located on the overlying land area to withdraw ground water from the aquifer.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Dawson Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged <u>prior</u> to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1692-BD

RECEIVED

APR 17 2008

WATER RESOURCES
STATE ENGINEER
COLO.

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

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

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

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

George F McCune
Signature Date

Evelyn M. McCune
Signature Date

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

County of El Paso, State of Colorado, This 2nd
Received at 9:[illegible] A.M. NOV 29 1976
Reception No. 2501197 Harriet Beale, Clerk and Recorder

BOOK 2877 PAGE 197

RECEIVED
APR 17 2008
WATER RESOURCES
STATE ENGINEER
COLO.

SEARCHED

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Young
Notary Public

My commission expires: 6/20/78

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: DENVER

DETERMINATION NO.: **1691-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
07/10/2008 03:13:17 PM
Doc $0.00 Page
Rec $36.00 1 of 7
208078576

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Denver Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Denver Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 52800 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 345 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 528 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Denver Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 528 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Denver Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1691-BD

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

RECEIVED
APR 17 2008
WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

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

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

Signature George F McCune Date

Signature Evelyn M. McCune Date

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

EXHIBIT A

1691-BD

Page 2 of 2

County of El Paso, State of Colorado, Fee 2.00
RECEIVED AT 9:00 o'clock A.M. NOV 29 1976
RECEPTION NO. 2501437 HARRIET BEALS, Clerk and Recorder

BOOK 2877 PAGE 197

RECEIVED

APR 17 2008

WATER RESOURCES
STATE ENGINEER
COLO.

SEC 01 TAL

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No Consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Gurney
Notary Public

My commission expires: 6/20/78

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: ARAPAHOE

DETERMINATION NO.: **1690-BD**

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Arapahoe Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Arapahoe Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 39800 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 17 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 260 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 398 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Arapahoe Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 398 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Arapahoe Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged <u>prior</u> to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith Vander Horst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1690-BD

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

RECEIVED
APR 1 7 2008
WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

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

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

Signature George F. McCune Date

Signature Evelyn M. McCune Date

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

EXHIBIT A

1690-BD

Page 2 of 2

County of El Paso, State of Colorado, This 2nd
RECEIVED AT 9:00 o'clock A.M. NOV 29 1976
RECEPTION NO. 2301437 HARRIET NEALS, Recorder, By

BOOK 2077 PAGE 187

RECEIVED

APR 17 2008

WATER RESOURCES
STATE ENGINEER
COLO.

SAOTAS

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No Consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Young
Notary Public

My commission expires: 6/20/78

COLORADO GROUND WATER COMMISSION
FINDINGS AND ORDER

IN THE MATTER OF AN APPLICATION FOR DETERMINATION OF WATER RIGHT TO ALLOW THE WITHDRAWAL OF GROUND WATER IN THE KIOWA-BIJOU DESIGNATED GROUND WATER BASIN

APPLICANT: GEORGE F. MCCUNE AND EVELYN MCCUNE

AQUIFER: LARAMIE-FOX HILLS

DETERMINATION NO.: **1689-BD**

ROBERT C. "BOB" BALINK El Paso County, CO
07/10/2008 03:13:17 PM
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Rec $36.00 1 of 7 208078578

In compliance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, 2 CCR 410-1, George F. McCune and Evelyn McCune (hereinafter "applicant") submitted an application for determination of water right to allow the withdrawal of designated ground water from the Laramie-Fox Hills Aquifer.

FINDINGS

1. The application was received complete by the Colorado Ground Water Commission on April 17, 2008.

2. The applicant requests a determination of rights to designated ground water in the Laramie-Fox Hills Aquifer (hereinafter "aquifer") underlying 900.52 acres, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, in El Paso County. According to a signed statement dated April 17, 2008, the applicant owns the 900.52 acres of land, as further described in said affidavit which is attached hereto as Exhibit A, and claims control of the ground water in the aquifer underlying this land area.

3. The proposed annual amount of ground water to be allocated and withdrawn from the aquifer for intended beneficial uses is the maximum allowable amount.

4. The above described land area overlying the ground water claimed by the applicant is located within the boundaries of the Kiowa-Bijou Designated Ground Water Basin. The Colorado Ground Water Commission (hereinafter "Commission") has jurisdiction.

5. The applicant intends to apply the allocated ground water to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The applicant's proposed place of use of the allocated ground water is the above described 900.52 acre land area.

6. The quantity of water in the aquifer underlying the 900.52 acres of land claimed by the applicant is 26300 acre-feet. This determination was based on the following as specified in the Designated Basin Rules:

a. The average specific yield of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 15 percent.

b. The average thickness of the saturated permeable material of the aquifer underlying the land under consideration that could yield a sufficient quantity of water that may be extracted and applied to beneficial use is 195 feet.

7. At this time, there is no substantial artificial recharge that would affect the aquifer within a one hundred year period.

8. Pursuant to Section 37-90-107(7), C.R.S., and in accordance with the Designated Basin Rules, the Commission shall allocate ground water in the aquifer based on ownership of the overlying land and an aquifer life of one hundred years. Therefore, the maximum allowed average annual amount of ground water in the aquifer that may be allocated for withdrawal pursuant to the data in the paragraphs above for the 900.52 acres of overlying land claimed by the applicant is 263 acre-feet.

9. A review of the records in the Office of the State Engineer has disclosed that none of the water in the aquifer underlying the land claimed by the applicant has been previously allocated or permitted for withdrawal.

10. Pursuant to Section 37-90-107(7)(c)(III), C.R.S., an approved determination of water right shall be considered a final determination of the amount of ground water so determined; except that the Commission shall retain jurisdiction for subsequent adjustment of such amount to conform to the actual local aquifer characteristics from adequate information obtained from well drilling or test holes.

11. The ability of wells permitted to withdraw the authorized amount of water from this non-renewable aquifer may be less than the one hundred years upon which the amount of water in the aquifer is allocated, due to anticipated water level declines.

12. In accordance with Rule 5.3.6 of the Designated Basin Rules, it has been determined that withdrawal of ground water from the aquifer underlying the land claimed by the applicant will not, within one hundred years, deplete the flow of a natural steam or its alluvial aquifer at an annual rate greater than one-tenth of one percent of the annual rate of withdrawal and, therefore, the ground water is nontributary ground water as defined in Rule 4.2.19 of the Designated Basin Rules. No more than 98% of the amount of ground water withdrawn annually shall be consumed, as required by the Designated Basin Rules.

13. In accordance with Section 37-90-107(7), C.R.S., upon Commission approval of a determination of water right, well permits for wells to withdraw the authorized amount of water from the aquifer shall be available upon application, subject to the conditions of this determination and the Designated Basin Rules and subject to approval by the Commission.

14. The Commission Staff has evaluated the application relying on the claims to control of the ground water in the aquifer made by the applicant.

15. In accordance with Sections 37-90-107(7) and 37-90-112, C.R.S., the application was published in the Ranchland News newspaper on May 8 and May 15, 2008.

16. No objections to the determination of water right and proposed allocation of ground water were received within the time limit set by statute.

17. In order to prevent unreasonable impairment to the existing water rights of others within the Kiowa-Bijou Designated Ground Water Basin it is necessary to impose conditions on the determination of water right and proposed allocation of ground water. Under conditions as stated in the following Order, no unreasonable impairment of existing water rights will occur from approval of this determination of water right or from the issuance of well permits for wells to withdraw the authorized amount of allocated ground water from the aquifer.

ORDER

In accordance with Section 37-90-107(7), C.R.S., and the Designated Basin Rules, the Colorado Ground Water Commission orders that the application for determination of rights to designated ground water in the Laramie-Fox Hills Aquifer underlying 900.52 acres of land, generally described as the SW1/4 of the SW1/4, Section 18, the W1/2 of the NW1/4 and the W1/2 of the SW1/4, Section 19, Township 11 South, Range 64 West of the 6th PM and the S1/2 of the SE1/4, Section 13 and all of Section 24, Township 11 South, Range 65 West of the 6th Principal Meridian, is approved subject to the following conditions:

18. The allowed average annual amount of withdrawal of ground water from the aquifer shall not exceed 263 acre-feet. The allowed maximum annual amount of withdrawal may exceed the allowed average annual amount of withdrawal as long as the total volume of water withdrawn does not exceed the product of the number of years since the date of approval of this determination times the allowed average annual amount of withdrawal.

19. To conform to actual aquifer characteristics, the Commission may adjust the allowed average annual amount of ground water to be withdrawn from the aquifer based on analysis of geophysical logs or other site-specific data if such analysis indicates that the initial estimate of the volume of water in the aquifer was incorrect.

20. The applicant may pump the allowed average annual amount of withdrawal and the allowed maximum annual amount of withdrawal from one or more wells of a well field in any combination, so long as the total combined withdrawal of the wells does not exceed the amounts described in this Order.

21. No more than 98% of the ground water withdrawn annually shall be consumed. The Commission may require well owners to demonstrate periodically that no more than 98% of the water withdrawn is being consumed.

22. The use of ground water from this allocation shall be limited to the following beneficial uses: domestic, industrial, commercial, irrigation, augmentation, stock watering, recreational water feature ponds and piscatorial habitat less than 1000 square feet and wildlife, replacement and all other augmentation purposes. The place of use shall be limited to the above described 900.52 acre land area.

23. The applicant, or subsequent persons controlling this water right, shall record in the public records of the county - in which the claimed overlying land is located - notice of transfer of any portion of this water right to another within sixty days after the transfer, so that a title examination of the above described 900.52 acre land area, or any part thereof, shall reveal the changes affecting this water right. Such notice shall consist of a signed and dated deed which indicates the determination number, the aquifer, a description of the above described land area, the annual amount of ground water (acre-feet) transferred, name of the recipient, and the date of transfer.

24. Subject to the above conditions, well permits for wells to withdraw the allocated annual amount of water from the aquifer shall be available upon application subject to approval by the Commission and the following conditions:

    a. The wells shall be located on the above described 900.52 acre overlying land area.

    b. The wells must be constructed to withdraw water from only the Laramie-Fox Hills Aquifer. Upon application for a well permit to construct such a well, the estimated top and base of the aquifer at the proposed well location will be determined by the Commission and indicated on the approved well permit. Plain non-perforated casing must be installed, grouted and sealed to prevent diversion of ground water from other aquifers and the movement of ground water between aquifers.

    c. The entire depth of each well must be geophysically logged prior to installing the casing as set forth in Rule 9 of the Statewide Nontributary Ground Water Rules, 2 CCR 402-7.

    d. Each well shall be constructed within 200 feet of the location specified on the approved well permit, but must be more than 600 feet from any existing large-capacity well completed in the same aquifer.

    e. A totalizing flow meter or other Commission approved measuring device shall be installed on each well and maintained in good working order by the well owner. Annual diversion records shall be collected and maintained by the well owner and submitted to the Commission upon their request.

    f. The well owner shall mark the well in a conspicuous place with the permit number and the name of the aquifer. The well owner shall take necessary means and precautions to preserve these markings.

25. A copy of this Findings and Order shall be recorded by the applicant in the public records of the county in which the claimed overlying land is located so that a title examination of the above described 900.52 acre overlying land area, or any part thereof, shall reveal the existence of this determination.

Dated this 25th day of June, 2008.

Dick Wolfe

Dick Wolfe, P.E
Executive Director
Colorado Ground Water Commission

By: Keith VanderHorst

Keith Vander Horst, P.E.
Water Resource Engineer

Prepared by: JPM

92GWS 1
03/2005

EXHIBIT A

1689-BD

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

RECEIVED
APR 17 2008
WATER RESOURCES
STATE ENGINEER
COLO.

NONTRIBUTARY GROUND WATER LANDOWNERSHIP STATEMENT

I (We) **George F. McCune and Evelyn McCune**
(Name(s))

claim and say that I (we) am (are) the owner(s) of the following described property consisting of **900.52** acres in the County of **El Paso**,
State of Colorado:

(Insert the property legal description)

SW/4SW/4 Section 18 and W/2 of the W/2 Section19, T11S, R64W, and S/2SE/4 Section 13 and All of Section 24, T11S R65W, 6th PM, El Paso County, 900.52 acres

See attached Quitclaim Deed dated November 29, 1976, and map.

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

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

Signature George F. McCune Date

Signature Evelyn M. McCune Date

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

EXHIBIT A

1689-BD

Page 2 of 2

County of El Paso, State of Colorado, Fee 2.00

RECEIVED AT 9:00 O'CLOCK A.M. NOV 29 1976

RECEPTION NO. 280197 HARRIET WALL, Recorder/Clerk

BOOK 2877 PAGE 197

RECEIVED

APR 17 2008

WATER RESOURCES STATE ENGINEER COLO.

SEARCHED

QUITCLAIM DEED

RAY C. McCUNE and GRETA C. McCUNE, as husband and wife, of the County of El Paso and State of Colorado, for the consideration of One Dollar ($1.00) and other good and valuable consideration, in hand paid, hereby sell and quit claim to GEORGE F. McCUNE and EVELYN M. McCUNE, husband and wife, in joint tenancy, of the County of Elbert and State of Colorado, a one-half interest in and to all minerals underlying the following described property, including oil and gas, said property lying and being in the County of El Paso and State of Colorado, to wit:

> The Southwest quarter of the Southwest quarter of Section Eighteen, Township Eleven, Range Sixty-four; the West half of the West half of Section Nineteen, Township Eleven, Range Sixty-four; the South half of the Southeast Quarter of Section Thirteen, Township Eleven, Range Sixty-five; All of Section Twenty-four, Township Eleven, Range Sixty-five, containing in all Nine hundred and fifty-two hundredths (900.52) acres, more or less, according to Government Survey,

with all its appurtenances.

No Consideration

DATED and signed this 22 day of Nov., 1976.

STATE DOCUMENTARY
NOV 29 1976
FEE $ None

Ray C. McCune
Ray C. McCune

Greta C. McCune
Greta C. McCune

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 22 day of Nov., 1976, by Ray C. McCune and Greta C. McCune.

Stephanie Gurney
Notary Public

My commission expires: 6/20/78

Appendix E

DRAFT

PRELIMINARY SOIL, GEOLOGY, GEOLOGIC HAZARD, AND WASTEWATER STUDY, MCCUNE RANCH SUBDIVISION PARCEL NO. 51990-01-009 17480 MERIDIAN ROAD NORTH EL PASO COUNTY, COLORADO

Prepared for

Proterra Properties, LLC
1864 Woodmoor Drive, Suite 100
Monument, Colorado 80132

Attn: Joe DesJardin

September 28, 2018

Respectfully Submitted,

ENTECH ENGINEERING, INC.

Reviewed by:

Logan L. Langford
Geologist

Joseph C. Goode, Jr, P.E.
President

Kristen A. Andrew-Hoeser, P.G
Engineering Geologist

LLL/nc

Encl.

Entech Job No. 181459
AAprojects/2018/181459 countysoil/geo/ww

TABLE OF CONTENTS

1.0 SUMMARY

Project Location

The project site lies in Section 24 and a portion of the S½ of Section 13, Township 11 South, Range 65 West of the 6th Principal Meridian, and a portion of the W½ of Section 19, Township 11 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 12 miles east of Monument, Colorado, northwest of Hodgen Road and Meridian Road North.

Project Description

Total acreage involved in the project is approximately 666 acres. The proposed site development consists of one-hundred and forty-three single-family rural residential lots and one commercial lot. The development will utilize individual wells and on-site wastewater treatment systems.

Scope of Report

This report presents the results of our geologic evaluation, treatment of engineering geologic hazard study and wastewater study for individual on-site wastewater treatment systems.

Land Use and Engineering Geology

This site was found to be suitable for the proposed development. Areas were encountered where the geologic conditions will impose some constraints on development and land use. These include areas of artificial fill, potentially expansive soils, potentially unstable slopes, downslope creep areas, floodplain, potentially seasonal shallow groundwater, and seasonal shallow groundwater areas. Based on the proposed development plan, it appears that these areas will have some impact on the development. These conditions will be discussed in greater detail in the report.

In general, it is our opinion that the development can be achieved if the observed geologic conditions on site are either avoided or properly mitigated. All recommendations are subject to the limitations discussed in the report.

2.0 GENERAL SITE CONDITIONS AND PROJECT DESCRIPTION

The site is located in Section 24 and a portion of the S½ of Section 13, Township 11 South, Range 65 West of the 6th Principal Meridian, and a portion of the W½ of Section 19, Township 11 South, Range 64 West of the 6th Principal Meridian in El Paso County, Colorado. The site is located approximately 12 miles east of Monument, Colorado, northwest of Hodgen Road and Meridian Road North. The location of the site is as shown on the Vicinity Map, Figure 1.

The topography of the site consists of rolling hills that vary from gradually to moderately sloping generally to the southeast and northwest. West Kiowa Creek bisects the site. Steep slopes are located along some of the drainages on the site. The drainages on site flow in a northeasterly direction through the central portion of the site. Water was observed in West Kiowa Creek at the time of this investigation. The site boundaries are indicated on the USGS Map, Figure 2. Previous land uses have included grazing and pasture land. The site contains primarily field grasses and weeds. Site photographs, taken September 12 and 15, 2018, are included in Appendix A.

Total acreage involved in the proposed development is approximately 666 acres. One hundred and fourty-three single-family rural residential lots and one commercial lot are proposed. The proposed residential lots are approximately 2.5 to 5 acres each, and the commercial lot is 6.8 acres. The area will be serviced by individual wells and on-site wastewater treatment systems. The proposed Site Plan/Testing Location Map is presented in Figure 3.

3.0 SCOPE OF THE REPORT

The scope of the report will include the following:

- A general geologic analysis utilizing published geologic data. Detailed site-specific mapping will be conducted to obtain general information in respect to major geographic and geologic features, geologic descriptions and their effects on the development of the property.

- The site will be evaluated for individual on-site wastewater treatment systems in accordance with El Paso Land Development Code.

4.0 FIELD INVESTIGATION

Our field investigation consisted of the preparation of a geologic map of any bedrock features and significant surficial deposits. The Natural Resource Conservation Service (NRCS), previously the Soil Conservation Service (SCS) survey was also reviewed to evaluate the site. The position of mappable units within the subject property are shown on the Geologic Map. Our mapping procedures involved both field reconnaissance and measurements and air photo reconnaissance and interpretation. The same mapping procedures have also been utilized to produce the Geology/Engineering Geology Map which identified pertinent geologic conditions affecting development. The field mapping was performed by personnel of Entech Engineering, Inc. on September 12 and 15, 2018.

Five (5) test borings, and ten (10) tactile test pits were performed on the site to determine general suitability of the site for the use of on-site wastewater treatment systems. The locations of the test borings, and test pits are indicated on the Site Plan/Testing Location Map, Figure 3. The Test Boring and Test Pit Logs are presented in Appendix B. Results of this testing will be discussed later in this report.

Laboratory testing was also performed on some of the soils to classify and determine the soils engineering characteristics. Laboratory tests included grain-size analysis, ASTM D-422, and Atterberg Limits, ASTM D-4318. Results of the laboratory testing are included in Appendix C. A Summary of Laboratory Test Results is presented in Table 1.

5.0 SOIL, GEOLOGY AND ENGINEERING GEOLOGY

5.1 General Geology

Physiographically, the site lies in the western portion of the Great Plains Physiographic Province, north of the Palmer Divide. Approximately 16 miles to the west is a major structural feature known as the Rampart Range Fault. This fault marks the boundary between the Great Plains Physiographic Province and the Southern Rocky Mountain Province. The site exists within the southeastern edge of a large structural feature known as the Denver Basin. Bedrock in the area tends to be very gently dipping in a northwesterly direction (Reference 1). The rocks in the area

of the site are sedimentary in nature and typically Tertiary to Upper Cretaceous in age. The bedrock underlying the site consists of the Dawson Arkose Formation. Overlying this formation are unconsolidated deposits of residual soils, man-made, and alluvial soils of the Quaternary Age. The residual soils are produced by the in-situ action of weathering of the bedrock on site. The alluvial soils were deposited by water in the major drainage on the site and as stream terrace deposits. Man-made soils exist as erosion berms. The site's stratigraphy will be discussed in more detail in Section 5.3.

5.2 Soil Conservation Survey

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3) has mapped ten soil types on the site (Figure 4). In general, they vary from loam, loamy sands, and sandy loam. The soils are described as follows:

Type	Description
1	Alamosa Loam, 1-3% slopes
15	Brussett Loam, 3 to 5% slopes
21	Cruckton Sandy Loam, 1 to 9% slopes
25	Elbeth Sandy Loam, 3 to 8% slopes
26	Elbeth Sandy Loam, 8 to 15% slopes
36	Holderness Loam, 8 to 15% slopes
67	Peyton Sandy Loam, 5-9% slopes
68	Peyton-Pring Complex, 3-8% slopes
71	Pring Coarse Sandy Loam, 3 to 8% slopes
92	Tomah-Crowfoot Loamy Sands, 3 to 8% slopes

Complete descriptions of each soil type are presented in Appendix D. The soils have generally been described to typically have slow to rapid permeabilities. The majority of the soils have moderate permeabilities. Limitations described for the soils include shrink-swell potential on Soil Type Nos. 15, 25, 26, and 36, slope on Soil Type Nos. 26 and 36, and the hazard of flooding on Soil Type No. 1. Soil Type No. 1 is mapped in the floodplain zone that is designated as open space. Roads may need to be designed to minimize frost-heave potential. Possible hazards with soil erosion are present on the site. The erosion potential can be controlled with vegetation. The majority of the soils have been described to have moderate erosion hazards.

5.3 Site Stratigraphy

The Eastonville Quadrangle Geology Map showing the site is presented in Figure 5 (Reference 4). The Geology Map prepared for the site is presented in Figure 6. Seven mappable units were identified on this site which are described as follows:

Qaf **Recent Artificial Fill of Holocene Age:** These are man-made fill deposits associated with erosion berms on-site.

Qal **Recent Alluvium of Late Holocene Age:** These materials consist of water deposited sands located along some of the minor drainages across the site.

Qp **Piney Creek Alluvium (Alluvium One and Two) of Early Holocene Age:** These materials consist of low stream-terrace deposits above the current stream channel. The materials typically consist of silty to well graded sand.

Qb **Broadway Alluvium (Alluvium Three) of Late Pleistocene Age:** These materials consist of middle steam terrace deposits. The materials typically consist of silty to clayey gravelly sands.

Qlo **Louviers Alluvium (Alluvium Four) Late Middle Pleistocene Age:** These materials consist of upper stream terrace deposits. The materials typically consist of light brown silty sands which contain an abundance of gravels.

Qsw **Sheetwash Deposits of Holocene to Late Pleistocene Age:** These materials consist of silty to clayey sands with some cobbles and boulders. The material was deposited by the action of sheetwash and gravity.

Qc/Tkd **Colluvium of Quaternary Age overlying Dawson Formation of Tertiary to Cretaceous Age:** The Dawson Formation typically consists of arkosic sandstone with interbedded fine-grained sandstone, siltstone and claystone. Overlying this formation is a variable layer of residual soil. The residual soils were derived from the in-situ

weathering of the bedrock materials on-site. These soils consisted of silty to clayey sands, sandy clays and sandy silts.

The soils listed above were mapped from site-specific mapping, the *Geologic Map of the Eastonville Quadrangle* distributed by the Colorado Geological Survey in 2012 (Reference 4), and the *Geologic Map of the Denver 1^0 x 2^0 Quadrangle*, distributed by the US Geological Survey in 1981 (Reference 5). The Test Pits and Profile Holes were also used in evaluating the site and are included in Appendix B. The Geology Map prepared for the site is presented in Figure 6.

5.4 Soil Conditions

The soils encountered in the Test Borings and Test Pits can be grouped into four general soil and rock types. The Test Boring soils were classified using the Unified Soil Classification System (USCS). The soils encountered in the Test Pits can be grouped into three general soil types. The test pit soils were classified using the USDA Textural Soil Classification.

Soil Type 1 is a slightly silty to silty and clayey sand (SM-SW, SM, SC). This material was encountered in the test borings and in nine of the test pits. The sand was encountered at depths ranging from the existing surface to 12 to 15 feet bgs and extended to the termination of the Test Boring Nos. 2, 3 and 5 (20 feet). These soils were encountered at loose to medium dense states and at dry to moist conditions. Samples tested had 7 to 34 percent of the soil sized particles passing the No. 200 Sieve. Atterberg Limits Testing resulted in the sand being non-plastic. FHA Swell Testing on a sample of the sand resulted in an expansion of 30 psf, indicating a low expansion potential.

Soil Type 2 is a sandy clay (CL). This material was encountered in Test Pit No. 1 and Test Boring No. 2. The clays were encountered at depths of the existing surface grade in the test pit and at 19 feet in the test boring and extended to depths up to 8 feet bgs to the termination of the test boring (20 feet). The clays were encountered at firm consistencies and moist conditions. The sample tested had 75 percent of the soil sized particles passing the No. 200 sieve. Atterberg Limits Testing resulted in a liquid limit of 30 and a plastic index of 10.

