

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

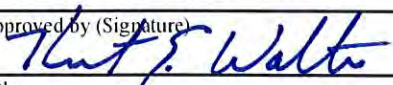
## APPLICATION FOR PERMIT TO DRILL OR REENTER

|  |   |   |
|--|---|---|
| 1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER   |   | 5. Lease Serial No.<br>COC60757   |
| 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other: INJ <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone                        |   | 6. If Indian, Allottee or Tribe Name  |
| 2. Name of Operator<br>WPX ENERGY ROCKY MOUNTAIN, LLC<br>Contact: ANGELA NEIFERT-KRAISER<br>Angela.neifert-kraiser@wpxenergy.com   |   | 7. If Unit or CA Agreement, Name and No.                                    |
| 3a. Address<br>1001 17TH STREET, SUITE 1200<br>DENVER, CO 80202  | 3b. Phone No. (include area code)<br>Ph: 303-606-4398 | 8. Lease Name and Well No.<br>FEDERAL RG 943-27-299D                        |
| 4. Location of Well (Report location clearly and in accordance with any State requirements. *)<br>At surface SWSE 928FSL 2563FEL 39.842472 N Lat, 108.490304 W Lon<br>At proposed prod. zone NWSE 1970FSL 918FEL 39.845359 N Lat, 108.484445 W Lon |   | 9. API Well No.   |
| 14. Distance in miles and direction from nearest town or post office*<br>APPROX. 20 MILES SE OF RANGELY, CO  |   | 10. Field and Pool, or Exploratory<br>SULPHUR CREEK                         |
| 15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)<br>APPROX 918' LEASE LINE & 1553' PROPERTY LINE   | 16. No. of Acres in Lease<br>280.00                   | 11. Sec., T., R., M., or Blk. and Survey or Area<br>Sec 27 T2S R99W Mer 6PM |
| 18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.<br>APPROX 2992' APPLIED FOR  | 19. Proposed Depth<br>6994 MD<br>6568 TVD             | 12. County or Parish<br>RIO BLANCO  |
| 21. Elevations (Show whether DF, KB, RT, GL, etc.)<br>7211 GL  | 22. Approximate date work will start<br>12/01/2015    | 13. State<br>CO   |
| 23. Estimated duration<br>21 DAYS  |   | 17. Spacing Unit dedicated to this well                                     |
| 20. BLM/BIA Bond No. on file<br>NMB000396  |   |   |

## 24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |  |  |
|--|--|
| 1. Well plat certified by a registered surveyor.<br>2. A Drilling Plan.<br>3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).<br>5. Operator certification<br>6. Such other site specific information and/or plans as may be required by the authorized officer. |
|--|--|

|  |   |                    |
|--|---|--------------------|
| 25. Signature<br>(Electronic Submission)   