Soil Type 3 is a silty to clayey sandstone and very clayey sandstone (SM, SC, SC-SM, CL-SC). This material was encountered Test Boring No. 4 and in Test Pit Nos. 2, 3, 6, 7 and 8. The

sandstone was encountered at depths ranging from 3 to 16 feet bgs and extended to the termination of the boring and pits (7 to 20 feet). The sandstone was encountered at very dense states and moist conditions. Samples tested had 14 to 54 percent of the soil sized particles passing the No. 200 sieve. Atterberg Limits Testing resulted in liquid limits of 21 to 31 and plastic indexes of 7 to 14. FHA Swell Testing resulted in an expansion pressure of 350 psf, indicating a low expansion potential. Highly expansive clayey sandstone and claystone are commonly interbedded in the sandstone in the area.

Soil Type 4 is a sandy claystone (CL). This material was encountered Test Boring No. 1 at 12 feet bgs and extended to the termination of the boring (20 feet). The claystone was encountered at hard consistencies and moist conditions. Samples tested had 73 percent of the soil sized particles passing the No. 200 sieve. Swell/Consolidation Testing resulted in a volume change of 2.5 percent, indicating a moderate to high expansion potential.

The Test Boring Logs and Test Pit Logs are presented in Appendix B. Laboratory Test Results are presented in Appendix C. A Summary of Laboratory Test Results is presented in Table 1.

5.5 Groundwater

Groundwater was encountered in Test Boring No. 3 at 16.5 feet. Groundwater was not encountered in the remaining test borings which were drilled to 20 feet. Areas of seasonal and potentially seasonal shallow groundwater have been mapped in low-lying areas and in the drainages on-site. These areas are discussed in the following section. Fluctuation in groundwater conditions may occur due to variations in rainfall and other factors not readily apparent at this time.

It should be noted that in the sandy materials on site, some groundwater conditions might be encountered due to the variability in the soil profile. Isolated sand and gravel layers within the soils, sometimes only a few feet in thickness and width, can carry water in the subsurface. Groundwater may also flow on top of the underlying bedrock. Builders and planners should be cognizant of the potential for the occurrence of such subsurface water features during construction on-site and deal with each individual problem as necessary at the time of construction.

6.0 ENGINEERING GEOLOGY – IDENTIFICATION AND MITIGATION OF GEOLOGIC HAZARDS

As mentioned previously, detailed mapping has been performed on this site to produce an Geology/Engineering Geology Map (Figure 6). This map shows the location of various geologic conditions of which the developers should be cognizant during the planning, design and construction stages of the project. These hazards and the recommended mitigation techniques are as follows:

Artificial Fill

These are man-made fill deposits associated with erosion berms on-site.

Mitigation: The small erosion berms can easily be removed or penetrated by foundations. Should any uncontrolled fill be encountered beneath foundations, removal and recompaction at 95% of its maximum Modified Proctor Dry Density, ASTM D-1557 will be required.

Loose or Collapsible Soils

Loose soils were encountered in one of the test borings. Any loose or collapsible soils encountered beneath foundations or floor slabs will require mitigation.

Mitigation: Any loose or collapsible soils encountered beneath foundations or floor slabs should be overexcavated 2 to 3 feet, moisture-conditioned and recompacted. The soils should be recompacted to 95 percent of the soils maximum Modified Proctor Dry Density ASTM D-1557 at ± 2 percent of optimum moisture content. The reconditioned soils on this site should be observed and tested to verify adequate compaction. Areas requiring recompaction should be determined during the excavation observation.

Expansive Soils

Expansive soils were encountered in the test borings drilled and test pits excavated on–site. Expansive claystone is commonly encountered within the Dawson Formation. These occurrences are typically sporadic; therefore, none have been indicated on the maps. These expansive soils, if encountered beneath foundations, can cause differential movement in the structure foundation. These occurrences should be identified and mitigated on an individual basis.

Mitigation: Should expansive soils be encountered beneath the foundation, mitigation will be necessary. Mitigation of expansive soils will require special foundation design. Overexcavation and replacement with non-expansive soils at a minimum of 95% of its maximum Modified Proctor Dry Density, ASTM D-1557 is a suitable mitigation, which is common in the area. Another alternative in areas of highly expansive soils is the use of drilled pier foundation systems. Typical minimum pier depths are on the order of 25 feet or more and require penetration into the bedrock material a minimum of 4 to 6 feet, depending upon building loads. Floor slabs on expansive soils should be expected to experience movement. Overexcavation and replacement has been successful in minimizing slab movements. The use of structural floors should be considered for basement construction on highly expansive clays. Final recommendations should be determined after additional investigation of each building site.

Slope Stability and Landslide Hazard

The majority of the slopes in the building areas on site are gently to moderately sloping and do not exhibit any past or potential unstable slopes or landslides. However, the steeply sloping areas along the drainage in the central portion of the site have been identified as potentially unstable slopes. Additionally, areas of downslope creep have been mapped on the site. These areas are identified on the Geology/Engineering Geology Map, Figure 6. The recommendations for these areas are as follows:

- *Potentially Unstable Slope Area*

  The area identified with this hazard is located along a portion of a minor drainage where cut banks have created potentially unstable slopes. Considerable care must be exercised in these areas not to create a condition which would tend to activate instability.

  Mitigation: Building should be avoided in these areas. The lots most significantly affected by potentially unstable slopes are Lots 55 and 56. The structures on these lots should be set back a minimum of 30 feet from the crest of these slopes. It appears there is sufficient room on the lots to avoid this hazard. Proper control of drainage at both the surface above the slope and the subsurface is extremely important. Areas of ponded water at the surface should be avoided. Utility trenches, basement excavations and other subsurface features should not be permitted to become water traps which may promote saturation of the subsurface materials. Drainage should not be permitted over the potentially unstable slope but directed

in a non-erosive manner away from the slope. Irrigation above these slopes should be kept to a minimum to prevent saturation of the subsurface soils. The use of xeriscape landscaping utilizing native plantings is recommended to reduce the need for irrigation.

- *Downslope Creep Area*

The areas identified with this hazard includes some of the steeper slopes on site, particularly in the northwest portion of the site. In these areas, we would anticipate lateral and vertical movement of the near surface soils in the downslope direction. These areas are acceptable as building sites with the following constraints on construction.

Mitigation: Building is possible in these areas if the following engineering and construction mitigation steps are taken: This type of movement will increase lateral pressures against foundation walls on the uphill side of structures. The design of foundations in these areas should account for this additional pressure. Additionally, the foundation should be designed to withstand pressures where steeper areas slope away from the foundation. Tie beams and buttresses are recommended to stiffen the foundation system.

Floodplain and Drainage Areas

Portions of the site associated with the West Kiowa Creek drainage are mapped within a floodplain zone according to the FEMA Map No. 08041CO350F, dated March 17, 1997 (Figure 7, Reference 6). Water was observed flowing in West Kiowa Creek. The floodplain areas have been designated as open space and/or can be avoided by construction. Additionally, areas of seasonal and potentially seasonal shallow groundwater were observed across the site. In these areas, we would anticipate the potential for periodically high subsurface moisture conditions and frost heave potential. These areas lie within low-lying areas along the drainage in the southeastern portion of the site and in the low-lying areas and minor drainages across the site. Water was not observed in any of the minor drainages at the time of our site investigation. These areas can likely be avoided or properly mitigated by development. The floodplain should be avoided by construction unless site-specific floodplain determination and drainage studies are performed. The potential exists for high groundwater levels during high moisture periods and should structures encroach on these areas the following precautions should be followed.

Mitigation: Foundations must have a minimum 30-inch depth for frost protection. In areas where high subsurface moisture conditions are anticipated periodically, subsurface perimeter drains are recommended to help prevent the intrusion of water into areas below grade. Typical drain details are presented in Figure 8. Some of the minor drainage swales can be avoided or regraded. The main drainage that bisects the site is designated as open space and will be avoided. Any grading in these areas should be done to direct surface flow around construction to avoid areas of ponded water. Finished floors must be located at least one foot above floodplain levels. Specific drainage studies and exact floodplain locations are beyond the scope of this report.

6.1 Relevance of Geologic Conditions to Land Use Planning

We understand that the development will be rural residential lots and a commercial lot. It is our opinion that the existing geologic and engineering geologic conditions will impose some constraints on the proposed development and construction. The most significant problems affecting development will be those associated with the drainages on site that can be avoided or properly mitigated during construction on each lot. Other hazards on site may be satisfactorily mitigated through proper engineering design and construction practices or avoidance.

The upper materials are typically at medium dense to dense states. Areas of loose soils were encountered that may require recompaction. The medium dense to dense granular soils encountered in the upper soil profiles of the test borings and test pits should provide good support for foundations. Loose soils, if encountered beneath foundations or slabs, will require removal of the upper 2 to 3 feet of material and recompaction. Expansive soils, although sporadic, were encountered. Expansive clayey sandstone and claystone are common in the Dawson Formation, and may require mitigation. Foundations anticipated for the site are standard spread footings possibly in conjunction with overexcavation in areas of expansive soils or loose soils. Areas of artificial fill, if encountered beneath foundations will require penetration or recompaction. Areas containing arkosic sandstone will have high allowable bearing conditions. Expansive layers may also be encountered in the soil and bedrock on this site. Expansive soils, if encountered, will require special foundation design and/or overexcavation. These soils will not prohibit development.

A potentially unstable slope exists along portions of the site where the drainages have eroded cut banks. A 30-foot building setback is recommended from the crest of the potentially unstable slope. Septic fields should not be located within the building setback as well. The slopes primarily affect Lots 55 and 56. It appears there is sufficient room on the lots to avoid the potentially unstable slopes. Additionally, minor areas of downslope creep have been mapped on the site. Many of these areas can be avoided by construction, however, Lot 45 may be affected. These areas are acceptable as building sites with mitigation for the sloping conditions taken into consideration. Additional reinforcement may be necessary in the foundation to account for additional pressures due to sloping conditions. Tie-beams and/or buttresses may be necessary, depending on site conditions and grading plans.

Areas of seasonal shallow groundwater and potentially seasonal shallow groundwater were encountered on site. Additionally, portions of the site have been mapped in a floodplain zone associated with West Kiowa Creek. The floodplain area is in the designated open space area and can be avoided by development. Water was observed in the West Kiowa Creek floodplain, however, water was not observed in the minor drainages on-site during our site investigation. Due to the size of the lots and the proposed development, the majority of these areas can be avoided by construction on the lots. The lot boundaries in the area of Lots 15 and 135 may require adjustments to accommodate the minor drainage that bisects the lots. Regrading can also mitigate some minor drainages on some of the lots. Structures should not block drainages. Any site grading should be done in such a manner as to not create areas of ponded water around structures or septic fields. Finished floor levels must be a minimum of one foot above the floodplain level. Septic fields should not be located in drainage areas due to the potential for periodic high groundwater conditions. Specific floodplain locations and drainage studies are beyond the scope of this report.

In summary, development of the site can be achieved if the items mentioned above are mitigated. These items can be mitigated through proper design and construction or through avoidance. Investigation on each lot is recommended prior to construction.

7.0 ON-SITE WASTEWATER TREATMENT

The site was evaluated for individual and commercial on-site wastewater treatment systems in accordance with El Paso Land Development Code. Ten (10) tactile test pits were performed on the property. The test pits were located in potential locations of future systems. The approximate locations of the percolation tests are indicated on Figure 3, on the Geology/Engineering Geology Map, Figure 6, and on the Septic Suitability Map, Figure 9. A table showing the results of the Tactile Test Pits is presented in Table 2. Test Pit Logs are included in Appendix B.

The Natural Resource Conservation Service (Reference 2), previously the Soil Conservation Service (Reference 3) has been mapped with ten soil descriptions. The Soil Survey Map (Reference 2) is presented in Figure 4, and the Soil Survey Descriptions are presented in Appendix D. The soils are described as having slow to rapid percolation rates. The majority of the soils have been described with moderate permeabilities.

Soils encountered in the tactile test pits consisted of loamy sand, sandy clay loam and sandy clay. Bedrock was not encountered in the test pits which were excavated to 7 to 8 feet. The limiting layers encountered in the test pits are the sandy loam (Soil Type 2), and sandy clay (Soil Type 4A) which corresponds to LTAR values of 0.80 to 0.15 gallons per day per square foot. The conditions encountered in the Test Pit Nos. 1 through 4 and 6 through 8 will require a designed system. Additional investigation may identify areas where suitable for conventional systems could be used.

In summary, it is our opinion the site is suitable for individual on-site wastewater treatment systems (OWTS) and that contamination of surface and subsurface water resources should not occur provided the OWTS sites are evaluated and installed according to El Paso County and State Guidelines and properly maintained. Based on the testing performed as part of this investigation designed systems will likely be required for the majority of the lots. A Septic Suitability Map is presented in Figure 9. Areas where OWTS sites are not recommended are indicated on Figure 9. Individual soil testing is required on the lots prior to construction. Absorption fields must be located a minimum of 100 feet from any well, including those on

adjacent properties. Absorption fields must also be located a minimum of 50 feet from any drainages, floodplains or ponded areas and 25 feet from dry gulches.

8.0 ECONOMIC MINERAL RESOURCES

Some of the sandy materials on-site could be considered a low-grade sand resource. According to the *El Paso County Aggregate Resource Evaluation Map* (Reference 7), the area is mapped with floodplain, valley fill and upland deposits. According to the *Atlas of Sand, Gravel and Quarry Aggregate Resources, Colorado Front Range Counties* distributed by the Colorado Geological Survey (Reference 8), areas of the site are mapped with upland and floodplain deposits: sand and probable aggregate resource (U3, U4 and F4). According to the *Evaluation of Mineral and Mineral Fuel Potential* (Reference 9), the area of the site has been mapped as "Good" for industrial minerals. However, considering the abundance of similar materials through the region and the close proximity to developed land, they would be considered to have little significance as an economic resource.

According to *the Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands* (Reference 9), the site is mapped within the Denver Basin Coal Region. However, the area of the site has been mapped as "Poor" for coal resources. No active or inactive mines have been mapped in the area of the site. No metallic mineral resources have been mapped on the site (Reference 9).

The site has been mapped as "Fair" for oil and gas resources (Reference 9). No oil or gas fields have been discovered in the area of the site. The sedimentary rocks in the area may lack the geologic structure for trapping oil or gas; therefore, it may not be considered a significant resource. Hydraulic fracturing is a new method that is being used to extract oil and gas from rocks. It utilizes pressurized fluid to extract oil and gas from rocks that would not normally be productive. The area of the site has not been explored to determine if the rocks underlying the site would be commercially viable utilizing hydraulic fracturing. The practice of hydraulic fracturing has come under review due to concerns about environmental impacts, health and safety.

9.0 EROSION CONTROL

The soil types observed on the site are mildly to highly susceptible to wind erosion, and moderately to highly susceptible to water erosion. A minor wind erosion and dust problem may be created for a short time during and immediately after construction. Should the problem be considered severe enough during this time, watering of the cut areas or the use of chemical palliative may be required to control dust. However, once construction has been completed and vegetation re-established, the potential for wind erosion should be considerably reduced.

With regard to water erosion, loosely compacted soils will be the most susceptible to water erosion, residually weathered soils and weathered bedrock materials become increasingly less susceptible to water erosion. For the typical soils observed on site, allowable velocities or unvegetated and unlined earth channels would be on the order of 3 to 4 feet/second, depending upon the sediment load carried by the water. Permissible velocities may be increased through the use of vegetation to something on the order of 4 to 7 feet/second, depending upon the type of vegetation established. Should the anticipated velocities exceed these values, some form of channel lining material may be required to reduce erosion potential. These might consist of some of the synthetic channel lining materials on the market or conventional riprap. In cases where ditch-lining materials are still insufficient to control erosion, small check dams or sediment traps may be required. The check dams will serve to reduce flow velocities, as well as provide small traps for containing sediment. The determination of the amount, location and placement of ditch linings, check dams and of the special erosion control features should be performed by or in conjunction with the drainage engineer who is more familiar with the flow quantities and velocities.

Cut and fill slope areas will be subjected primarily to sheetwash and rill erosion. Unchecked rill erosion can eventually lead to concentrated flows of water and gully erosion. The best means to combat this type of erosion is, where possible, the adequate re-vegetation of cut and fill slopes. Cut and fill slopes having gradients more than three (3) horizontal to one (1) vertical become increasingly more difficult to revegetate successfully. Therefore, recommendations pertaining to the vegetation of the cut and fill slopes may require input from a qualified landscape architect and/or the Soil Conservation Service.

10.0 CLOSURE

It is our opinion that the existing geologic engineering and geologic conditions will impose some minor constraints on development and construction of the site. The majority of these conditions can be avoided by construction. Others can be mitigated through proper engineering design and construction practices. The proposed development and use is consistent with anticipated geologic and engineering geologic conditions.

It should be pointed out that because of the nature of data obtained by random sampling of such variable and non-homogeneous materials as soil and rock, it is important that we be informed of any differences observed between surface and subsurface conditions encountered in construction and those assumed in the body of this report. Individual investigations for building sites and septic systems will be required prior to construction. Construction and design personnel should be made familiar with the contents of this report. Reporting such discrepancies to Entech Engineering, Inc. soon after they are discovered would be greatly appreciated and could possibly help avoid construction and development problems.

This report has been prepared for Proterra Properties, LLC for application to the proposed project in accordance with generally accepted geologic soil and engineering practices. No other warranty expressed or implied is made.

We trust that this report has provided you with all the information that you required. Should you require additional information, please do not hesitate to contact Entech Engineering, Inc.

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1. Bryant, Bruce; McGrew, Laura W, and Wobus, Reinhard A. 1981. *Geologic Structure Map of the Denver 1° x 2° Quadrangle, North-Central Colorado.* Sheet 2. U.S. Geologic Survey. Map I-1163.

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4. Morgan, Matthew L. and Barkmann, Peter E., 2012. *Geologic Map of the Eastonville Quadrangle, El Paso and Elbert Counties, Colorado.* Colorado Geological Survey. Open-File Report 12-03.

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8. Schwochow, S.D.; Shroba, R.R. and Wicklein, P.C. 1974. *Atlas of Sand, Gravel, and Quarry Aggregate Resources, Colorado Front Range Counties.* Colorado Geological Survey. Special Publication 5-B.

9. Keller, John W.; TerBest, Harry and Garrison, Rachel E. 2003. *Evaluation of Mineral and Mineral Fuel Potential of El Paso County State Mineral Lands Administered by the Colorado State Land Board.* Colorado Geological Survey. Open-File Report 03-07.

TABLES

TABLE 1

SUMMARY OF LABORATORY TEST RESULTS

CLIENT PROTERRA PROPERTIES
PROJECT McCUNE RANCH
JOB NO. 181459

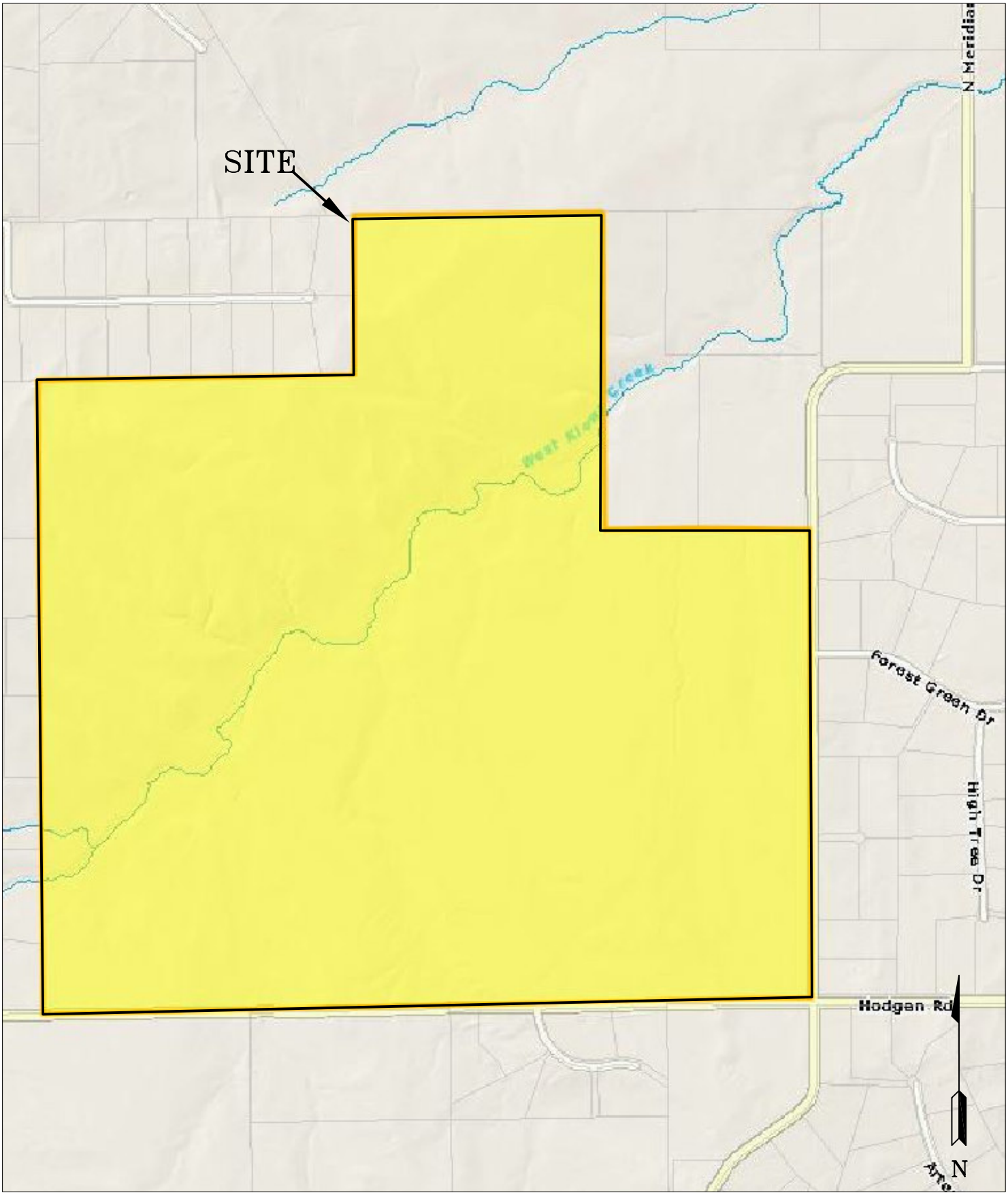
SOIL TYPE	TEST BORING NO.	DEPTH (FT)	WATER (%)	DRY DENSITY (PCF)	PASSING NO. 200 SIEVE (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)	SULFATE (WT %)	FHA SWELL (PSF)	SWELL/ CONSOL (%)	UNIFIED CLASSIFICATION	SOIL DESCRIPTION
1	2	2-3			12.1	NV	NP				SM	SAND, SILTY
1	3	10			6.5			<0.01			SM-SW	SAND, SLIGHTLY SILTY
1	5	5			17.3						SM	SAND, SILTY
1	TP-3	2-3			23.7						SM	SAND, SILTY
1	TP-4	5-6			15.3						SM	SAND, SILTY
1	TP-5	2-3			19.2						SM	SAND, SILTY
1	TP-7	2-3			33.5						SM	SAND, SILTY
1	TP-9	5-6			21.3				30		SM	SAND, SILTY
1	TP-10	2-3			32.0						SM	SAND, SILTY
2	TP-1	5-6			74.8	30	10				CL	CLAY, SANDY
3	TP-2	5-6			14.0	30	9				SM	SANDSTONE, SILTY
3	TP-8	5-6			21.1	33	14				SC	SANDSTONE, CLAYEY
3	TP-6	5-6			54.2				350		CL-SC	SANDSTONE, VERY CLAYEY
3	4	20			18.6	21	7	<0.01			SC-SM	SANDSTONE, SILTY, CLAYEY
4	1	15	13.4	120.4	73.2	35	13	<0.01		2.5	CL	CLAYSTONE, SANDY

Table 2: Summary Tactile Test Pit Results

Test Pit No.	USDA Soil Type	LTAR Value	Depth to Bedrock (ft.)	Depth to Seasonally Occurring Groundwater (ft.)
1	4A*	0.15*	N/A	N/A
2	3A*	0.30*	3*	N/A
3	3A*	0.30*	3*	N/A
4	4A*	0.15*	N/A	N/A
5	1	0.80	N/A	N/A
6	4A*	0.15*	3.5*	7'
7	4A*	0.15*	3.5*	7'
8	4A*	0.15*	3*	6'
9	3	0.35	N/A	N/A
10	3	0.35	N/A	N/A

*- Conditions that will require an engineered OWTS

FIGURES



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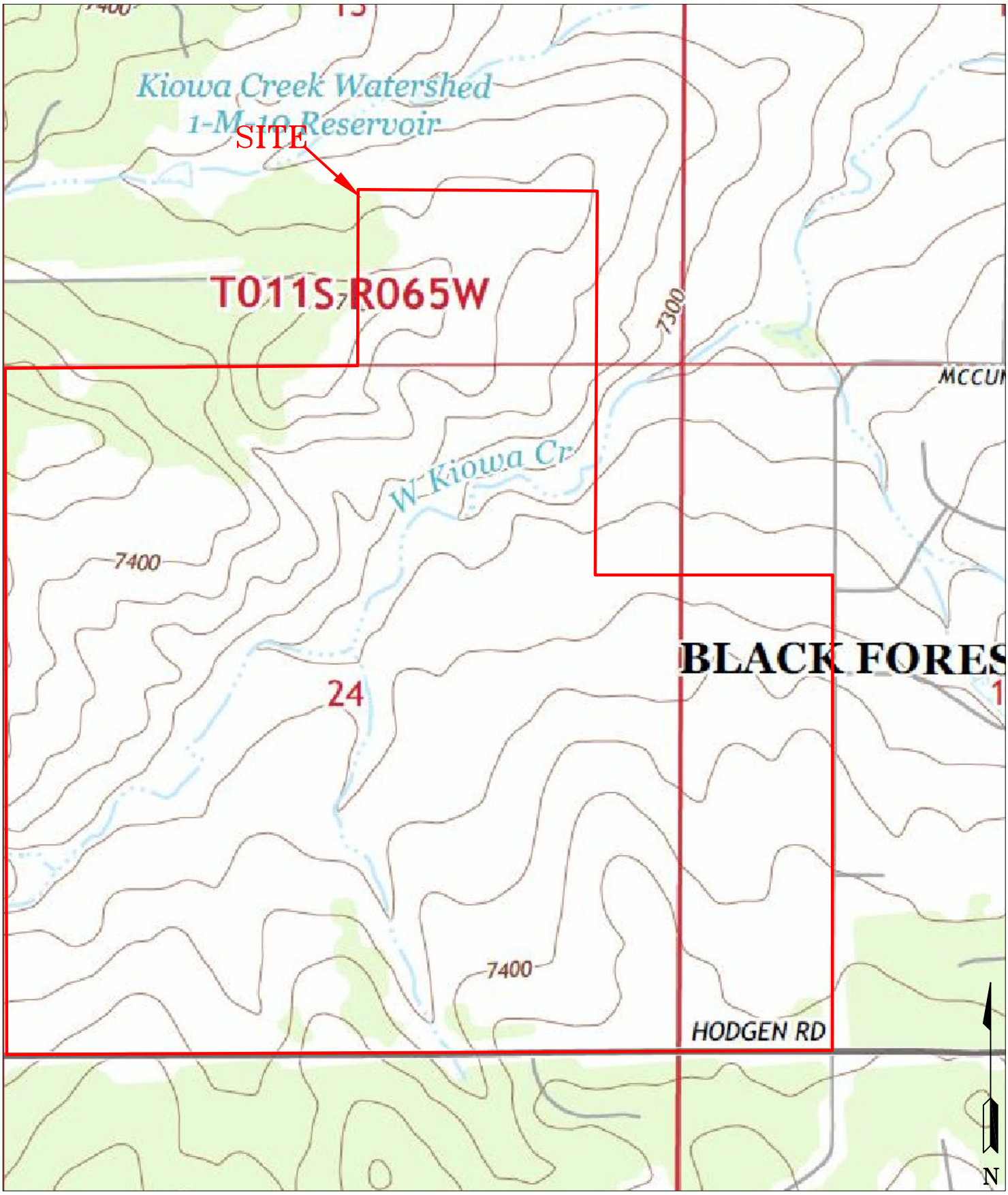
VICINITY MAP
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

DRAWN:	DATE:	CHECKED:	DATE:
LLL	9/21/18		

JOB NO.: 181459

FIG NO.: 1



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USGS MAP
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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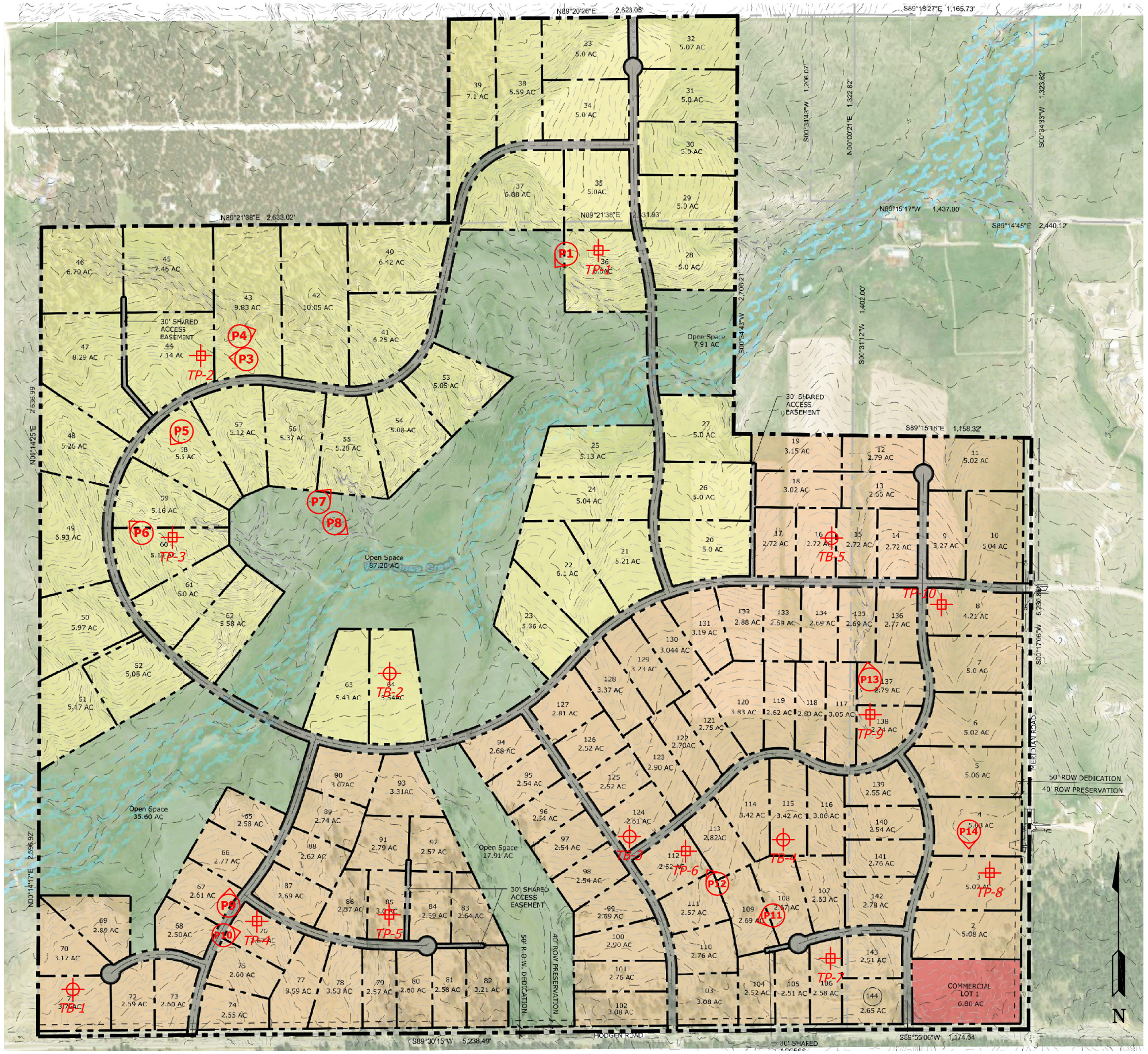
LLL	9/21/18		

JOB NO.: 181459

FIG NO.: 2

LEGEND:

- TB- APPROXIMATE TEST BORING LOCATION AND NUMBER
- TP- APPROXIMATE TEST PIT LOCATION AND NUMBER
- P2 - APPROXIMATE TEST PIT LOCATION AND NUMBER



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SITE PLAN/TEST BORING LOCATION MAP
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17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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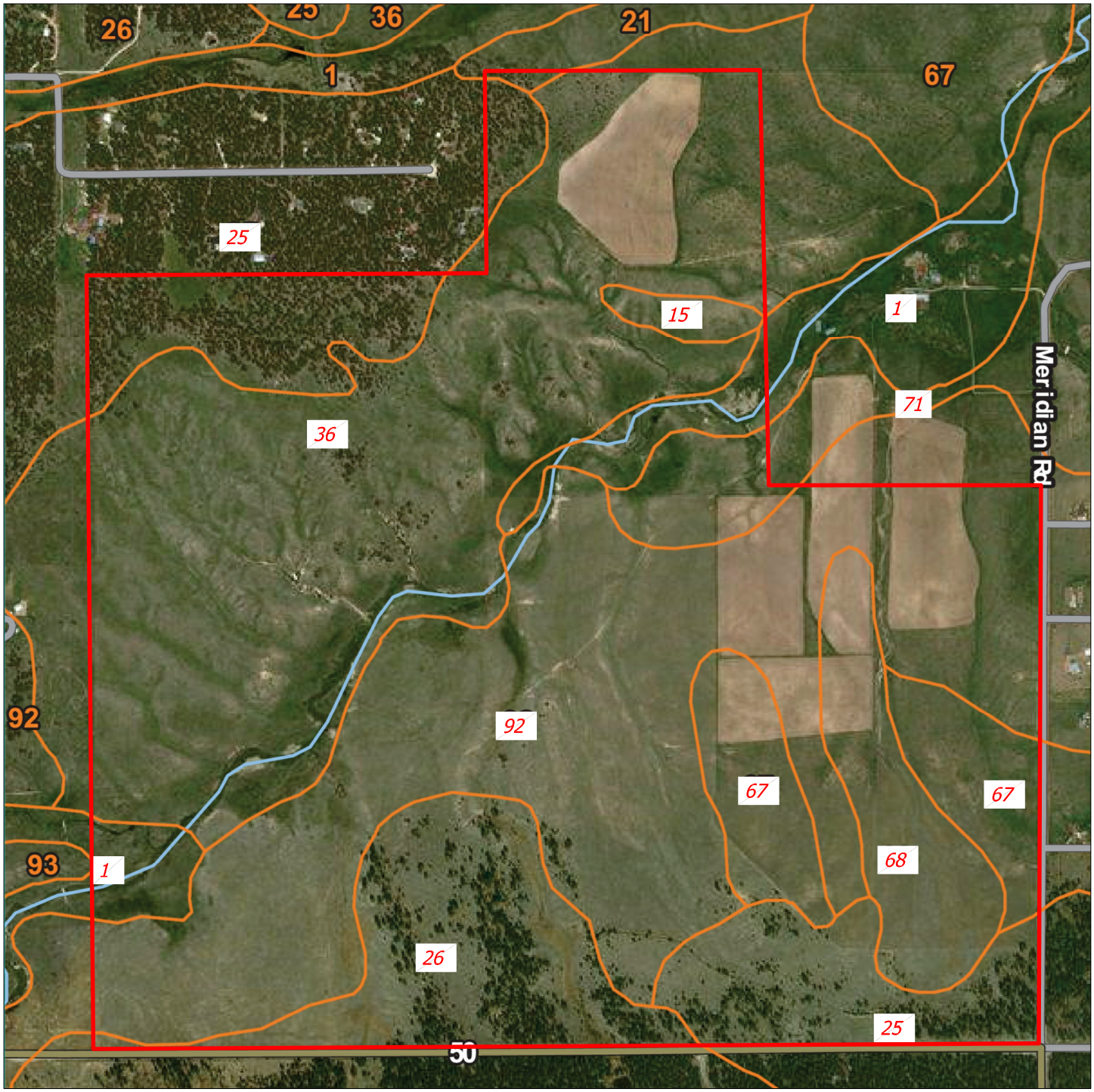
DATE	9/21/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	3



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SOIL SURVEY MAP
MCCUNE RANCH SUBDIVISION
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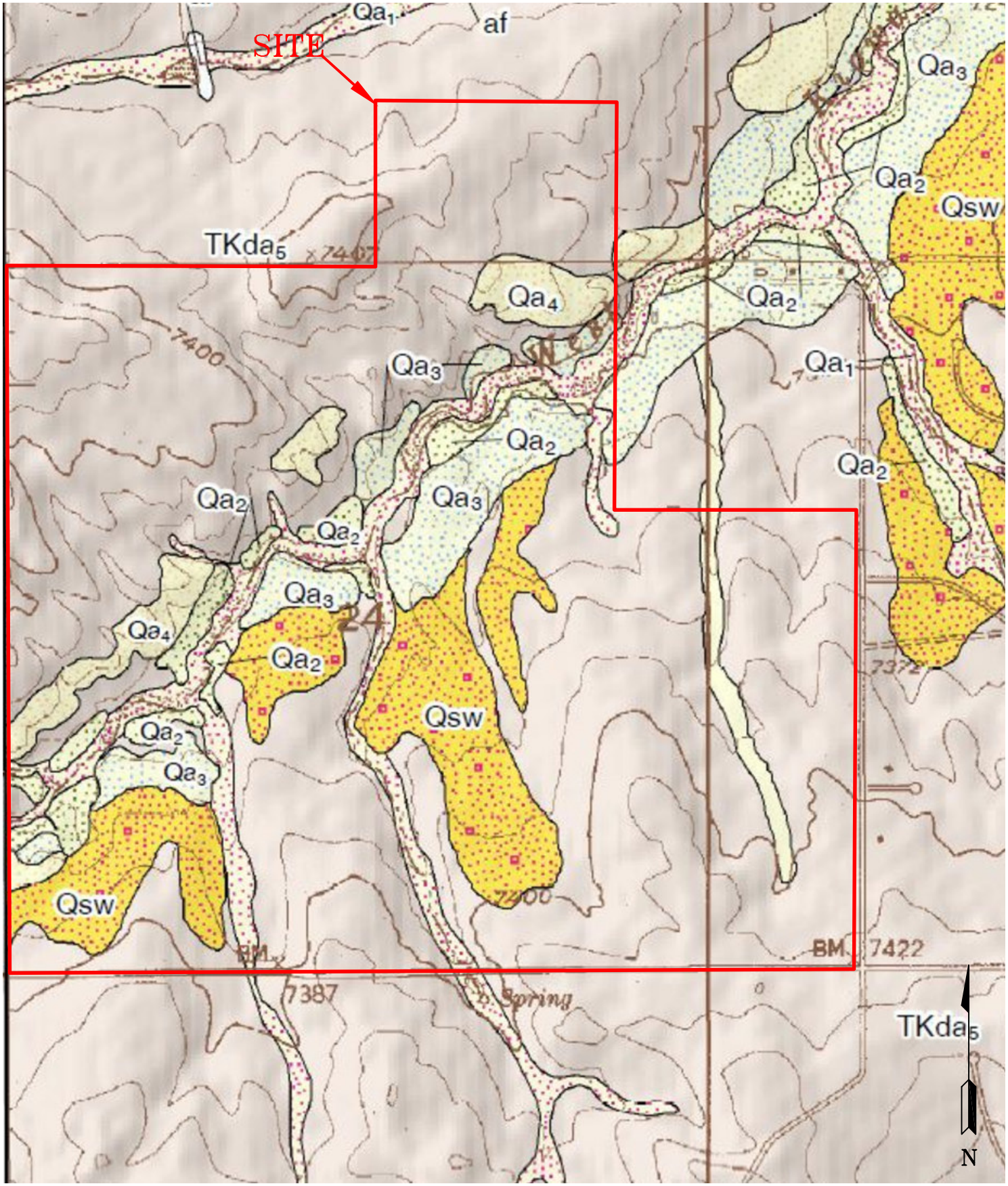
JOB NO.: 181459

FIG NO.: 4



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EASTONVILLE QUADRANGLE GEOLOGIC MAP
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FOR: PROTERRA PROPERTIES, LLC

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LLL	9/21/18		

JOB NO.: 181459

FIG NO.: 5

LEGEND:

Qaf - Artificial Fill of Holocene Age:
artificial fill associated with erosion berms

Qal - Recent Alluvium of Holocene Age:
recent alluvium located in several of the minor drainages on-site

Qp - Piney Creek Alluvium Two of Early Holocene Age:
low stream terrace deposits above current stream channel

Qb - Broadway Alluvium of Late Pleistocene Age:
stream terrace deposited sands

Qlo - Louviers Alluvium of Late Middle Pleistocene Age:
stream terrace deposited sands

Qsw - Sheetwash of Holocene to Late Pleistocene Age:
silty to clayey sand sheetwash deposits

Qc/TKda - Colluvium of Quaternary Age overlying Dawson Formation of Tertiary to Cretaceous Age:
colluvium and residual soils overlying arkosic sandstone with interbedded fine-grained sandstone, siltstone and claystone

dsc - downslope creep area

fp - floodplain

pu - potentially unstable slope

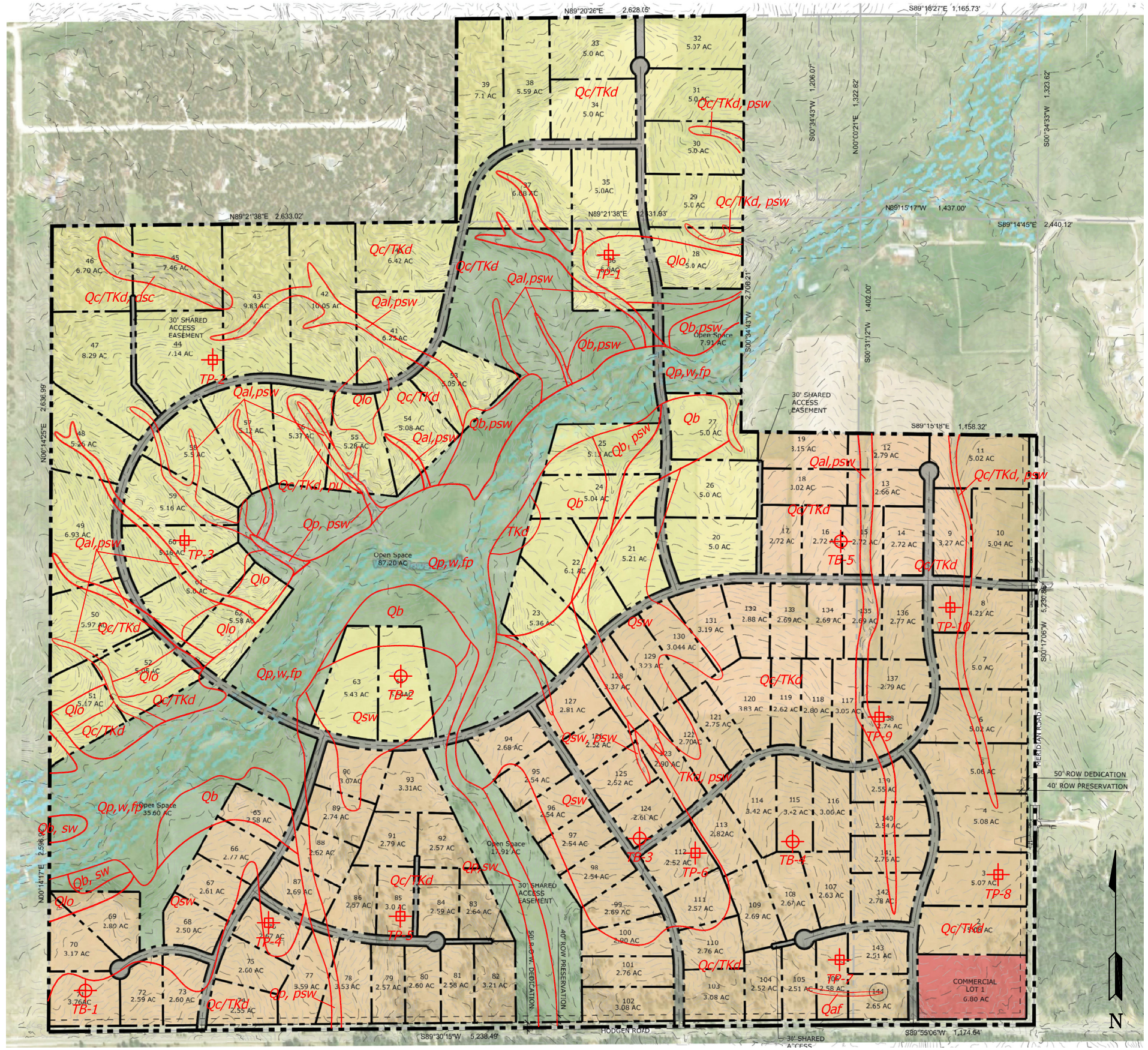
psw - potentially seasonal shallow groundwater area

sw - seasonal shallow groundwater area

w - flowing water

⊕ - approximate test boring location

⊕ - approximate test pit location



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GEOLOGY/ENGINEERING GEOLOGY MAP
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17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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DATE	9/21/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	6

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X	Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X	Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D	Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

	1% annual chance floodplain boundary
	0.2% annual chance floodplain boundary
	Floodway boundary
	Zone D boundary
	CBRS and OPA boundary
	Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the National Geodetic Vertical Datum of 1929

A — A	Cross section line
23 - - - - - 23	Transect line
97°07'30", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
4276000 M	1000-meter Universal Transverse Mercator grid tick values, zone 4
600000 FT	5000-foot grid tick values: Hawaii State Plane coordinate system, zone 3 (FIPSZONE 5103), Transverse Mercator projection
DX5510 X	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M 2	Coastal Mile marker

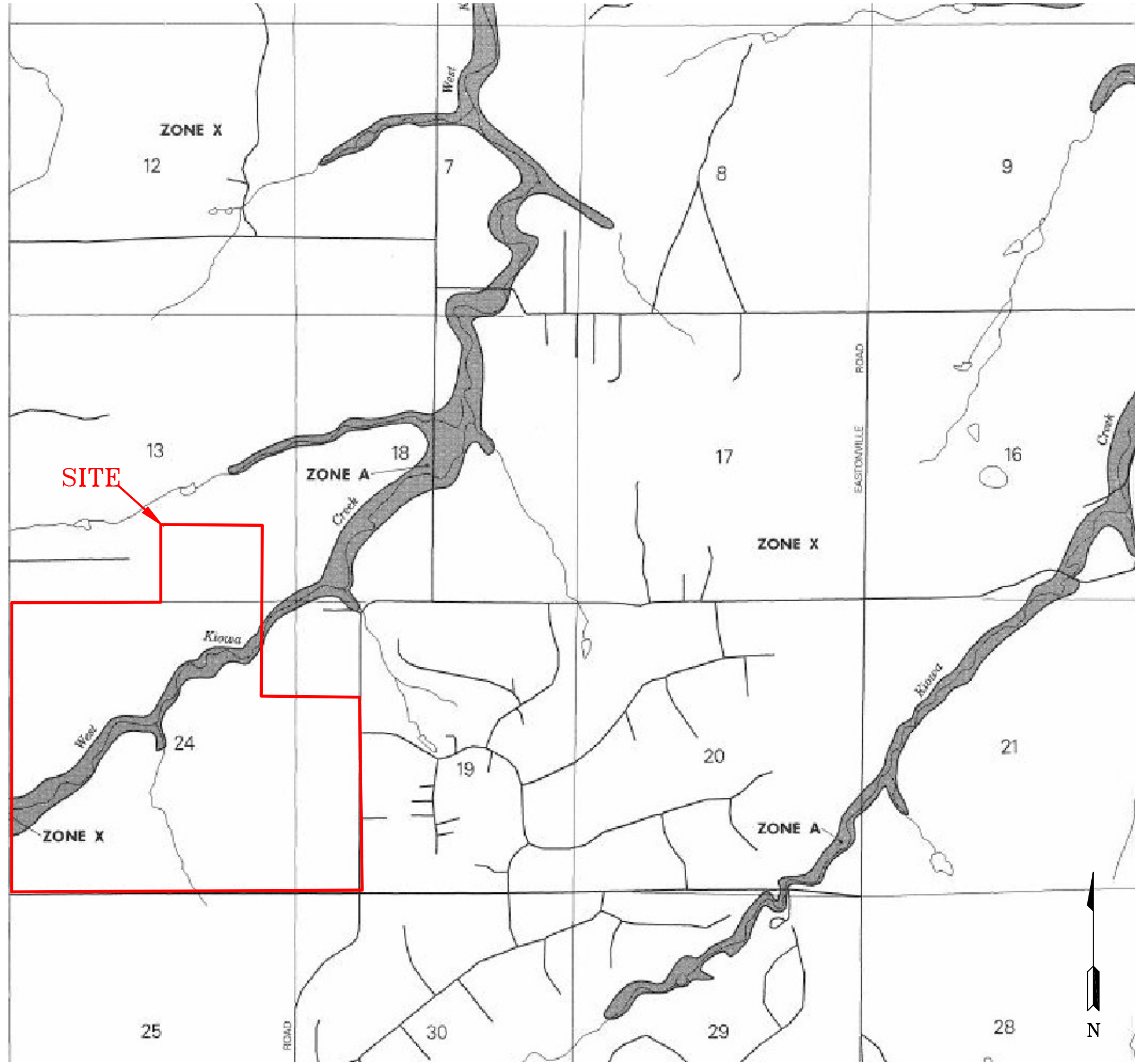
MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
November 20, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

September 30, 2004 – to change Special Flood Hazard Areas, to update map format, to reflect revised shoreline and to incorporate previously issued Letters of Map Revision.



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FLOODPLAIN MAP
MCCUNE RANCH SUBDIVISION
17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

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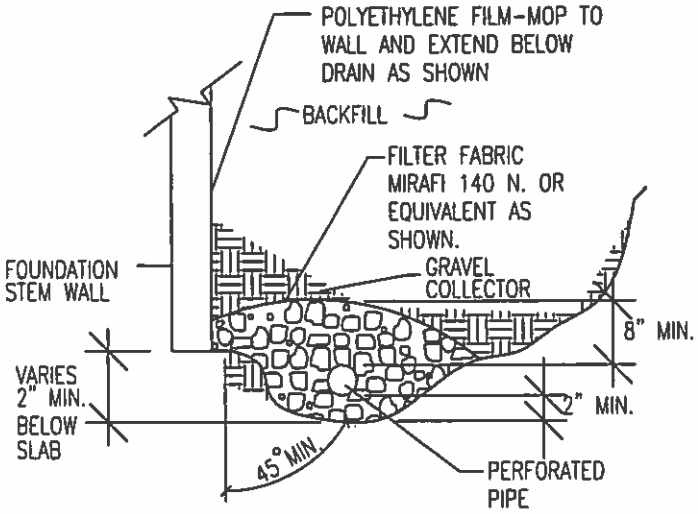
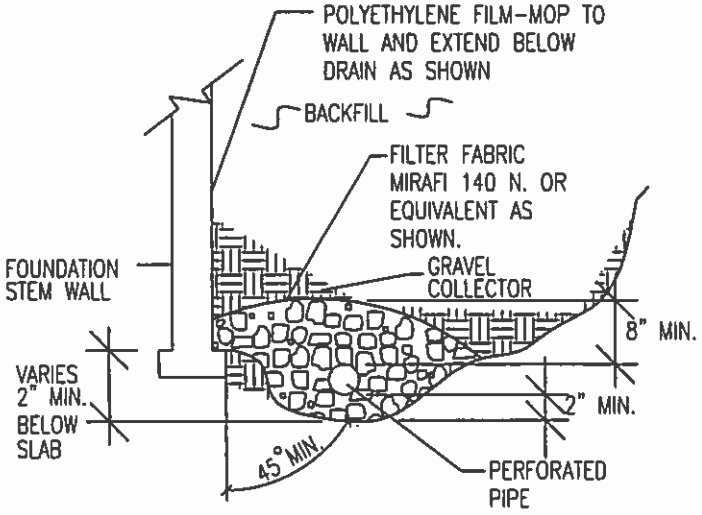
DATE	9/21/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	7





NOTES:

-GRAVEL SIZE IS RELATED TO DIAMETER OF PIPE PERFORATIONS-85% GRAVEL GREATER THAN 2x PERFORATION DIAMETER.

-PIPE DIAMETER DEPENDS UPON EXPECTED SEEPAGE. 4-INCH DIAMETER IS MOST OFTEN USED.

-ALL PIPE SHALL BE PERFORATED PLASTIC. THE DISCHARGE PORTION OF THE PIPE SHOULD BE NON-PERFORATED PIPE.

-FLEXIBLE PIPE MAY BE USED UP TO 8 FEET IN DEPTH, IF SUCH PIPE IS DESIGNED TO WITHSTAND THE PRESSURES. RIGID PLASTIC PIPE WOULD OTHERWISE BE REQUIRED.

-MINIMUM GRADE FOR DRAIN PIPE TO BE 1% OR 3 INCHES OF FALL IN 25 FEET.

-DRAIN TO BE PROVIDED WITH A FREE GRAVITY OUTFALL, IF POSSIBLE. A SUMP AND PUMP MAY BE USED IF GRAVITY OUT FALL IS NOT AVAILABLE.

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PERIMETER DRAIN DETAIL

DRAWN:	DATE:	DESIGNED:	CHECKED:
	9/26/18	DS	

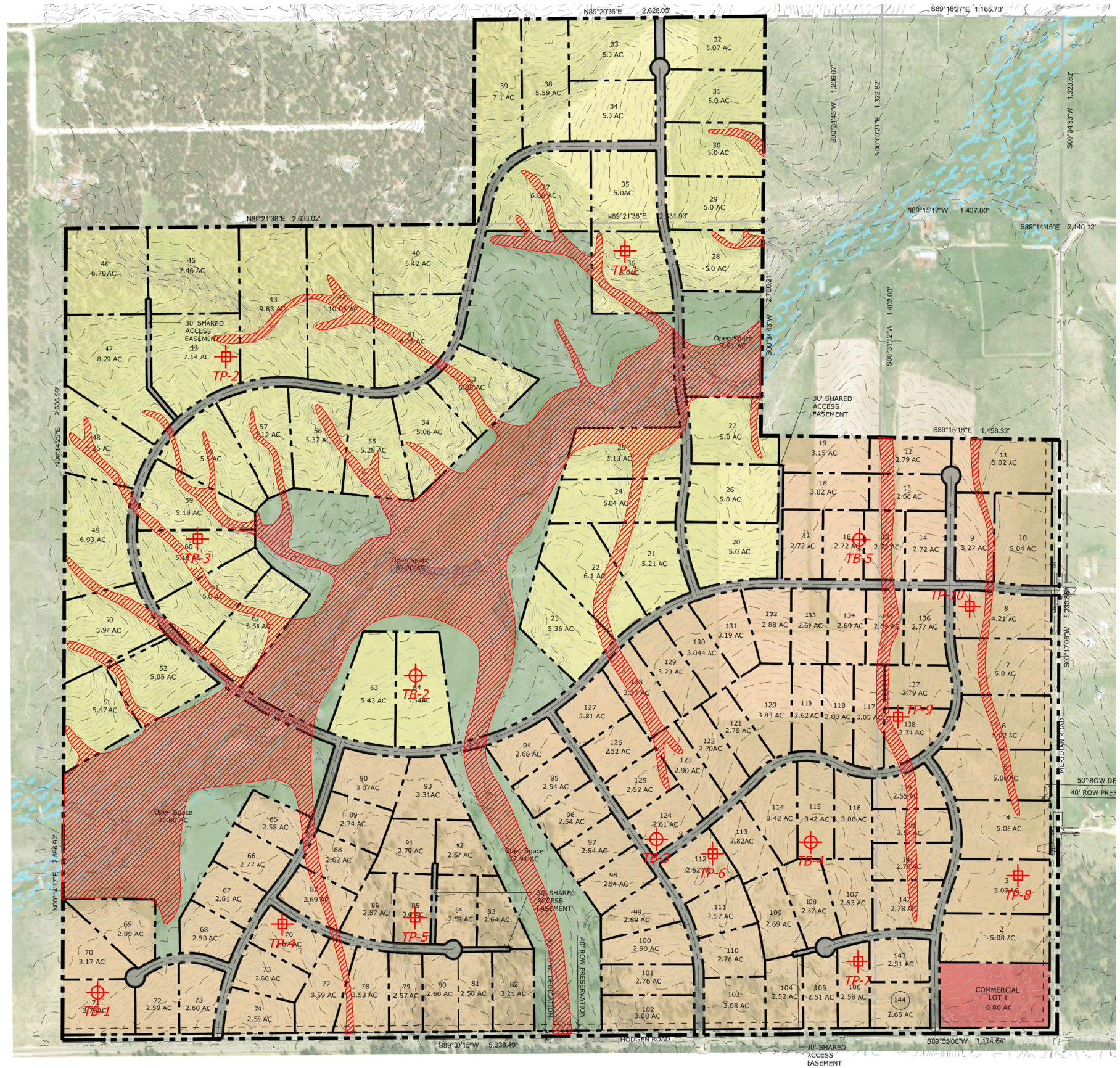
JOB NO.: 18159

FIG NO.: 8

LEGEND:

- AREAS THAT ARE NOT SUITABLE FOR ON-SITE WASTE WATER TREATMENT SYSTEMS

*- WATER WELLS MUST BE A MINIMUM OF 100 FT FROM OWTS ABSORPTION FIELDS



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SEPTIC SUITABILITY MAP
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17480 MERIDIAN ROAD NORTH
EL PASO COUNTY, CO.
FOR: PROTERRA PROPERTIES, LLC

DRAWN	LLL
CHECKED	
DATE	9/27/18
SCALE	AS SHOWN
JOB NO.	181459
FIGURE No.	9

APPENDIX A: Site Photographs

1

Looking southwest from the northern portion of the site.

September 12, 2018

2

Looking south from the northern portion of the site.

September 12, 2018

Job No. 181459

3

Looking west from the northern portion of the site.

September 12, 2018

4

Looking east along drainage in the northern portion of the site.

September 12, 2018

Job No. 181459

5

Looking south from the western portion of the site.

September 12, 2018

6

Looking north along small drainage in the western portion of the site.

September 12, 2018

Job No. 181459

7

Looking northeast from the central portion of the site.

September 12, 2018

8

Looking east towards W. Kiowa Creek in the central portion of the site.

September 12, 2018

Job No. 181459

9

Looking north from the southwestern portion of the site.

September 12, 2018

10

Looking east from the southwestern portion of the site.

September 12, 2018

Job No. 181459

11

Looking west from the southeastern portion of the site.

September 12, 2018

12

Looking northwest from the southeast portion of the site.

September 12, 2018

Job No. 181459

13

Looking north along drainage in the northeastern portion of the site.

September 15, 2018

14

Looking south from the southeastern portion of the site.

September 15, 2018

Job No. 181459

APPENDIX B: Test Boring Logs and Test Pit Logs

TEST BORING NO 1
DATE DRILLED 9/18/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 20', 9/19/18						
SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST			■	29	3.7	1
	5		■	17	4.7	1
SAND, CLAYEY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST	10		■	15	11.1	1
CLAYSTONE, SANDY, TAN, HARD, MOIST	15		■	50 / 11"	12.4	4
	20		■	50 / 7"	12.8	4

TEST BORING NO 2
DATE DRILLED 9/18/2018
CLIENT PROTERRA PROPERTIES
LOCATION McCUNE RANCH

REMARKS	Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
DRY TO 17.5', 9/19/18						
SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, DRY TO MOIST			■	12	1.5	1
	5		■	16	2.4	1
	10		■	24	3.3	1
	15		■	25	3.1	1
CLAY, SANDY, BROWN, FIRM, MOIST	20		■	13	13.2	2

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TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
		h	9/28/18

JOB NO.: 181459
FIG NO.: B-1

TEST BORING NO 3
DATE DRILLED 9/18/2018
Job # 181459

REMARKS

WATER @ 16.5', 9/19/18

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY TO SLIGHTLY SILTY, FINE TO COARSE GRAINED, TAN, DENSE TO MEDIUM DENSE, DRY TO WET				
		■	35	1.7	1
5		■	16	3.0	1
10		■	28	3.9	1
15		■	24	3.6	1
20		■	17	10.7	1

TEST BORING NO 4
DATE DRILLED 9/18/2018
CLIENT PROTERRA PROPERTIES
LOCATION McCUNE RANCH

REMARKS

DRY TO 20', 9/19/18

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
	SAND, SILTY, FINE TO COARSE GRAINED, TAN, MEDIUM DENSE, MOIST				
		■	29	2.5	1
5		■	26	5.0	1
10		■	16	3.7	1
15		■	27	6.9	1
	SANDSTONE, SILTY, CLAYEY, FINE TO COARSE GRAINED, TAN, VERY DENSE, MOIST				
20		■	50 / 10"	6.2	3

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TEST BORING LOG

DRAWN:	DATE:	CHECKED: L	DATE: 9/28/18

JOB NO.: 181459
FIG NO.: B-2

TEST BORING NO 5
DATE DRILLED 9/18/2018
Job # 181459

REMARKS

DRY TO 20', 9/19/18

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
			5	3.8	1
5			5	6.0	1
10			14	6.2	1
15			10	8.1	1
20			27	7.8	1

SAND, SILTY, FINE TO COARSE GRAINED, BROWN TO TAN, LOOSE TO MEDIUM DENSE, MOIST

TEST BORING NO.
DATE DRILLED
CLIENT PROTERRA PROPERTIES
LOCATION McCUNE RANCH

REMARKS

Depth (ft)	Symbol	Samples	Blows per foot	Watercontent %	Soil Type
5					
10					
15					
20					

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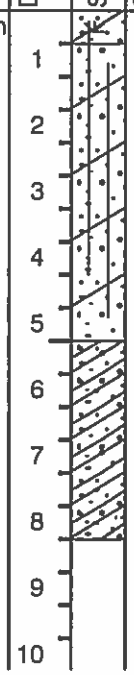
TEST BORING LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459
FIG NO.: 6-3

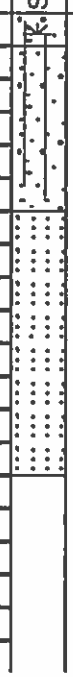
TEST PIT NO. 1
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown						
sandy clay loam, light brown	1–5			bl	m	3
sandy clay, light brown	5–8			gr	w	4A



TEST PIT NO. 2
DATE EXCAVATED 9/12/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown						
sandy loam, fine to coarse light brown	1–3			gr	m	2
weathered to formational silty sandstone	3–7			ma		3A



Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l

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TEST PIT LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/21/18

JOB NO.: 181459
FIG NO.: B-4

TEST PIT NO. 3
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
very sandy loam, fine to coarse grained, tan	2			gr	m	2
	3					
weathered to formational clayey sandstone	4			ma		4A
	5					
	6					
	7					
	8					
	9					
	10					

TEST PIT NO. 4
DATE EXCAVATED 9/12/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
sandy loam fine to coarse grained, tan	2			gr	m	2
	3					
sand, fine to coarse grained, tan	4			sg		1
	5					
	6					
	7					
sandy clay, tan to gray	8			ma		4A
*signs of seasonally occuring groundwater at 7'	9					
	10					

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l

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TEST PIT LOG

DRAWN	DATE	CHECKED	DATE
		LLL	9/21/18

JOB NO. 181459
FIG NO. B-5

TEST PIT NO. 5
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
loamy sand, fine to coarse grained, tan	2			sg		1
	3					
sand, fine to coarse grained, tan	4			sg		1
	5					
	6					
	7					
	8					
	9					
	10					

TEST PIT NO. 6
DATE EXCAVATED 9/12/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown	1					
sandy clay loam, tan	2					3
	3					
weathered to formational clayey sandstone, tan to gray	4					4A
*signs of seasonally occurring groundwater at 7'	5					
	6					
	7					
	8					
	9					
	10					

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l

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TEST PIT LOG

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/21/18

JOB NO.: 181459
FIG NO.: B-6

TEST PIT NO. 7
DATE EXCAVATED 9/12/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy loam, brown	1					
sandy loam, fine to coarse grained, tan	2			gr	w	2A
	3					
weathered to formational silty sandstone, tan	4			ma		3A
	5					
foramtional clayey sandstone, fine to coarse grained, gray	6			ma		4A
*signs of seasonally occurring groundwater at 6'	7					
	8					
	9					
	10					

TEST PIT NO. 8
DATE EXCAVATED 9/15/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown	1					
gravelly sandy clay loam, tan	2			gr	w	3A
	3					
weathered to formational clayey sandstone, fine to coarse grained, tan to gray	4			ma		4A
	5					
*signs of seasonally occurring groundwater at 6'	6					
	7					
	8					
	9					
	10					

Soil Structure Shape
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

Soil Structure Grade
weak - w
moderate - m
strong - s
loose - l

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COLORADO SPRINGS, COLORADO 80907

TEST PIT LOG

DRAWN:	DATE:	CHECKED: LCL	DATE: 9/21/18

JOB NO.: 181459
FIG NO.: B-7

TEST PIT NO. 9
DATE EXCAVATED 9/15/2018
Job # 181459

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown						
sandy clay loam, tan	1–4			gr	m	3
sandy loam, fine to medium grained, tan	5–8			gr	w	2A

TEST PIT NO. 10
DATE EXCAVATED 9/15/2018
CLIENT PROTERRA PROPERTIES, LLC
LOCATION MCCUNE RANCH SUBDIVISION

REMARKS	Depth (ft)	Symbol	Samples	Soil Structure Shape	Soil Structure Grade	USDA Soil Type
topsoil sandy clay loam, brown						
sandy clay loam, tan	1–4			gr	m	3
sandy loam, fine to medium grained, tan	5–8			gr	w	2A

<u>Soil Structure Shape</u>
granular - gr
platy - pl
blocky - bl
prismatic - pr
single grain - sg
massive - ma

<u>Soil Structure Grade</u>
weak - w
moderate - m
strong - s
loose - l

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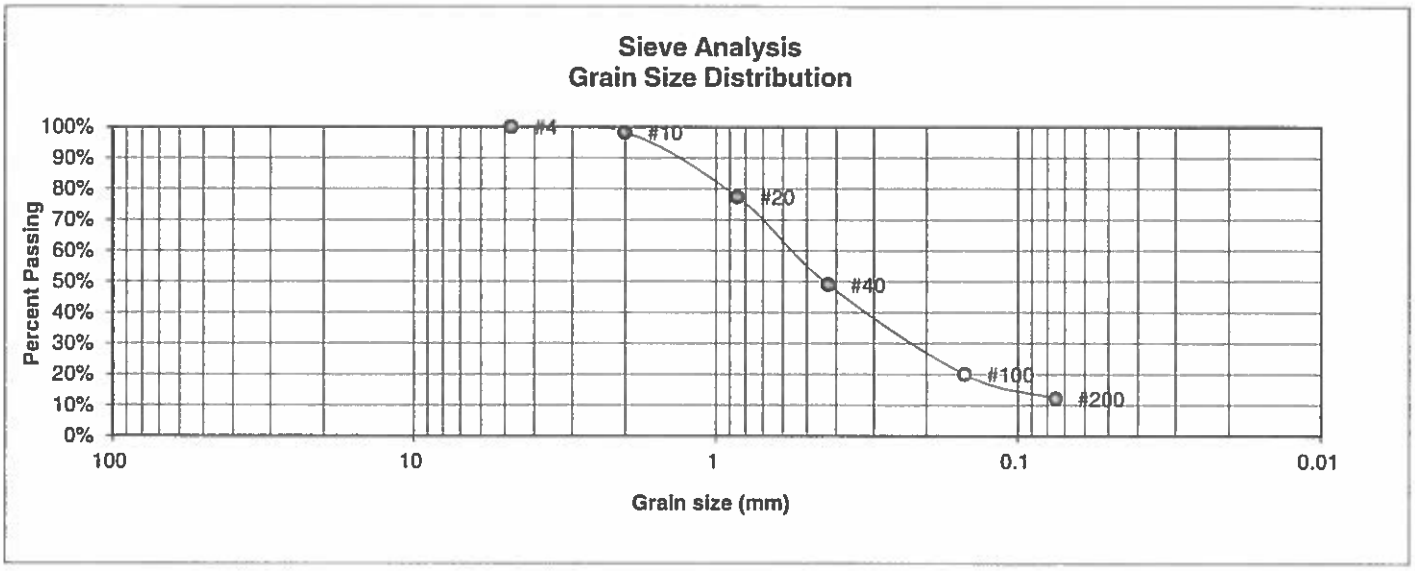
TEST PIT LOG

DRAWN	DATE	CHECKED	DATE
		LLL	9/21/18

JOB NO. 181459
FIG NO. B-8

APPENDIX C: Laboratory Test Results

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	2	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	98.3%
20	77.4%
40	49.0%
100	20.0%
200	12.1%

Atterberg Limits	
Plastic Limit	NP
Liquid Limit	NV
Plastic Index	NP

Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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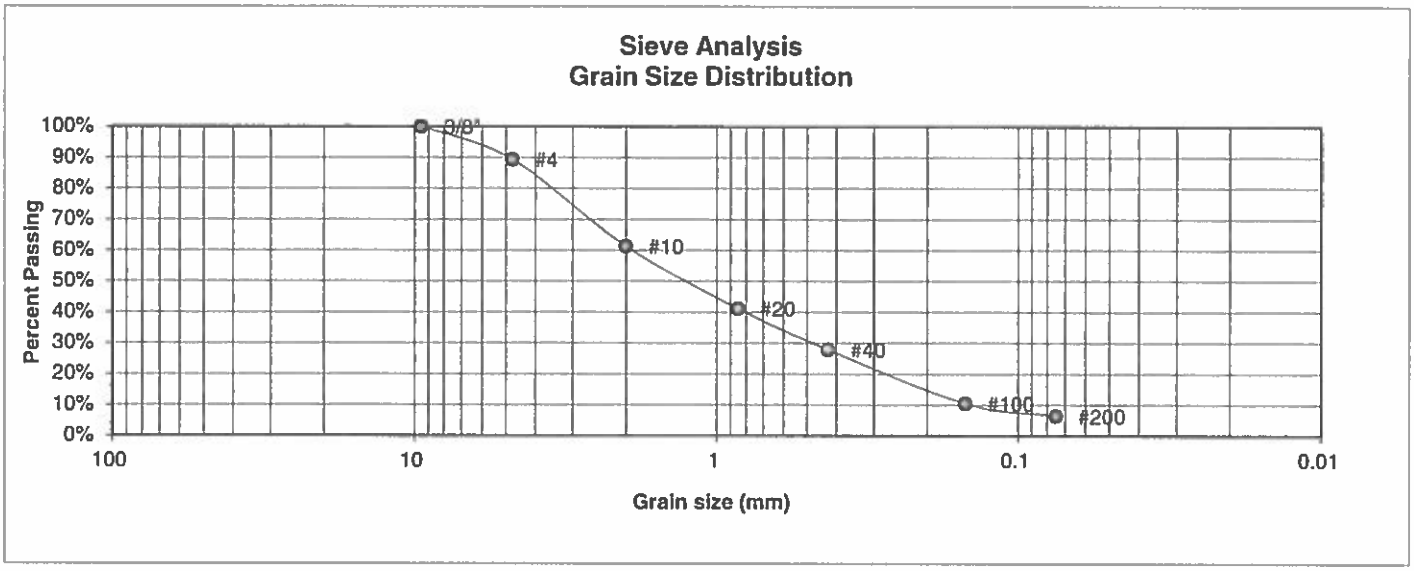
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-1

UNIFIED CLASSIFICATION	SM-SW	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	3	JOB NO.	181459
DEPTH (FT)	10	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	89.3%
10	61.3%
20	41.2%
40	27.9%
100	10.5%
200	6.5%

Atterberg Limits

Plastic Limit

Liquid Limit

Plastic Index

Swell

Moisture at start

Moisture at finish

Moisture increase

Initial dry density (pcf)

Swell (psf)

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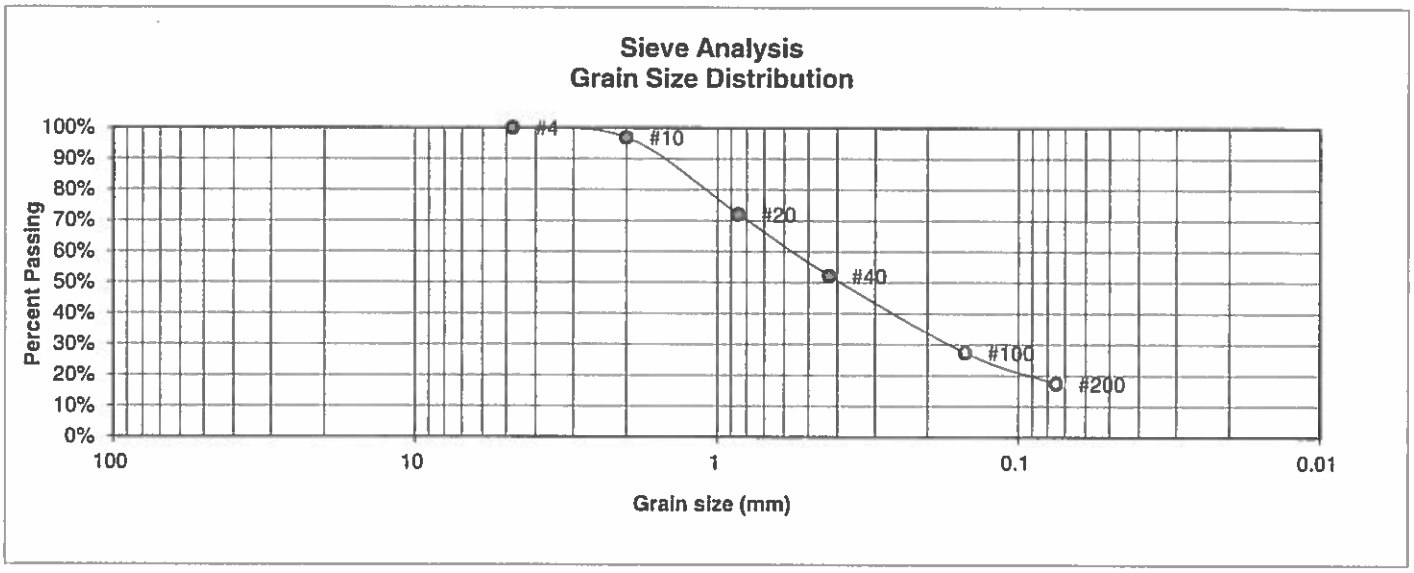
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-2

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	5	JOB NO.	181459
DEPTH (FT)	5	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	96.9%
20	72.1%
40	52.2%
100	27.4%
200	17.3%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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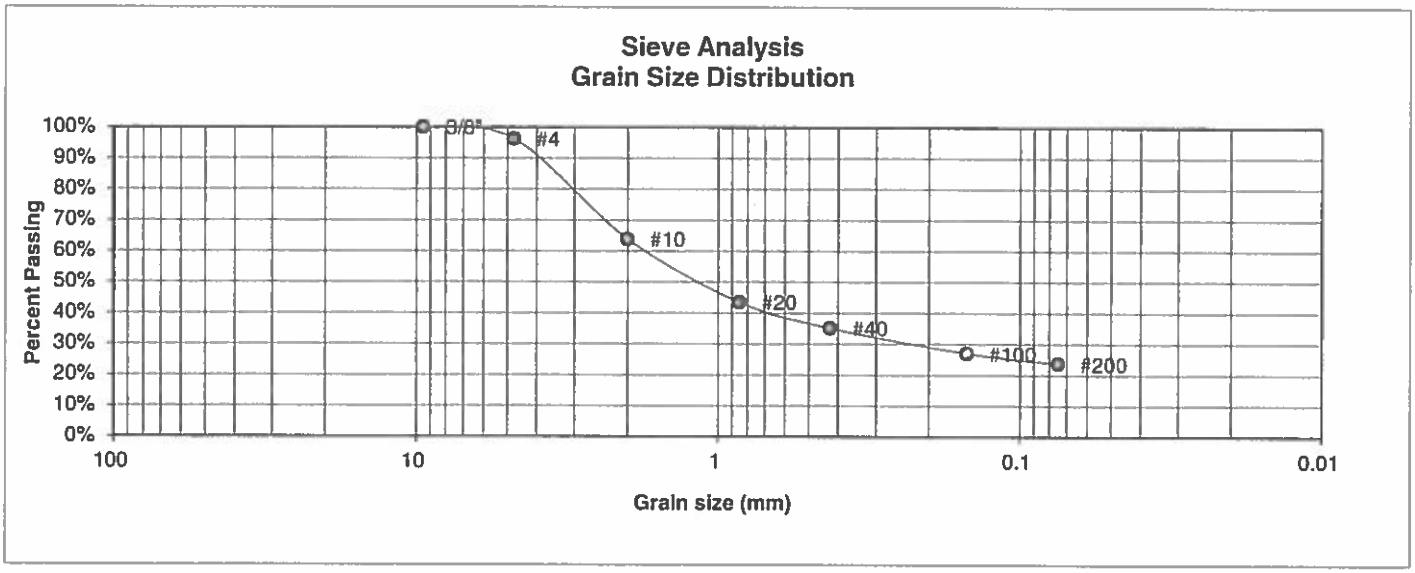
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-3

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-3	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.3%
10	63.9%
20	43.5%
40	35.2%
100	27.0%
200	23.7%

Atterberg Limits

Plastic Limit

Liquid Limit

Plastic Index

Swell

Moisture at start

Moisture at finish

Moisture increase

Initial dry density (pcf)

Swell (psf)

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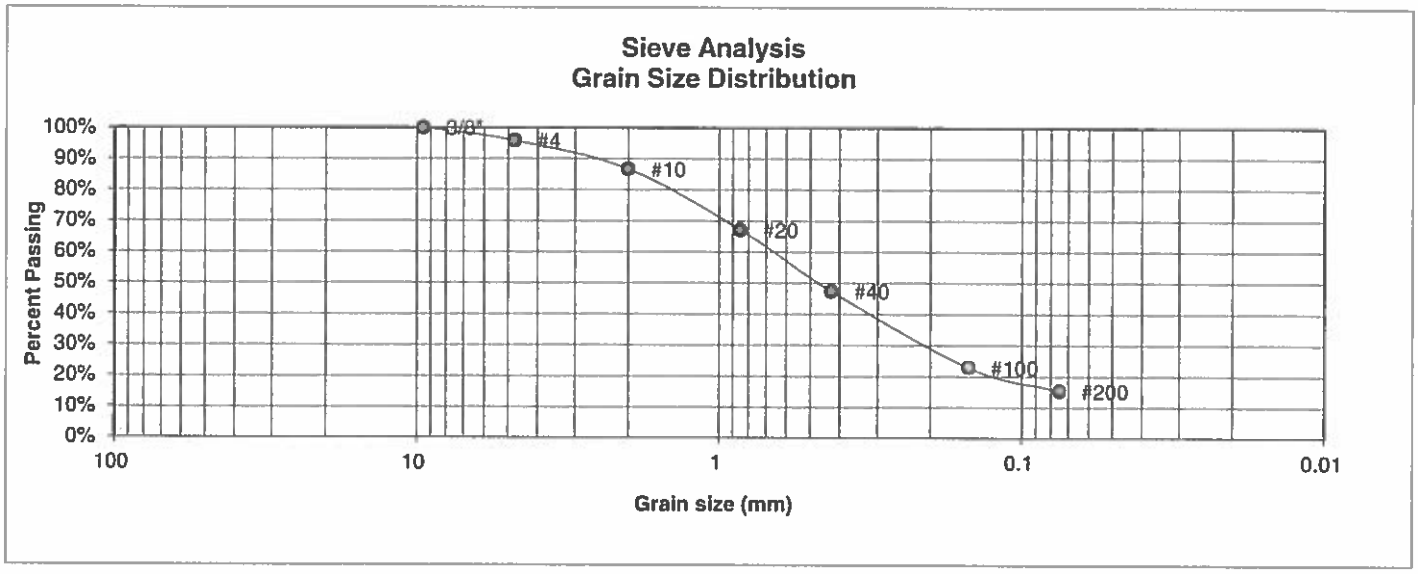
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-4

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-4	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.8%
10	86.7%
20	67.2%
40	47.4%
100	22.9%
200	15.3%

Atterberg Limits	
Plastic Limit	
Liquid Limit	
Plastic Index	
Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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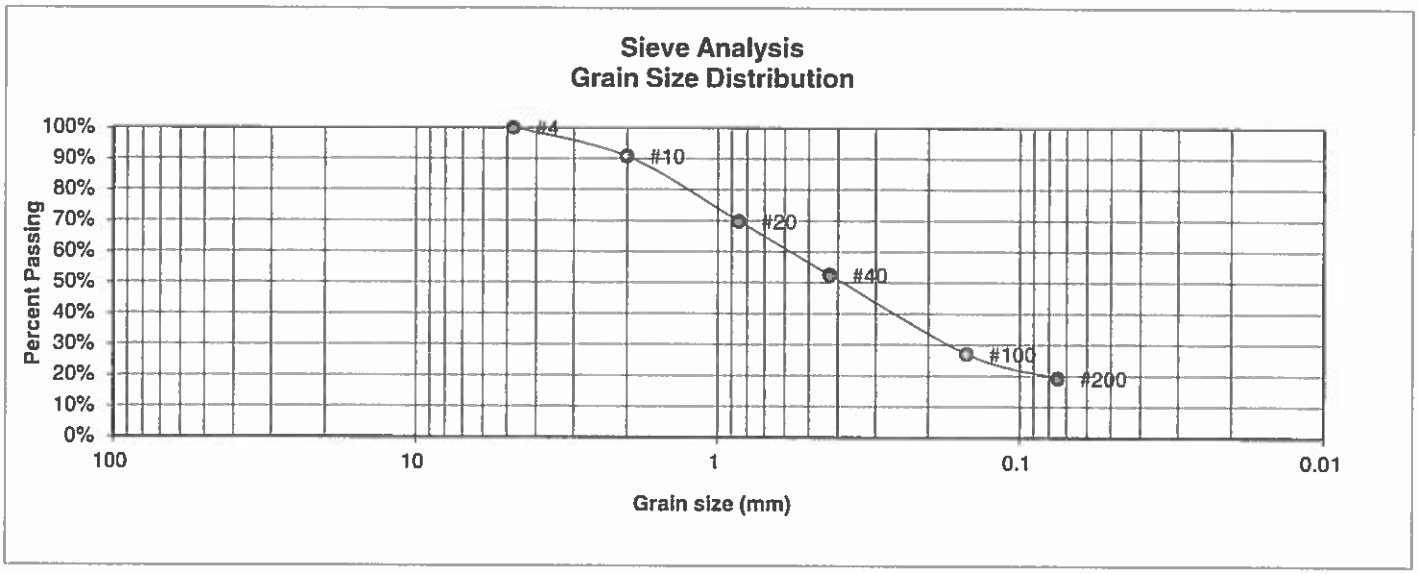
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-5

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-5	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	90.8%
20	69.8%
40	52.5%
100	27.1%
200	19.2%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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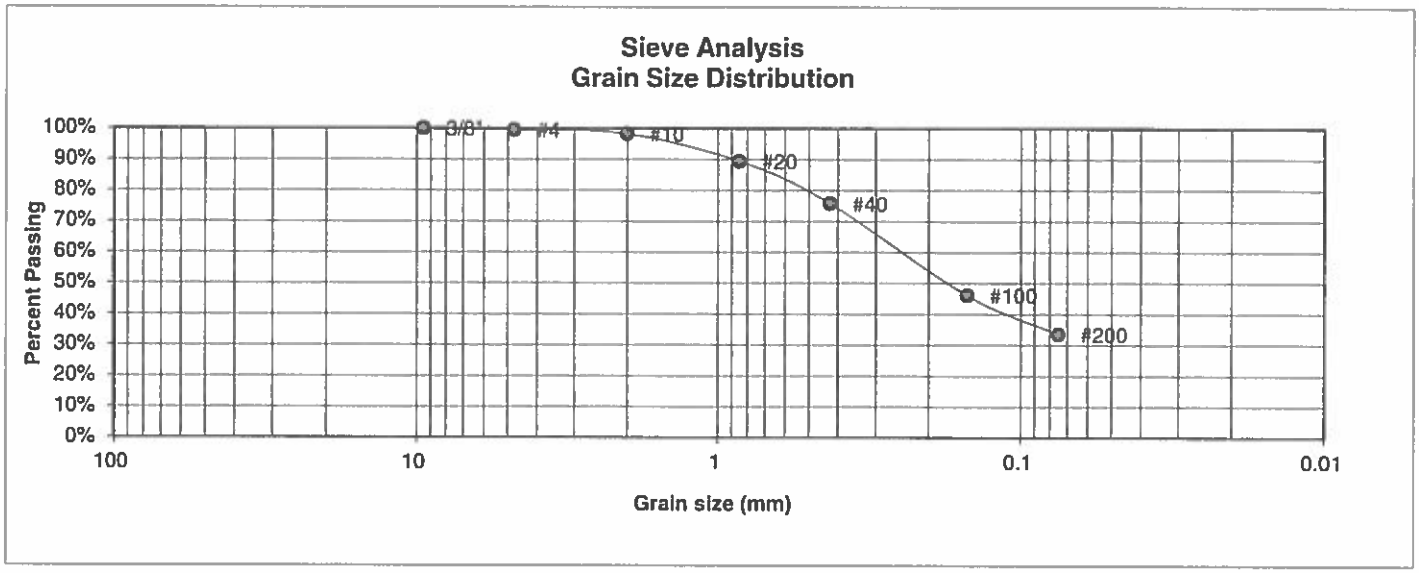
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-6

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-7	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	99.5%
10	98.3%
20	89.5%
40	75.8%
100	46.1%
200	33.5%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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505 ELKTON DRIVE
COLORADO SPRINGS, COLORADO 80907

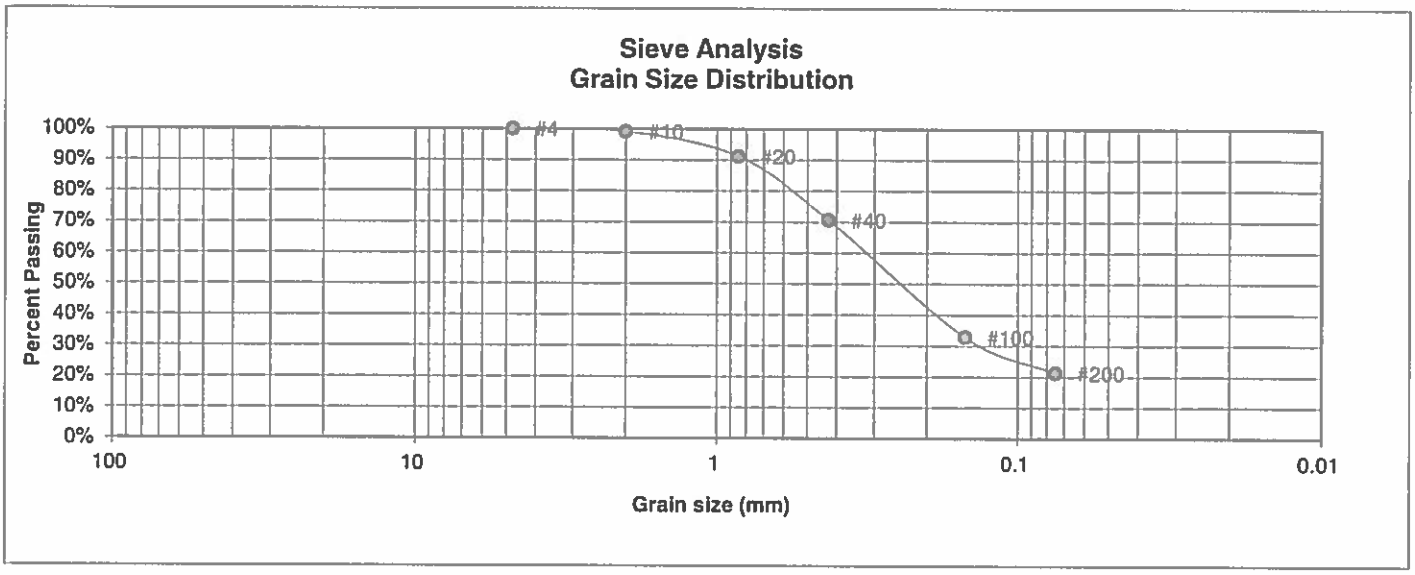
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED: LLL	DATE: 9/27/18

JOB NO.: 181459

FIG NO.: L-7

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-9	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.2%
20	91.2%
40	70.6%
100	32.9%
200	21.3%

Atterberg Limits	
Plastic Limit	
Liquid Limit	
Plastic Index	
Swell	
Moisture at start	12.7%
Moisture at finish	22.9%
Moisture increase	10.1%
Initial dry density (pcf)	98
Swell (psf)	30

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COLORADO SPRINGS, COLORADO 80907

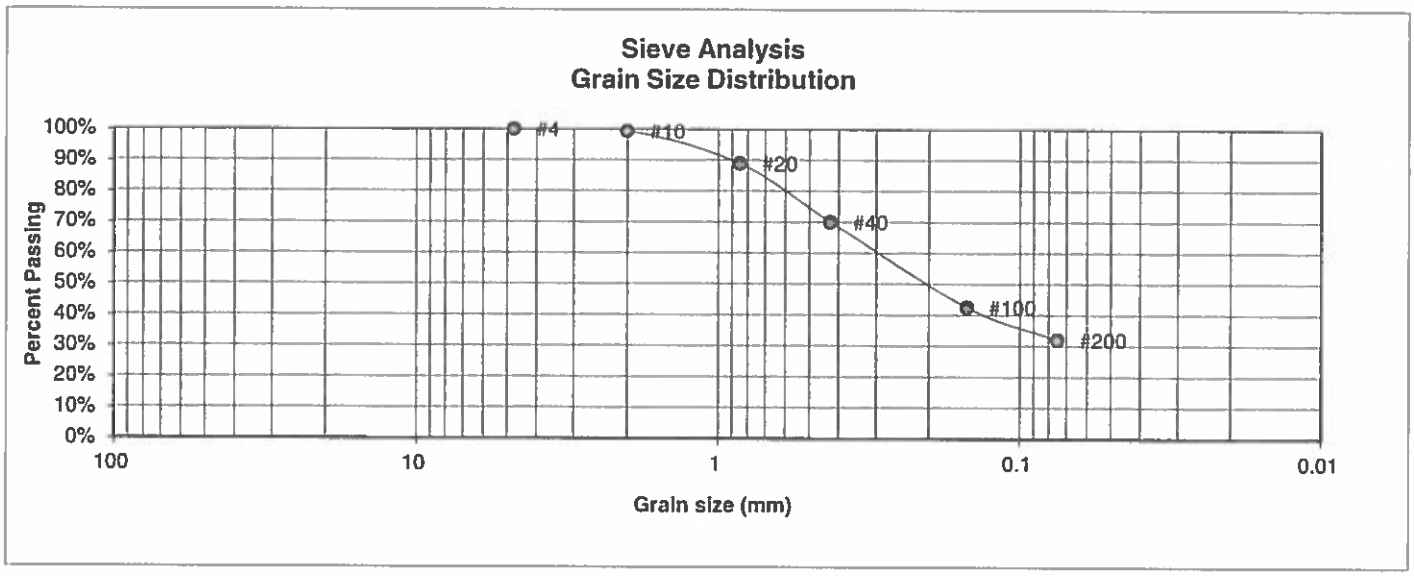
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-8

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	1	PROJECT	McCUNE RANCH
TEST BORING #	TP-10	JOB NO.	181459
DEPTH (FT)	2-3	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.4%
20	88.9%
40	70.0%
100	42.6%
200	32.0%

Atterberg Limits
Plastic Limit
Liquid Limit
Plastic Index

Swell
Moisture at start
Moisture at finish
Moisture increase
Initial dry density (pcf)
Swell (psf)

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COLORADO SPRINGS, COLORADO 80907

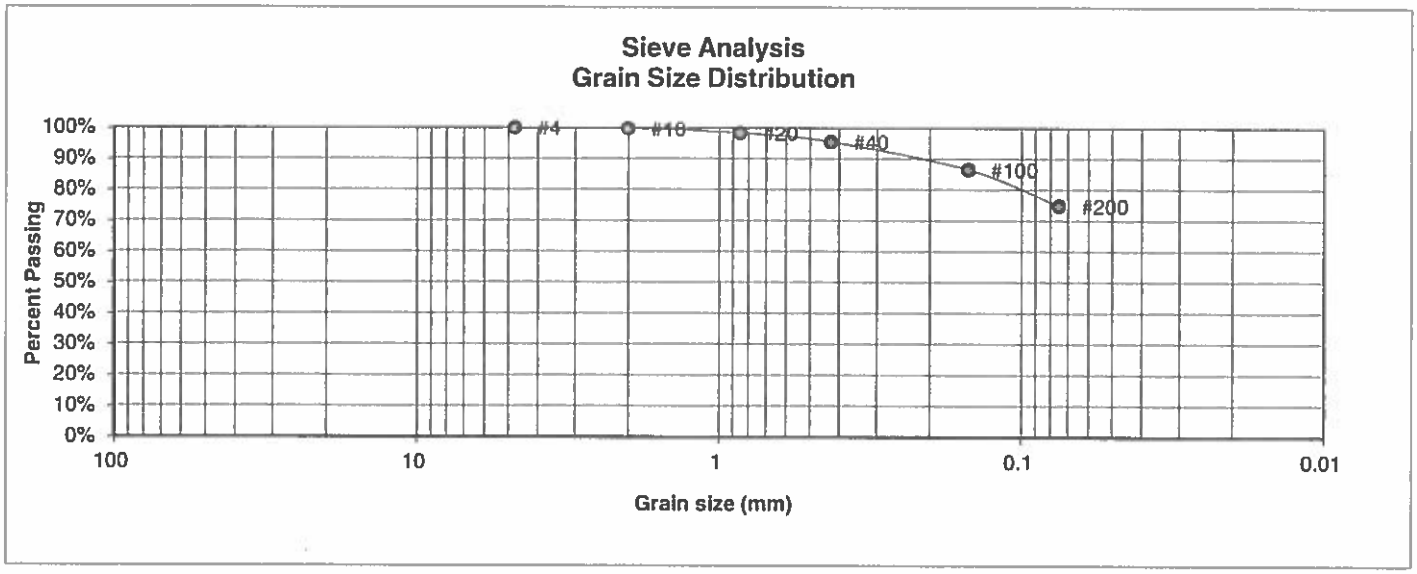
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-9

UNIFIED CLASSIFICATION	CL	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	2	PROJECT	McCUNE RANCH
TEST BORING #	TP-1	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.8%
20	98.4%
40	95.4%
100	86.5%
200	74.8%

Atterberg Limits	
Plastic Limit	20
Liquid Limit	30
Plastic Index	10

Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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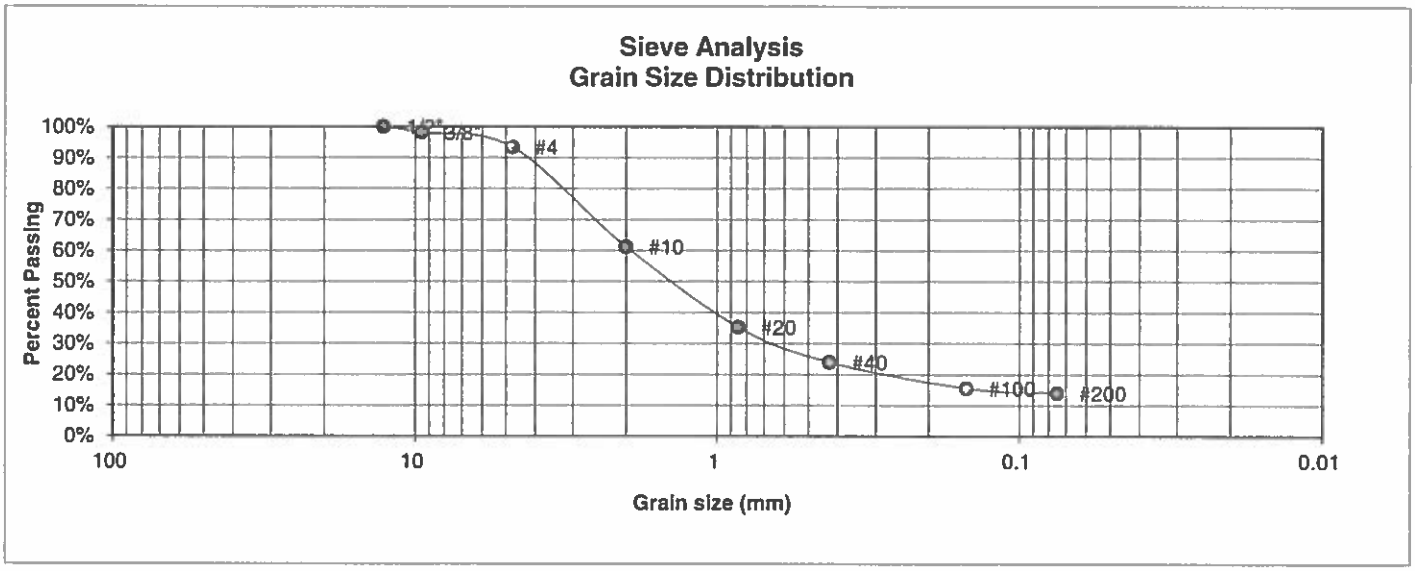
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED: LLL	DATE: 9/27/18

JOB NO.: 181459

FIG NO.: C-10

UNIFIED CLASSIFICATION	SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	TP-2	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	100.0%
3/8"	98.2%
4	93.4%
10	61.2%
20	35.3%
40	24.0%
100	15.6%
200	14.0%

Atterberg Limits	
Plastic Limit	21
Liquid Limit	30
Plastic Index	9

Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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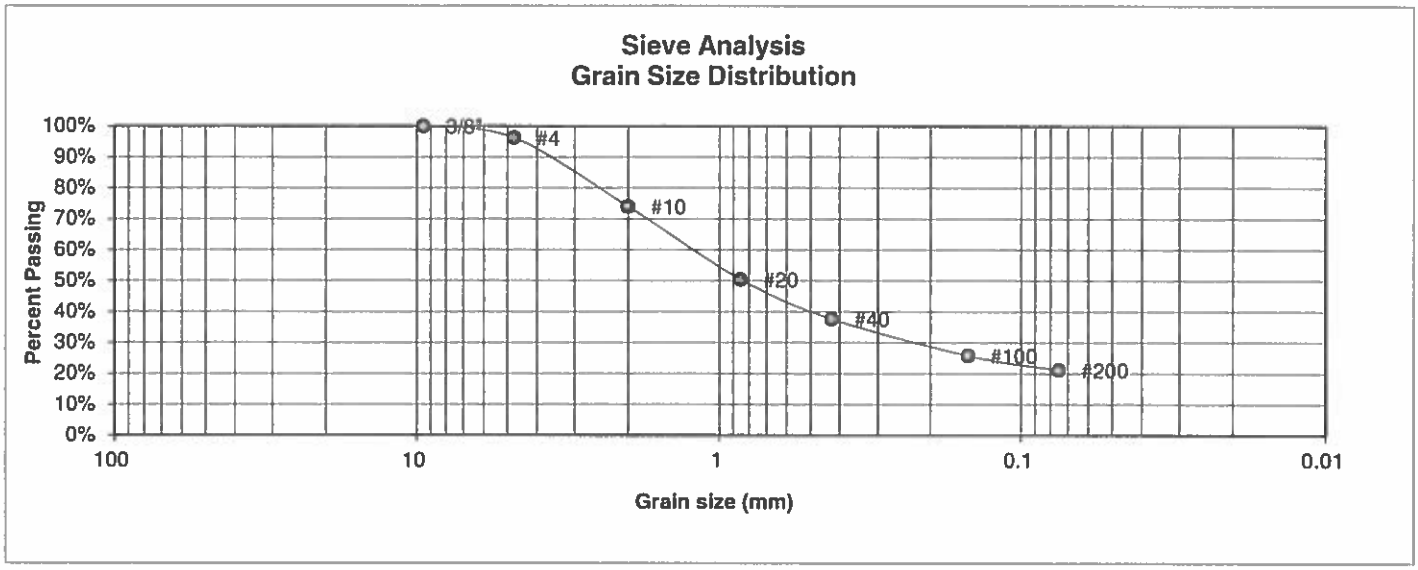
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-11

UNIFIED CLASSIFICATION	SC	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	TP-8	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	96.2%
10	74.0%
20	50.4%
40	37.7%
100	25.8%
200	21.1%

Atterberg Limits	
Plastic Limit	19
Liquid Limit	33
Plastic Index	14

Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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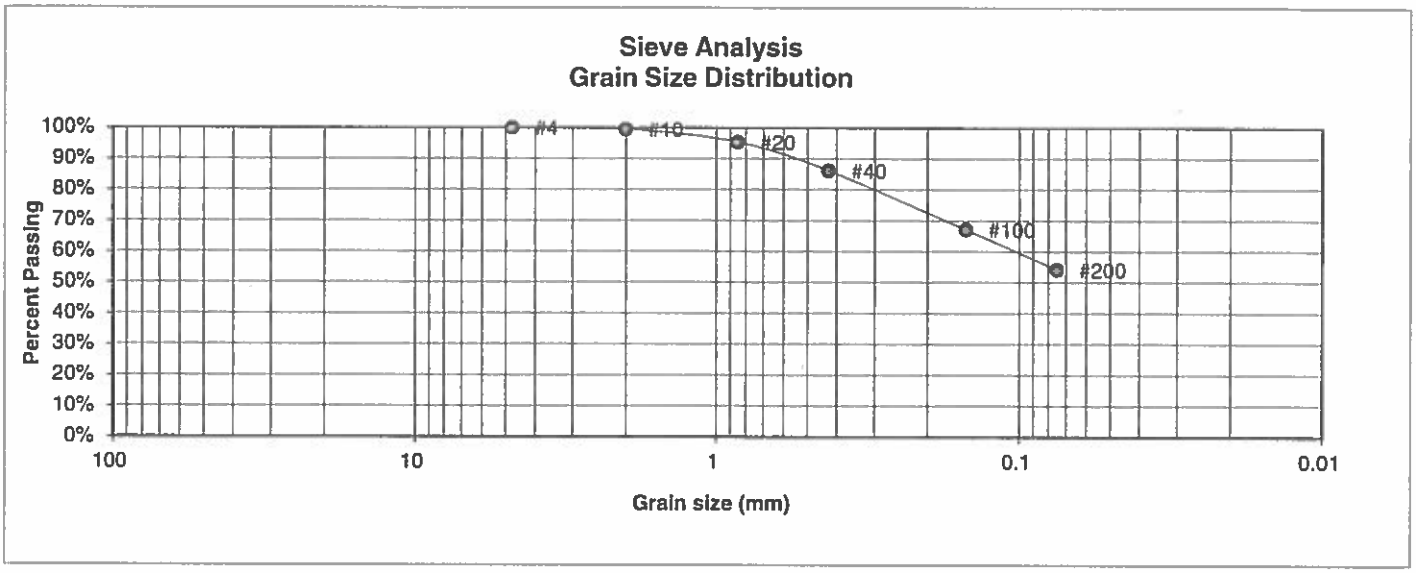
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-12

UNIFIED CLASSIFICATION	CL-SC	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	TP-6	JOB NO.	181459
DEPTH (FT)	5-6	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	99.5%
20	95.4%
40	86.1%
100	67.1%
200	54.2%

Atterberg Limits	
Plastic Limit	
Liquid Limit	
Plastic Index	
Swell	
Moisture at start	8.4%
Moisture at finish	20.4%
Moisture increase	12.0%
Initial dry density (pcf)	101
Swell (psf)	350

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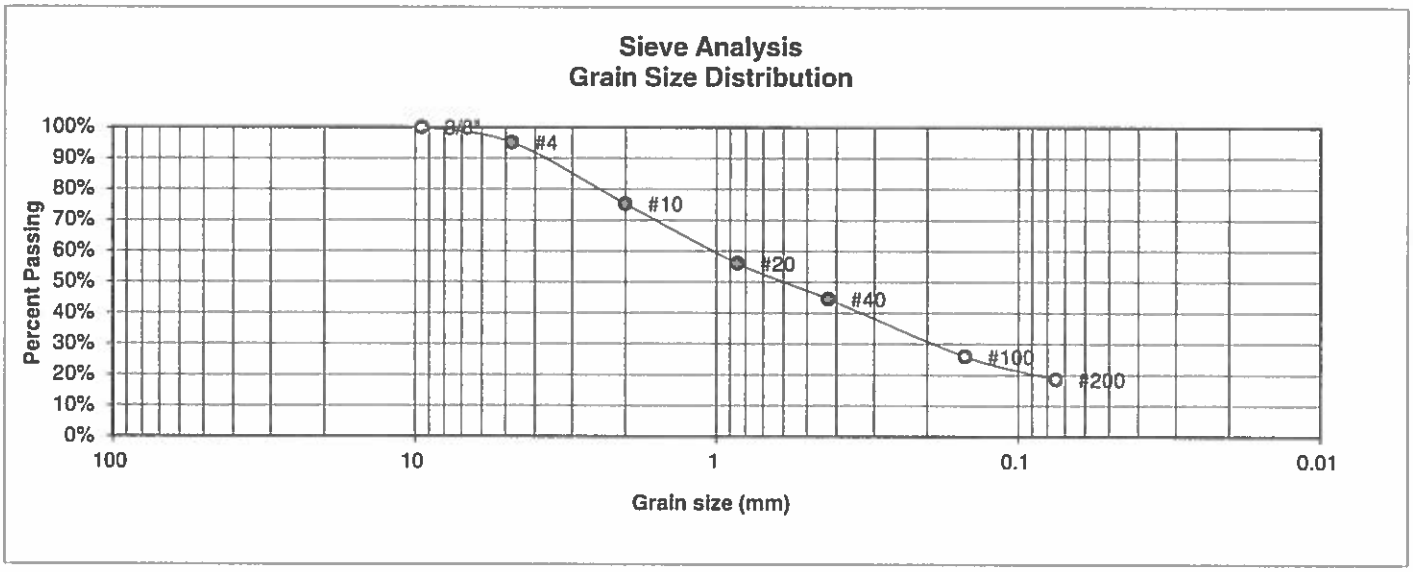
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-13

UNIFIED CLASSIFICATION	SC-SM	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	3	PROJECT	McCUNE RANCH
TEST BORING #	4	JOB NO.	181459
DEPTH (FT)	20	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	100.0%
4	95.1%
10	75.3%
20	56.1%
40	44.6%
100	26.0%
200	18.6%

Atterberg Limits	
Plastic Limit	14
Liquid Limit	21
Plastic Index	7

Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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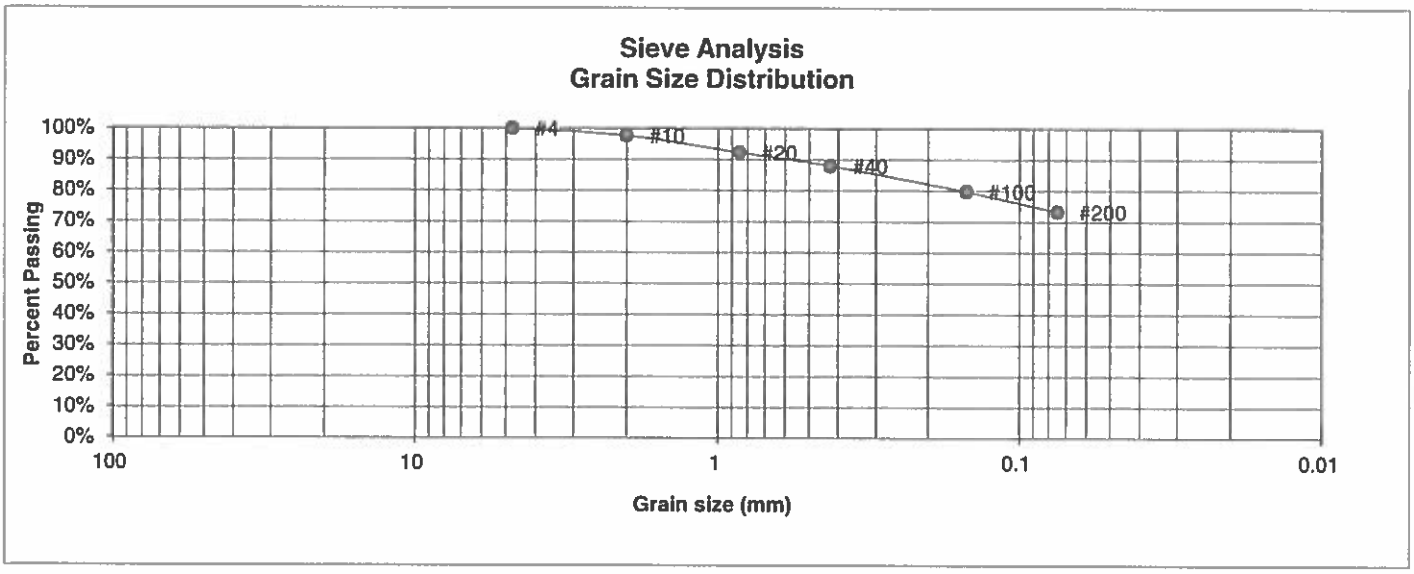
LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459

FIG NO.: C-14

UNIFIED CLASSIFICATION	CL	CLIENT	PROTERRA PROPERTIES
SOIL TYPE #	4	PROJECT	McCUNE RANCH
TEST BORING #	1	JOB NO.	181459
DEPTH (FT)	15	TEST BY	BL



U.S. Sieve #	Percent Finer
3"	
1 1/2"	
3/4"	
1/2"	
3/8"	
4	100.0%
10	97.7%
20	92.3%
40	88.0%
100	79.8%
200	73.2%

Atterberg Limits	
Plastic Limit	22
Liquid Limit	35
Plastic Index	13

Swell	
Moisture at start	
Moisture at finish	
Moisture increase	
Initial dry density (pcf)	
Swell (psf)	

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LABORATORY TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

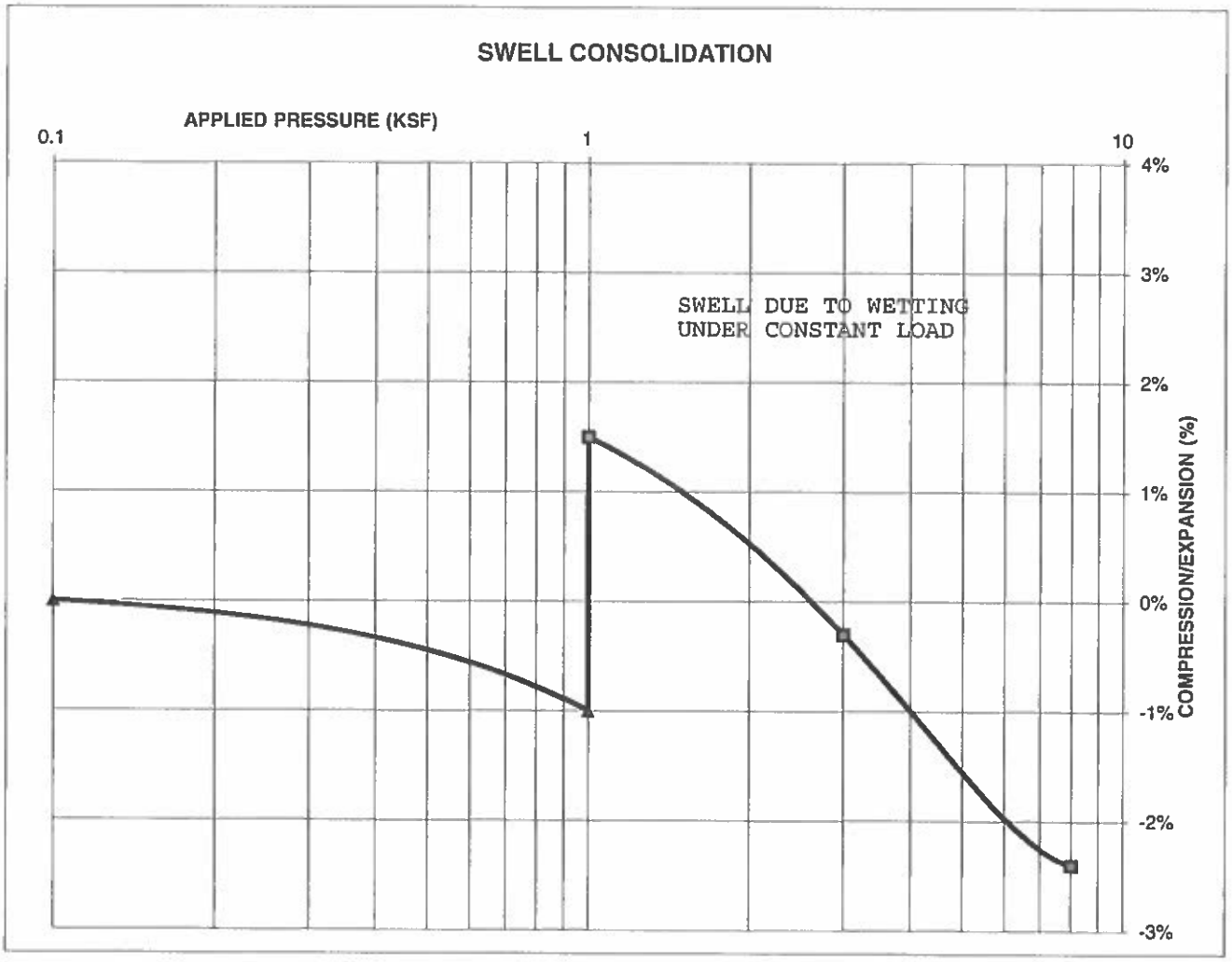
JOB NO.: 181459

FIG NO.: C-15

CONSOLIDATION TEST RESULTS

TEST BORING #	1	DEPTH(ft)	15
DESCRIPTION	CL	SOIL TYPE	4
NATURAL UNIT DRY WEIGHT (PCF)			120
NATURAL MOISTURE CONTENT			13.4%
SWELL/CONSOLIDATION (%)			2.5%

JOB NO. 181459
CLIENT PROTERRA PROPERTIES
PROJECT McCUNE RANCH



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SWELL CONSOLIDATION
TEST RESULTS

DRAWN:	DATE:	CHECKED:	DATE:
		LLL	9/27/18

JOB NO.: 181459
FIG NO.: C-16

CLIENT	PROTERRA PROPERTIES	JOB NO.	181459
PROJECT	McCUNE RANCH	DATE	9/24/2018
LOCATION	McCUNE RANCH	TEST BY	BL

BORING NUMBER	DEPTH, (ft)	SOIL TYPE NUMBER	UNIFIED CLASSIFICATION	WATER SOLUBLE SULFATE, (wt%)
TB-1	15	4	CL	<0.01
TB-3	10	1	SM-SW	<0.01
TB-4	20	3	SC-SM	<0.01

QC BLANK PASS

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LABORATORY TEST
SULFATE RESULTS

DRAWN:	DATE:	CHECKED:	DATE: 9/28/18

JOB NO.: 181459

FIG NO.: C-17

APPENDIX D: Soil Survey Descriptions

El Paso County Area, Colorado

1—Alamosa loam, 1 to 3 percent slopes

Map Unit Setting

National map unit symbol: 3670
Elevation: 7,200 to 7,700 feet
Farmland classification: Prime farmland if irrigated and reclaimed of excess salts and sodium

Map Unit Composition

Alamosa and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Alamosa

Setting

Landform: Flood plains, fans
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 6 inches: loam
Bt - 6 to 14 inches: clay loam
Btk - 14 to 33 inches: clay loam
Cg1 - 33 to 53 inches: sandy clay loam
Cg2 - 53 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 18 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Very slightly saline to strongly saline (2.0 to 16.0 mmhos/cm)
Available water storage in profile: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: Mountain Meadow (R048AY241CO)
Hydric soil rating: Yes

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

15—Brussett loam, 3 to 5 percent slopes

Map Unit Setting

National map unit symbol: 367k
Elevation: 7,200 to 7,500 feet
Frost-free period: 115 to 125 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Brussett and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Brussett

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits

Typical profile

A - 0 to 8 inches: loam
BA - 8 to 12 inches: loam
Bt - 12 to 26 inches: clay loam
Bk - 26 to 60 inches: silt loam

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

21—Cruckton sandy loam, 1 to 9 percent slopes

Map Unit Setting

National map unit symbol: 367s
Elevation: 7,200 to 7,600 feet
Mean annual precipitation: 16 to 18 inches
Mean annual air temperature: 42 to 46 degrees F
Frost-free period: 110 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Cruckton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cruckton

Setting

Landform: Flats, hills
Landform position (three-dimensional): Side slope, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose

Typical profile

A - 0 to 11 inches: sandy loam
Bt - 11 to 28 inches: sandy loam
C - 28 to 60 inches: loamy coarse sand

Properties and qualities

Slope: 1 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

25—Elbeth sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 367x
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Elbeth and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elbeth

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose

Typical profile

A - 0 to 3 inches: sandy loam
E - 3 to 23 inches: loamy sand
Bt - 23 to 68 inches: sandy clay loam
C - 68 to 74 inches: sandy clay loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:

Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

26—Elbeth sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 367y
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Elbeth and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elbeth

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose

Typical profile

A - 0 to 3 inches: sandy loam
E - 3 to 23 inches: loamy sand
Bt - 23 to 68 inches: sandy clay loam
C - 68 to 74 inches: sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

36—Holderness loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 3689
Elevation: 7,200 to 7,400 feet
Farmland classification: Not prime farmland

Map Unit Composition

Holderness and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Holderness

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy alluvium derived from arkose

Typical profile

A - 0 to 9 inches: loam
Bt - 9 to 43 inches: clay loam
C - 43 to 60 inches: gravelly sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.6 inches)

Interpretive groups

Land capability classification (irrigated): 4e
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

67—Peyton sandy loam, 5 to 9 percent slopes

Map Unit Setting

National map unit symbol: 369d
Elevation: 6,800 to 7,600 feet
Mean annual air temperature: 43 to 45 degrees F
Frost-free period: 115 to 125 days
Farmland classification: Not prime farmland

Map Unit Composition

Peyton and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peyton

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 12 inches: sandy loam
Bt - 12 to 25 inches: sandy clay loam
BC - 25 to 35 inches: sandy loam
C - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 5 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

68—Peyton-Pring complex, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369f
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Peyton and similar soils: 40 percent
Pring and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Peyton

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock and/or arkosic residuum weathered from sedimentary rock

Typical profile

A - 0 to 12 inches: sandy loam
Bt - 12 to 25 inches: sandy clay loam
BC - 25 to 35 inches: sandy loam
C - 35 to 60 inches: sandy loam

Properties and qualities

Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Description of Pring

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pring

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Loamy Park (R048AY222CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

El Paso County Area, Colorado

92—Tomah-Crowfoot loamy sands, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 36b9
Elevation: 7,300 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Tomah and similar soils: 50 percent
Crowfoot and similar soils: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tomah

Setting

Landform: Alluvial fans, hills
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from arkose and/or residuum weathered from arkose

Typical profile

A - 0 to 10 inches: loamy sand
E - 10 to 22 inches: coarse sand
C - 48 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Description of Crowfoot

Setting

Landform: Alluvial fans, hills

Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

A - 0 to 12 inches: loamy sand
E - 12 to 23 inches: sand
Bt - 23 to 36 inches: sandy clay loam
C - 36 to 60 inches: coarse sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Sandy Divide (R049BY216CO)
Hydric soil rating: No

Minor Components

Other soils

Percent of map unit:
Hydric soil rating: No

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

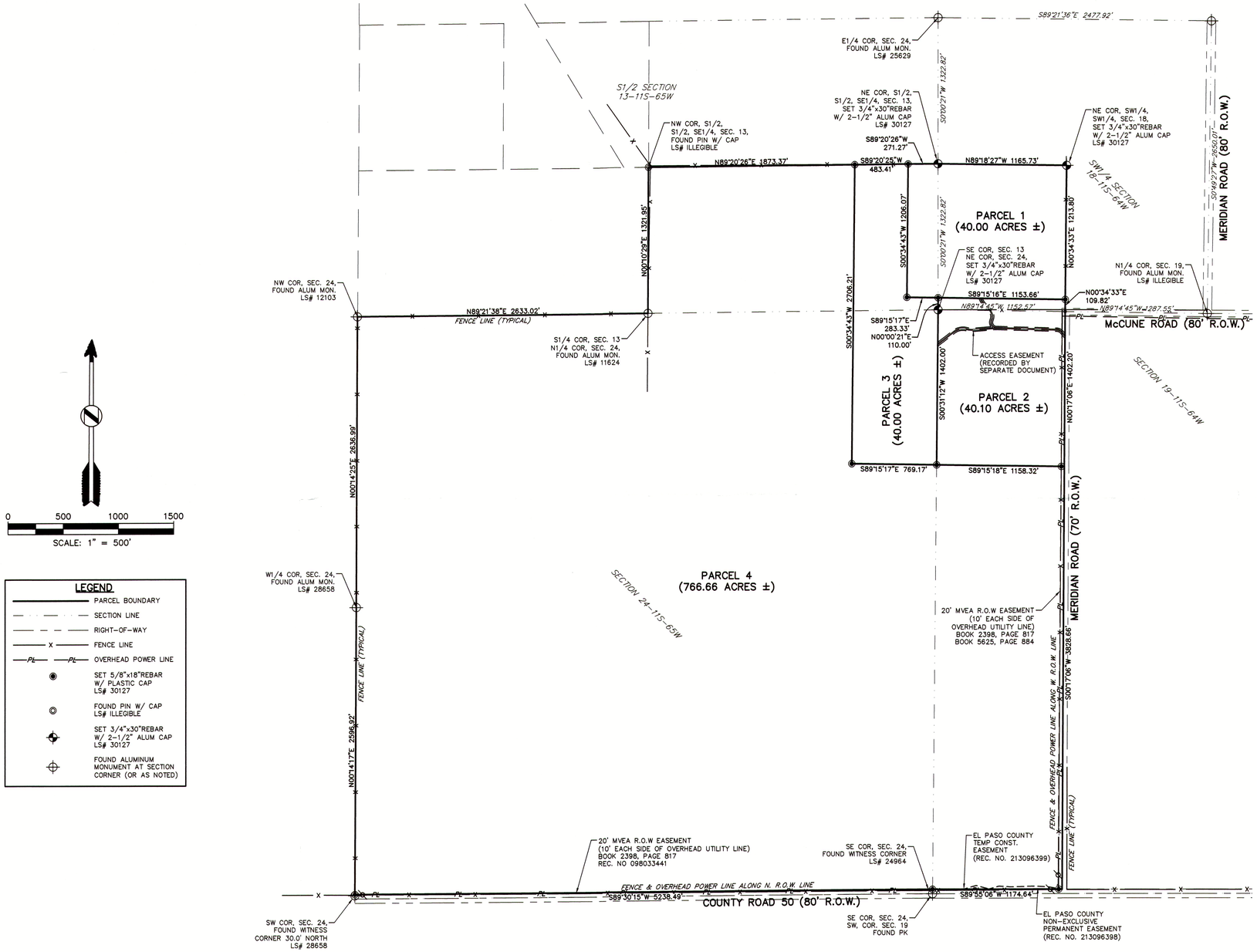
Data Source Information

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 15, Oct 10, 2017

Appendix F

LAND SURVEY PLAT

PART OF SECTIONS 18 & 19, T. 11 S, R. 64 W, 6TH P.M. & PART OF SECTIONS 13 & 24, T. 11 S, R. 65 W, 6TH P.M. & COUNTY OF EL PASO, STATE OF COLORADO



LEGEND

- PARCEL BOUNDARY
- SECTION LINE
- RIGHT-OF-WAY
- FENCE LINE
- OVERHEAD POWER LINE
- SET 5/8"x18"REBAR W/ PLASTIC CAP LS# 30127
- FOUND PIN W/ CAP LS# ILLEGIBLE
- SET 3/4"x30"REBAR W/ 2-1/2" ALUM CAP LS# 30127
- FOUND ALUMINUM MONUMENT AT SECTION CORNER (OR AS NOTED)

DISCLAIMER: PLEASE NOTE THAT SURVEYING IS AN INEXACT SCIENCE AND IS SUBJECT TO A CERTAIN DEGREE OF INACCURACY AND OPINION.

BASIS OF BEARINGS:

CONSIDERING THE WEST LINE OF THE NW1/4 OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST TO HAVE AN ASSUMED BEARING OF S00°31'12"W AND MONUMENTED AS SHOWN HEREON.

"NOTICE: 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."

PROPERTY DESCRIPTION

PARCEL 1:
A PARCEL OF PROPERTY LOCATED IN THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 11 SOUTH, RANGE 64 WEST AND THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTHWEST CORNER OF SAID SECTION 18 AND CONSIDERING THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 18 TO BEAR N00°00'21"E WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE N00°00'21"E ALONG SAID WEST LINE, A DISTANCE OF 110.00 FEET TO THE POINT OF BEGINNING; THENCE S89°15'16"E, A DISTANCE OF 1153.66 FEET TO A POINT ON THE EAST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE N00°34'33"E ALONG SAID EAST LINE, A DISTANCE OF 1213.80 FEET TO THE NORTHEAST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE N89°18'27"W ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18 A DISTANCE OF1165.73 FEET TO THE NORTHWEST CORNER OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE S89°20'25"W ALONG THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 271.27 FEET; THENCE S00°34'43"W, A DISTANCE OF 1206.07 FEET; THENCE S89°15'17"E, A DISTANCE OF 283.33 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF THE SOUTHWEST QUARTER OF SAID SECTION 18 AND THE POINT OF BEGINNING, SAID PARCEL CONTAINING 40.00 ACRES MORE OR LESS, COUNTY OF EL PASO, STATE OF COLORADO.

TOGETHER WITH A 30.00 FOOT WIDE ACCESS EASEMENT (RECORDED BY SEPARATE DOCUMENT)

PARCEL 2:
A PARCEL OF PROPERTY LOCATED IN THE SOUTHWEST QUARTER OF SECTION 18, TOWNSHIP 11 SOUTH, RANGE 64 WEST AND IN THE WEST HALF OF THE WEST HALF OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH PM, COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SECTION 19 AND CONSIDERING THE WEST LINE OF SAID SECTION 19 TO BEAR S00°31'12"W WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE S00°31'12"W ALONG SAID WEST LINE, A DISTANCE OF 1402.00 FEET; THENCE S89°15'18"E, A DISTANCE OF 1158.32 FEET TO A POINT ON THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19; THENCE N00°17'06"E ALONG SAID EAST LINE, A DISTANCE OF 1402.20 FEET TO THE NORTHEAST CORNER OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19; THENCE N00°34'33"E ALONG THE WEST LINE OF THE EAST HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 18, A DISTANCE OF 109.82 FEET; THENCE N89°15'16"W, A DISTANCE OF 1153.66 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 18; THENCE S00°00'21"W ALONG SAID WEST LINE, A DISTANCE OF 110.00 FEET TO THE NORTHWEST QUARTER OF SAID SECTION 19 AND THE POINT OF BEGINNING,
SAID PARCEL CONTAINING 40.10 ACRES MORE OR LESS,
COUNTY OF EL PASO, STATE OF COLORADO.

TOGETHER WITH AND SUBJECT TO A 30.00 FOOT WIDE ACCESS EASEMENT (RECORDED BY SEPARATE DOCUMENT)

PARCEL 3:
A PARCEL OF PROPERTY LOCATED IN THE SOUTHEAST QUARTER OF SECTION 13, TOWNSHIP 11 SOUTH, RANGE 65 WEST AND THE NORTHEAST QUARTER OF SECTION 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 24 AND CONSIDERING THE EAST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 24 TO BEAR S00°31'12"W WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE S00°31'12"W ALONG SAID EAST LINE, A DISTANCE OF 1402.00 FEET; THENCE N89°15'17"W, A DISTANCE OF 769.17 FEET; THENCE N00°34'43"E, A DISTANCE OF 2706.21 FEET TO A POINT ON THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89°20'25"E ALONG SAID NORTH LINE, A DISTANCE OF 483.41 FEET; THENCE S00°34'43"W, A DISTANCE OF 1206.07 FEET; THENCE S89°15'17"E, A DISTANCE OF 283.33 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE S00°00'21"W ALONG SAID EAST LINE, A DISTANCE OF 110.00 FEET TO THE NORTHEAST CORNER OF SAID SECTION 24 AND THE POINT OF BEGINNING, SAID PARCEL CONTAINING 40.00 ACRES MORE OR LESS, COUNTY OF EL PASO, STATE OF COLORADO.

TOGETHER WITH A 30.00 FOOT WIDE ACCESS EASEMENT (RECORDED BY SEPARATE DOCUMENT)

PARCEL 4:
A PARCEL OF PROPERTY LOCATED IN SECTIONS 13 & 24, TOWNSHIP 11 SOUTH, RANGE 65 WEST OF THE 6TH P.M. AND IN THE WEST HALF OF THE WEST HALF OF SECTION 19, TOWNSHIP 11 SOUTH, RANGE 64 WEST OF THE 6TH P.M., COUNTY OF EL PASO, STATE OF COLORADO BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 18 AND CONSIDERING THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 18 TO BEAR N89°14'45"W WITH ALL BEARINGS CONTAINED HEREIN RELATIVE THERETO; THENCE N89°14'45"W ALONG SAID SOUTH LINE, A DISTANCE OF 1287.55 FEET TO THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHWEST QUARTER OF SAID SECTION 19; THENCE S00°17'06"W ALONG THE EAST LINE OF THE WEST HALF OF THE WEST HALF OF SAID SECTION 19, A DISTANCE OF 1402.20 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING ALONG SAID EAST LINE S00°17'06"W, A DISTANCE OF 3828.66 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF COUNTY ROAD 50; THENCE ALONG SAID SOUTH RIGHT OF WAY LINE S89°55'06"W, A DISTANCE OF 1174.64 FEET TO A POINT ON THE EAST LINE OF SAID SECTION 24; THENCE CONTINUING ALONG SAID NORTH RIGHT OF WAY LINE S89°3015"W, A DISTANCE OF 5238.49 FEET TO A POINT ON THE WEST LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 24; THENCE N00°14'17"E ALONG SAID WEST LINE, A DISTANCE OF 2596.92 FEET TO THE WEST QUARTER CORNER OF SAID SECTION 24; THENCE N00°14'25"E ALONG THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2636.99 FEET TO THE NORTHWEST CORNER OF SAID SECTION 24; THENCE N89°21'38"E ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 24, A DISTANCE OF 2633.02 FEET TO THE SOUTH QUARTER CORNER OF SAID SECTION 13; THENCE N00°10'29"E, A DISTANCE OF 1321.95 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13; THENCE N89°20'26"E ALONG THE NORTH LINE OF THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SAID SECTION 13, A DISTANCE OF 1873.37 FEET; THENCE S00°34'43"W, A DISTANCE OF 2706.21 FEET; THENCE S89°15'17"E, A DISTANCE OF 769.17 FEET TO A POINT ON THE WEST LINE OF SAID SECTION 19; THENCE S89°15'18"E, A DISTANCE OF 1158.32 FEET TO THE POINT OF BEGINNING, SAID PARCEL CONTAINING 766.66 ACRES MORE OR LESS, COUNTY OF EL PASO, STATE OF COLORADO.

CERTIFICATE OF SURVEY:

This is to certify to McCune Ranch LLC that on October 20, 2017 a survey was made under my direct supervision, of the hereon described property situated in El Paso County, Colorado. The survey was made on the ground using the normal standard of care of Professional Land Surveyors practicing in El Paso County, Colorado, and that this plat accurately represents said survey. The location and dimensions of all easements and rights of way in evidence or known to me and encroachments by or on the premises are accurately shown. This survey does not constitute a title search by High Prairie Survey Co., Inc. of the property shown and described hereon to determine:

1. Ownership of the tract of land.
2. Compatibility of this description with those of adjacent tracts of land.
3. Rights of way, easements and encumbrances of record affecting this tract of land. This survey was performed without the benefit of a title insurance commitment or a title insurance policy. A title insurance commitment or a title insurance policy may disclose facts not reflected on this survey. Corner monuments were set, or found and accepted as indicated hereon.

COLORADO LICENSED KEITH WESTFALL 30127 PLS LAND SURVEYOR

Keith Westfall, Colorado PLS #30127
For and on behalf of
High Prairie Survey Co.

CERTIFICATE OF DEPOSIT:

Deposited this _____ day of _____, 20_____, in the County Surveyor's land survey plats/right-of-way surveys at reception number _____, in the office of the El Paso County Clerk and Recorder.

Signed _____

REFERENCE DWG:	DATE:	REVISIONS:

High Prairie Survey Co.
LAND SURVEYING CONSTRUCTION STAKING
OIL AND GAS SURVEYING
303-621-8672 FAX 303-621-7749
P.O. BOX 384
KIOWA, COLORADO 80117

SCALE	DATE	DRAWN BY
1"=500'	03/22/2018	D. COTTER

TITLE
LAND SURVEY PLAT
PART OF SEC.S 18 & 19, T11S, R64W, 6TH P.M.
PART OF SEC.S 13 & 24, T11S, R65W, 6TH P.M.
EL PASO COUNTY, STATE OF COLORADO

CLIENT
McCUNE RANCH LLC

SHEET 1 OF 1

JOB NUMBER
17239-LSP

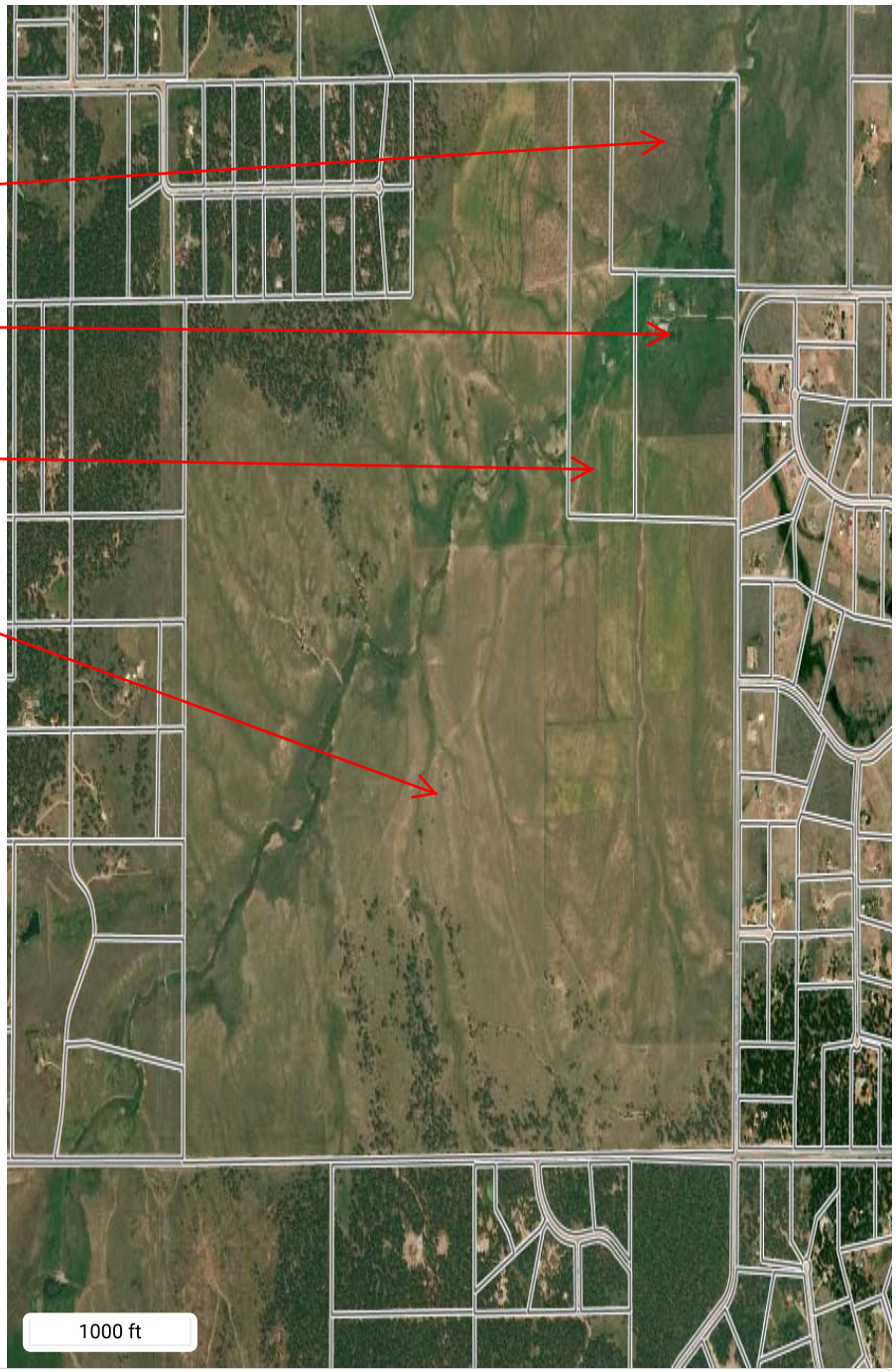
Your search returned no results. Please try searching again.

Parcel 1
Owner: Daniel Grothe
Schedule No.: 4100000431

Parcel 2
Owner: David King
Schedule No.: 4100000432

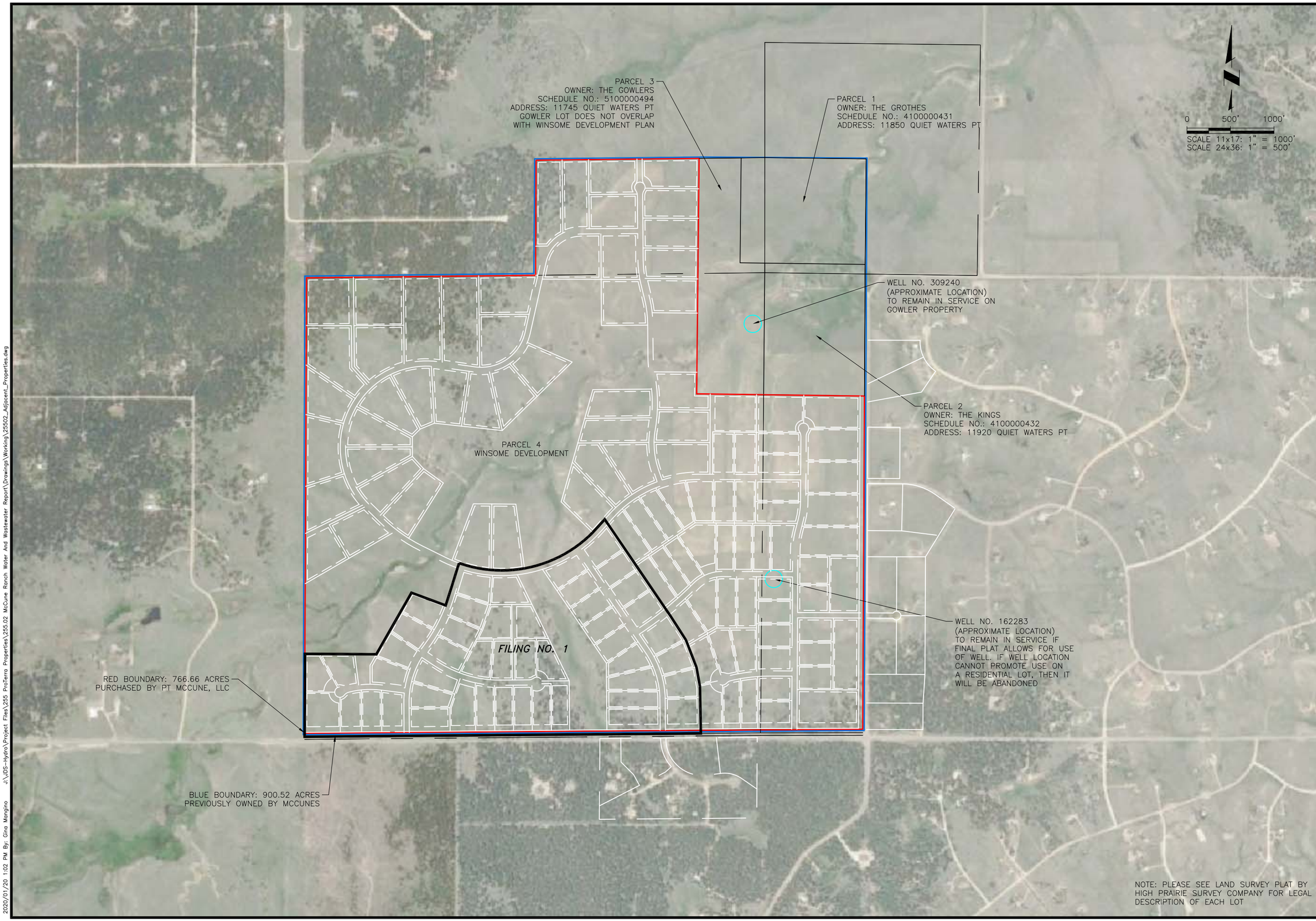
Parcel 3
Owner: Matt Gowler
Schedule No.: 5100000494

Parcel 4
Owner: McCune Ranch, LLC
Schedule No. : 5100000493



Disclaimer

We have made a good-faith effort to provide you with the most recent and most accurate information available. However, if you need to use this information in any legal or official venue, you will need to obtain official copies from the Assessor's Office. Do be aware that this data is subject to change on a daily basis. If you believe that any of this information is incorrect, please call us at (719) 520-6600.



JDS-HYDRO CONSULTANTS, INC.
545 EAST PIKES PEAK AVENUE, SUITE 300
COLORADO SPRINGS, COLORADO 80903
(719) 227-0072

PT McCUNE, LLC

WINSOME SUBDIVISION

EXISTING WELL LOCATIONS

REVISIONS

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

Project No.: 255.02
Date: 01/20/20
Design: DES
Drawn: GUS
Check: DES

SHEET OF

2020/01/20 1:02 PM By: Gina Mangino J:\JDS-Hydro\Project Files\255 ProTerra Properties\255.02 McCune Ranch Water And Wastewater Report\Drawings\Working\25502_Adjacent_Properties.dwg

Appendix G

WATER QUALITY RESULTS - SUMMARY TABLE

NATIONAL PRIMARY DRINKING WATER REGULATIONS

CONTAMINANT	MCL or TT	GOWLER WELL	Above / Below
Acrylamide	TT		Not Tested
Alachlor	0.002	BDL	Below
Aldicarb		BDL	NA
Aldicarb sulfone		BDL	NA
Aldicarb sulfoxide		BDL	NA
Aldrin		BDL	NA
Alpha/photon emitters	15 pCi/L		Not Tested
Antimony	0.006	BDL	Below
Arsenic	0.01	BDL	Below
Asbestos (fibers >10 micrometers)	7 million fibers per Liter (MFL)		Not Tested
Atrazine	0.003	BDL	Below
Barium	2	0.122	Below
Benzene	0.005	BDL	Below
BenZo(a)pyrene (PAHs)	0.0002	BDL	Below
Beryllium	0.004	BDL	Below
Beta photon emitters	4 MILLIREMS PER YEAR		Not Tested
Bicarbonate		89.8 mg/L	NA
Bromate	0.01		Not Tested
Bromobenzene		BDL	NA
Bromochloromethane		BDL	NA
Bromodichloromethane		BDL	NA
Bromoform		BDL	NA
Butachlor		BDL	NA
n-Butylbenzene		BDL	NA
sec-Butylbenzene		BDL	NA
tert-Butylbenzene		BDL	NA
Cadmium	0.005	BDL	Below
Calcium		67.8 mg/L	NA
Carbaryl		BDL	NA
Carbofuran	0.04	BDL	Below
Carbonate		BDL	NA
Carbon tetrachloride	0.005	BDL	Below
Chloramines (as Cl_2)	MRDL=4.0		Not Tested
Chlordane	0.002	BDL	Below
Chlorine (as Cl_2)	MRDL=4.0		Not Tested
Chlorine dioxide (as $Cl0_2$)	MRDL=0.8		Not Tested
Chlorite	1.0		Not Tested
Chlorobenzene	0.1		Not Tested
Chlorodibromomethane		BDL	NA
Chloroethane		BDL	NA
Chloroform		BDL	NA
Chloromethane		BDL	NA
o-Chlorotoluene		BDL	NA
p-Chlorotoluene		BDL	NA
Chromium (total)	0.1	BDL	Below
Copper	1.3	0.0183	Below
Chryptosporidium	TT		Not Tested
Cyanide (Total)	0.02	BDL	Below
2,4-D	0.07	BDL	Below
Dalapon	0.2	BDL	Below
Dibromochloropropane	0.0002	BDL	Below
Dibromomethane		BDL	NA
Dicamba		BDL	NA
m-Dichlorobenzene		BDL	NA
o-Dichlorobenzene	0.6	BDL	Below
Para-Dichlorobenzene	0.075	BDL	Below
Dichlorodifluoromethane		BDL	NA
1,1-Dichloroethane		BDL	NA
1,2-Dichloroethane	0.005	BDL	Below
1,1-Dichloroethylene	0.007	BDL	Below
cis-1,2-Dichloroethylene	0.07	BDL	Below
trans-1,2, Dichloroethylene	0.1	BDL	Below
Dichloromethane	0.005	BDL	Below
1,2-Dichloropropane	0.005	BDL	Below
1,3-Dichloropropane		BDL	NA
1,1-Dichloropropene		BDL	NA
1,3-Dichloropropene		BDL	NA
Dieldrin		BDL	NA
Di(2-ethylhexyl) adipate	0.4	BDL	Below
Di(2-ethylhexyl) phthalate	0.006	BDL	Below
Dinoseb	0.007	BDL	Below
Dioxin (2,3,7,8-TCDD)	0.0000003		Not Tested
Diquat	0.02	BDL	Below
Endothall	0.1	BDL	Below
Endrin	0.002	BDL	Below
Epichlorohydrin	TT		Not Tested
Ethylbenzene	0.7	BDL	Below
Ethylene dibromide	0.00005	BDL	Below
Fecal coliform and E. coli	MCL		Not Tested
Fluoride	4.0	0.34	Below
Fluorotrichloromethane		BDL	NA
Giardia lamblia	TT		Not Tested
Glyphosate	0.7	BDL	Below
Gross Alpha (incl. Uranium)	15	3.6	Below
Gross Beta		8.3	NA
Haloacetic acids (HAA5)	0.06		Not Tested
Heptachlor	0.0004	BDL	Below
Heptachlor epoxide	0.0002	BDL	Below
Heterotrophic plate count (HPC)	TT		Not Tested
Hexachlorobenzene	0.001	BDL	Below
Hexachlorobutadiene		BDL	NA
Hecachlorocyclopentadiene	0.05	BDL	Below
3-Hydroxycarbofuran		BDL	NA
Isopropylbenzene		BDL	NA
p-Isopropyltoluene		BDL	NA
Lead	0.015	0.0005	Below
Langolier Index		-1.02	NA
Legionella	TT		Not Tested
Lindane	0.0002	BDL	Below
Mercury (inorganic)	0.002	BDL	Below
Methomyl		BDL	NA
Methoxychlor	0.04	BDL	Below
Metolachlor		BDL	NA
Metribuzin		BDL	NA
Monochlorobenzene	0.1	BDL	Below
Naphthalene		BDL	NA
Nickel		BDL	NA
Nitrate (measured as Nitrogen)	10	BDL	Below
Nitrite (measured as Nitrogen)	1.0	BDL	Below
Oxamyl (Vydate)	0.2	BDL	Below
Pentachlorophenol	0.001	BDL	Below
pH		7.15	NA
Phosphate (ortho)			NA
Picloram	0.5	BDL	Below
Polychlorinated biphenyls (PCBs)	0.0005	BDL	Below
Propachlor		BDL	NA
n-Propylbenzene		BDL	NA
Radium 226 Radium 228	5	8.3	Above
Radon		1650	NA
Selenium	0.05	BDL	Below
Simazine	0.004	BDL	Below
Sodium		9.4	NA
Styrene	0.1	BDL	Below
1,1,1,2 - Tetrachloroethane		BDL	NA
1,1,2,2-Tetrachloroethane		BDL	NA
Tetrachloroethylene	0.005	BDL	Below
Thallium	0.002	BDL	Below
Toluene	1.0	BDL	Below
Total Alkalinity		89.8 mg/L	NA
Total Coliforms	5.00%		Not Tested
Total Trihalomethanes (TTHMs)	0.08	BDL	Below
Toxaphene	0.003	BDL	Below
2,4,5-TP (Silvex)	0.05	BDL	Below
1,2,3-Trichlorobenzene		BDL	NA
1,2,4-Trichlorobenzene	0.07	BDL	Below
1,1,1-Trichloroethane	0.2	BDL	Below
1,1,2-Trichloroethane	0.005	BDL	Below
Trichloroethylene	0.005	BDL	Below
1,2,4-Trimethylbenzene		BDL	NA
Turbidity	TT		Not Tested
Uranium	0.03	0.0002	Below
Vinyl chloride	0.002	BDL	Below
Viruses (enteric)	TT		Not Tested
Xylenes (total)	10	BDL	Below

SECONDARY DRINKING WATER STANDARDS

CONTAMINANT	SMCL	GOWLER WELL	Above / Below
Aluminum	0.2		Not Tested
Chloride	250		Not Tested
Color	15		Not Tested
Copper	1.3	0.0183	Below
Corrosivity	Non-corrosive		Not Tested
Hydroxide	0.1	BDL	Below
Fluoride	2.0		Not Tested
Foaming agents	0.5		Not Tested
Iron	0.3	BDL	Below
Manganese	0.05	0.1171	Above
Odor	3 TON		Not Tested
pH	6.5 - 8.5 units	7.15 units	Below
Silver	0.1		Not Tested
Sulfate	250		Not Tested
Temperature	N/A	11 °	Below
Total Dissolved Solids (TDS)	500	154	Below
Zinc	5		Not Tested

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

Lab Control ID: 19M01215
Received: Feb 08, 2019
Reported: Mar 05, 2019
Purchase Order No.
None Received

Customer ID: 20040H
Account ID: Z01034

Stuart Nielson
Colorado Analytical Laboratories, Inc.
PO Box 507
240 South Main Street
Brighton, CO 80601

ANALYTICAL REPORT

Report may only be copied in its entirety.
Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory

By:_____
Jessica Axen
Analytical Laboratories Director

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

Lab Control ID: 19M01215
Received: Feb 08, 2019
Reported: Mar 05, 2019
Purchase Order No.
None Received

Customer ID: 20040H
Account ID: Z01034

ANALYTICAL REPORT

Stuart Nielson
Colorado Analytical Laboratories, Inc.

Lab Sample ID	19M01215-001
Customer Sample ID	**190208005-01** - Gowler Well sampled on 02/07/19 @ 0946 by Stephanie Shwenke

Parameter	Units	Code	Result	Precision* +/-	Detection Limit	Method	Analysis Date / Time	Analyst
Gross Alpha	**pCi/L**	**T**	3.6	2.1	0.1	SM 7110 B	2/18/19 @ 0800	SS
Gross Beta	**pCi/L**	**T**	8.3	2.7	3.7	SM 7110 B	2/18/19 @ 0800	SS
Radium-226	**pCi/L**	**T**	2.2	0.7	0.1	SM 7500-Ra B	2/19/19 @ 0827	SA
Radium-228	**pCi/L**	**T**	6.1	1.0	0.2	EPA Ra-05	2/22/19 @ 0955	JR
Radon	**pCi/L**	**T**	1650	45	13.0	SM 7500-Rn B	2/8/19 @ 1527	SA

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

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

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

Samples received with air bubbles. Radon results may be biased low.

Drinking Water Chain of Custody

19m01215

Colorado Analytical
Laboratories, Inc.

Brighton Lab
240 South Main Street
Brighton, CO 80601

Lakewood Lab
12860 W. Cedar Dr, Suite 101
Lakewood CO 80228

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information **Company Name:** Colorado Analytical **Contact Name:** Stuart Nielson	**Bill To Information** (If different from report to) **Company Name**: Same As Report To **Contact Name:**	**State Form / Project Information** **PWSID:** JDS Hydro **System Name:** Private Well
Address: 240 S. Main St. City: Brighton State: CO Zip: 80601	**Address:** City: State: Zip:	**System Address:** City: State: Zip:
Phone:303-659-2313 **Fax:**303-659-2315	**Phone:** **Fax:**	**County:**
Email: stuartnielson@coloradolab.com	**Email:**	**Compliance Samples:** Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	**PO No.:**	**Send Forms to State:** Yes ☐ No ☒

CAL Task No.
190208005

ARF

					PHASE I, II, V Drinking Water Analyses (check analysis)																					Subcontract Analyses				
Date	Time	Client Sample ID / EP Code	No. of Containers	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)		Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
02/07/19	0946	190208005-01 Gowler Well	6		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☒	☒	☒	☒	☐
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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Instructions: Send via Fed Ex SD to Hazen Research FedEx - 4716 7432 4832 2.8 Rec'd pres Bottles have 0942, 0946, and Radon 1011	C/S Info: Delivered Via: C/S Charge ☐	Seals Present Yes ☐ No ☐ Headspace Yes ☐ No ☐ Temp. °C /Ice Sample Pres. Yes ☐ No ☐

Relinquished By: SAdams	**Date/Time:** 2/8/19 1030	**Received By:**	**Date/Time:** 2-8-19 1457	**Relinquished By:**	**Date/Time:**	**Received By:**	**Date/Time:**

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By
Bicarbonate	**89.8 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Calcium as CaCO3	**67.8 mg/L**	EPA 200.7	0.1	2/13/19	MBN
Carbonate	**< 0.1 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Hydroxide	**< 0.1 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Langelier Index	**-1.02 units**	SM 2330-B		2/13/19	SAN
pH	**7.15 units**	SM 4500-H-B	0.01	2/7/19	Sampler
Temperature	**11 °C**	SM 4500-H-B	1	2/7/19	Sampler
Total Alkalinity	**89.8 mg/L as CaCO3**	SM 2320-B	0.1	2/11/19	JTF
Total Dissolved Solids	**154 mg/L**	SM 2540-C	5	2/13/19	ISG

Abbreviations/ References:

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

DATA APPROVED FOR RELEASE BY

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

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

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS Hydro	Company Name:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Drive Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0017 Fax: 719-471-3161	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number

Cooler well

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

Date	Time	Client Sample ID / EP Code	No. of	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)		Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:50	#11	1																		X									
2/7/19	10:11	#12	2																											
2/7/19	10:16	#13	3						X																				X	
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
2/7/19	[illegible]	#16	2								X																			
2/7/19	10:21	#17	1		X																									
		Trip blank																												
		Field blank																												

Subcontract Analyses

Page 2 of 3

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Delivered Via: Fed Ex C/S Charge ☒ Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:00	[signature]	2/8/19 9.30				

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

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

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS - Hydro	Company Name: Same	PWSID: Private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Dr. Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0012 Fax: 719-471-3401	Phone: Fax:	County: El Paso County
Email: dschwenke@jdshydro.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number Gowler Well

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

Date	Time	Client Sample ID / EP Code	No. o	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Subcontract Analyses: Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:42	#1	3																								X	X		
2/7/19	9:46	#2	1																							X				
2/7/19	9:54	#3	2							X																				
2/7/19	9:55	#4	1											X																
2/7/19	[illegible]	#5	1										X																	
2/7/19	10:02	#6	1					X																						
2/7/19	9:54	#7	1									X																		
2/7/19	9:44	#8	1																											
2/7/19	9:48	#9	1																						X					X
2/7/19	9:48	#10	1															X	X	X		X								

Page 3 of 3

Instructions: Field pH = 7.15 Field temp = 11.3°C

C/S Info:

Seals Present Yes ☒ No ☐ Headspace Yes ☐ No ☐

Delivered Via: Fed Ex C/S Charge ☒ Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:20am	[signature]	2/8/19 9:30				

Colorado Analytical
LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Dibromochloropropane	< 0.02 ug/L	EPA 504.1	0.02 ug/L	2/13/19	SPF	0.2
Ethylene dibromide	< 0.01 ug/L	EPA 504.1	0.01 ug/L	2/13/19	SPF	0.05
Aldrin	< 0.05 ug/L	EPA 505	0.05 ug/L	2/13/19	SPF	
Chlordane	< 0.2 ug/L	EPA 505	0.2 ug/L	2/13/19	SPF	2
Dieldrin	< 0.05 ug/L	EPA 505	0.05 ug/L	2/13/19	SPF	
Endrin	< 0.01 ug/L	EPA 505	0.01 ug/L	2/13/19	SPF	2
Heptachlor epoxide	< 0.02 ug/L	EPA 505	0.02 ug/L	2/13/19	SPF	0.2
Hexachlorobenzene	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	1
Hexachlorocyclopentadiene	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	50
Lindane	< 0.02 ug/L	EPA 505	0.02 ug/L	2/13/19	SPF	0.2
Methoxychlor	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	40
Polychlorinated biphenyl's	< 0.1 ug/L	EPA 505	0.1 ug/L	2/13/19	SPF	0.5
Toxaphene	< 1 ug/L	EPA 505	1 ug/L	2/13/19	SPF	3
2,4,5-TP	< 0.2 ug/L	EPA 515.4	0.2 ug/L	2/15/19	mbs	50
2,4,-D	< 0.1 ug/L	EPA 515.4	0.1 ug/L	2/15/19	mbs	70
Dalapon	< 1.0 ug/L	EPA 515.4	1.0 ug/L	2/15/19	mbs	200
Dicamba	< 0.5 ug/L	EPA 515.4	0.5 ug/L	2/15/19	mbs	
Dinoseb	< 0.2 ug/L	EPA 515.4	0.2 ug/L	2/15/19	mbs	7
Pentachlorophenol	< 0.04 ug/L	EPA 515.4	0.04 ug/L	2/15/19	mbs	1
Picloram	< 0.1 ug/L	EPA 515.4	0.1 ug/L	2/15/19	mbs	500

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Date Analyzed = Date Test Completed

DATA APPROVED FOR RELEASE BY

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Alachlor	**< 0.2 ug/L**	EPA 525.2	0.2 ug/L	2/14/19	LEH	2
Atrazine	**< 0.1 ug/L**	EPA 525.2	0.1 ug/L	2/14/19	LEH	3
Benzo(a)pyrene	**< 0.02 ug/L**	EPA 525.2	0.02 ug/L	2/14/19	LEH	0.2
Butachlor	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Di(2-ethylhexyl)adipate	**< 0.6 ug/L**	EPA 525.2	0.6 ug/L	2/14/19	LEH	400
Di(2-ethylhexyl)phthalate	**< 0.6 ug/L**	EPA 525.2	0.6 ug/L	2/14/19	LEH	6
Heptachlor	**< 0.04 ug/L**	EPA 525.2	0.04 ug/L	2/14/19	LEH	0.4
Metolachlor	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Metribuzin	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Propachlor	**< 0.25 ug/L**	EPA 525.2	0.25 ug/L	2/14/19	LEH	
Simazine	**< 0.07 ug/L**	EPA 525.2	0.07 ug/L	2/14/19	LEH	4
3-Hydroxycarbofuran	**< 0.5 ug/L**	EPA 531.1	0.5 ug/L	2/14/19	MBS	
Aldicarb	**< 0.6 ug/L**	EPA 531.1	0.6 ug/L	2/14/19	MBS	
Aldicarb sulfone	**< 1.0 ug/L**	EPA 531.1	1.0 ug/L	2/14/19	MBS	
Aldicarb sulfoxide	**< 0.7 ug/L**	EPA 531.1	0.7 ug/L	2/14/19	MBS	
Carbaryl	**< 0.5 ug/L**	EPA 531.1	0.5 ug/L	2/14/19	MBS	
Carbofuran	**< 0.9 ug/L**	EPA 531.1	0.9 ug/L	2/14/19	MBS	40
Methomyl	**< 0.5 ug/L**	EPA 531.1	0.5 ug/L	2/14/19	MBS	
Oxamyl	**< 1.0 ug/L**	EPA 531.1	1.0 ug/L	2/14/19	MBS	200
Glyphosate	**< 6.0 ug/L**	EPA 547	6.0 ug/L	2/17/19	Outside Lab	700

Abbreviations/ References:

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Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Endothall	**< 9 ug/L**	EPA 548.1	9 ug/L	2/12/19	mbs	100
Diquat	**< 0.4 ug/L**	EPA 549.2	0.4 ug/L	2/12/19	Sean	20
1,1,1,2-Tetrachloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,1,1-Trichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	200
1,1,2,2-Tetrachloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,1,2-Trichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
1,1-Dichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,1-Dichloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	7
1,1-Dichloropropene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2,3-Trichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2,3-Trichloropropane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2,4-Trichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	70
1,2,4-Trimethylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,2-Dichloroethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
1,2-Dichloropropane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
1,3,5-Trimethylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,3-Dichloropropane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
1,3-Dichloropropene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Benzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Bromobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Bromochloromethane	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	

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mg/L = Milligrams Per Liter or PPM
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Analytical Results

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Bromodichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Bromoform	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Bromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Carbon Tetrachloride	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Chlorodibromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Chloroethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Chloroform	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Chloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
cis-1,2-Dichloroethylene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	70
Dibromomethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Dichlorodifluoromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Dichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Ethylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	700
Fluorotrichloromethane	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Hexachlorobutadiene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Isopropylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
m-Dichlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Monochlorobenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	100
Naphthalene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
n-Butylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
n-Propylbenzene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	
o-Chlorotoluene	< 0.5 ug/L	EPA-524.2	0.5 ug/L	2/11/19	LEH	

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Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
o-Dichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	600
Para-Dichlorobenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	75
p-Chlorotoluene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
p-Isopropyltoluene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
sec-Butylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Styrene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	100
tert-Butylbenzene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	
Tetrachloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Toluene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	1000
Total Trihalomethanes	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	80
trans-1,2-Dichloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	100
Trichloroethylene	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	5
Vinyl chloride	**< 0.5 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	2
Xylenes (total)	**1.0 ug/L**	EPA-524.2	0.5 ug/L	2/11/19	LEH	10000

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

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

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

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS Hydro	Company Name:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Drive Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0017 Fax: 719-471-3140	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number

Gooler Well

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

Date	Time	Client Sample ID / EP Code	No. of	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)		Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	7:50	#11	1																		X									
2/7/19	10:11	#12	2																											
2/7/19	10:16	#13	3						X																				X	
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
2/7/19	[illegible]	#16	2								X																			
2/7/19	10:21	#17	1		X																									
		Trip blank																												
		Field blank																												

Subcontract Analyses

Page 6 of 7

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Delivered Via: Fed Ex C/S Charge ☒ K

Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:[illegible]	[signature]	2/8/19 9.30				

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

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

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: Same	PWSID: Private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Dr. Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0012 Fax: 719-471-3401	Phone: Fax:	County: El Paso County
Email: dschwenke@jdshydro.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number Gowler Well

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

Date	Time	Client Sample ID / EP Code	No. o	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:42	#1	2																											
2/7/19	9:46	#2	1																								X	X		
2/7/19	9:54	#3	2							X																X				
2/7/19	9:55	#4	1											X																
2/7/19	[illegible]	#5	1										X																	
2/7/19	10:02	#6	1					X																						
2/7/19	9:59	#7	1									X																		
2/7/19	9:44	#8	1																											
2/7/19	9:48	#9	1																											X
2/7/19	9:48	#10	1															X	X	X		X			X					

Subcontract Analyses

Instructions: Field pH = 7.15 Field temp = 11.3°C

C/S Info:

Seals Present Yes ☒ No ☐ Headspace Yes ☐ No ☐

Delivered Via: Fed Ex C/S Charge ☒ Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:00am	[signature]	2/8/19 9:30				

Colorado Analytical
LABORATORIES, INC.

Analytical Results

TASK NO: 190208008

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

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

Task No.: 190208008
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/11/19
Matrix: Water - Drinking

Lab Number	Customer Sample ID	Sample Date/Time		Test	Result	Method	Date Analyzed
190208008-01	#17 Gowler Well	2/7/19	10:21 AM	Total Coliform	**Absent**	SM 9223	2/9/19
				E-Coli	**Absent**	SM 9223	2/9/19

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

240 South Main Street / Brighton, CO 80601-0507 / 303-659-2313
Mailing Address: P.O. Box 507 / Brighton, CO 80601-0507 / Fax: 303-659-2315

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC

Brighton Lab
240 South Main Street
Brighton, CO 80601

Lakewood Lab
12860 W. Cedar Dr. Suite 100A
Lakewood CO 80228

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 8510 Tech Center Drive Suite 100	Address:	Address: 11745 Gleason Drive
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: [illegible] Fax: [illegible]	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208008

Task Number: Gauler well

ARF

PHASE I, II, V Drinking Water Analyses (check analysis) | Subcontract Analyses

Date	Time	Client Sample ID / EP Code	No.	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)		Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
[illegible]	[illegible]	#11	1																		X									
2/7/19	[illegible]	#12	2																										X	
2/7/19	10:11	#13	3						X						X															
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
[illegible]	[illegible]	#16	2								X																			
2/7/19	10:21	#11	1		X																									
		Trip blank																												
		Field blank																												

Page 2 of 2

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Delivered Via: Fed Ex C/S Charge ☒

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/8/19 [illegible]	[signature]	2/8/19 9:30				

Colorado Analytical
LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Fluoride	**0.34 mg/L**	EPA 300.0	0.09 mg/L	2/8/19	SEA	4
Nitrate Nitrogen	**< 0.05 mg/L**	EPA 300.0	0.05 mg/L	2/8/19	SEA	10
Nitrite Nitrogen	**< 0.03 mg/L**	EPA 300.0	0.03 mg/L	2/8/19	SEA	1
Cyanide-Total	**< 0.005 mg/L**	EPA 335.4	0.005 mg/L	2/13/19	LJG	0.02
Total						
Iron	**< 0.005 mg/L**	EPA 200.7	0.005 mg/L	2/12/19	MBN	0.3
Sodium	**9.4 mg/L**	EPA 200.7	0.1 mg/L	2/13/19	MBN	N/A
Antimony	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.006
Arsenic	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.01
Barium	**0.122 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	2
Beryllium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.004
Cadmium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.005
Chromium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.1
Copper	**0.0183 mg/L**	EPA 200.8	0.0008 mg/L	2/13/19	DBM	1.3
Lead	**0.0005 mg/L**	EPA 200.8	0.0001 mg/L	2/13/19	DBM	0.015
Manganese	**0.1171 mg/L**	EPA 200.8	0.0008 mg/L	2/13/19	DBM	0.05
Mercury	**< 0.0001 mg/L**	EPA 200.8	0.0001 mg/L	2/12/19	DBM	0.002
Nickel	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	N/A
Selenium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	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

Colorado Analytical LABORATORIES, INC.

Analytical Results

TASK NO: 190208006

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

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

Task No.: 190208006
Client PO:
Client Project:

Date Received: 2/8/19
Date Reported: 2/21/19
Matrix: Water - Drinking

Customer Sample ID Gowler Well
Sample Date/Time: 2/7/19
Lab Number: 190208006-01

Test	Result	Method	ML	Date Analyzed	Analyzed By	MCL
Total						
Thallium	**< 0.001 mg/L**	EPA 200.8	0.001 mg/L	2/12/19	DBM	0.002
Uranium	**0.0002 mg/L**	EPA 200.8	0.0002 mg/L	2/13/19	DBM	0.03

Abbreviations/ References:

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

DATA APPROVED FOR RELEASE BY

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

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

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name:	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Drive Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-277-0017 Fax: 719-471-3140	Phone: Fax:	County: El Paso
Email: dschwenke	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number

Cooler well

ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

Date	Time	Client Sample ID / EP Code	No. of	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)		Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:50	#11	1																		X									
2/7/19	10:11	#12	2																										X	
2/7/19	10:16	#13	3						X																					
2/7/19	10:16	#14	3			X																								
2/7/19	10:17	#15	3				X																							
2/7/19	[illegible]	#16	2								X																			
2/7/19	10:21	#17	1		X																									
		Trip blank																												
		Field blank																												

Subcontract Analyses

Page 3 of 4

Instructions: Please add lead, copper, iron & manganese to metals analysis

C/S Info:

Delivered Via: Fed Ex C/S Charge ☒ K

Seals Present Yes ☐ No ☒ Headspace Yes ☐ No ☐

Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:[illegible]	[signature]	2/8/19 9.30				

Drinking Water Chain of Custody

Colorado Analytical LABORATORIES, INC.

Brighton Lab
240 South Main Street
Brighton, CO 80601

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

Phone: 303-659-2313
Fax: 303-659-2315

www.coloradolab.com

Report To Information	Bill To Information (If different from report to)	State Form / Project Information
Company Name: JDS-Hydro	Company Name: Same	PWSID: private well
Contact Name: Doug Schwenke	Contact Name:	System Name:
Address: 5540 Tech Center Dr. Suite 100	Address:	Address: 11745 Quiet Waters
City CS State CO Zip 80919	City State Zip	City Monument State CO Zip 80132
Phone: 719-227-0012 Fax: 719-471-3400	Phone: Fax:	County: El Paso County
Email: dschwenke@jdshydro.com	Email:	Compliance Samples: Yes ☐ No ☒
Sampler Name: Stephanie Schwenke	PO No.:	Send Forms to State: Yes ☐ No ☒

CAL Task No. 190208006

Task Number Gowler Well ARF

PHASE I, II, V Drinking Water Analyses (check analysis)

Date	Time	Client Sample ID / EP Code	No. o	Residual Chlorine (mg/L) P/A Samples Only	Total Coliform P/A	504.1 EDB/DBCP	505 Pests/PCBs	515.4 Herbicides	524.2 VOCs	525.2 SOCs-Pest	531.1 Carbamates	547 Glyphosate	548.1 Endothall	549.2 Diquat	524.2 TTHMs	552.2 HAA5s	Lead/Copper	Nitrate	Nitrite	Fluoride	Inorganics	Alk./Lang. Index	TOC, DOC (Circle)	SUVA, UV 254 (Circle)	Cyanide	Gross Alpha/Beta	Radium 226	Radium 228	Radon	Uranium
2/7/19	9:42	#1	2																								X	X		
2/7/19	9:46	#2	1																							X				
2/7/19	9:54	#3	2							X																				
2/7/19	9:55	#4	1											X																
2/7/19	[illegible]	#5	1										X																	
2/7/19	10:02	#6	1					X																						
2/7/19	9:59	#7	1									X																		
2/7/19	9:44	#8	1																											X
2/7/19	9:46	#9	1																						X					
2/7/19	9:48	#10	1															X	X	X		X								

Page 4 of 4

Instructions: Field pH = 7.15 Field temp = 11.3°C

C/S Info:

Seals Present Yes ☒ No ☐ Headspace Yes ☐ No ☐

Delivered Via: Fed Ex C/S Charge ☒ Temp. °C /Ice Y Sample Pres. Yes ☒ No ☐

Relinquished By:	Date/Time:	Received By:	Date/Time:	Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	2/7/19 11:00am	[signature]	2/8/19 9:30				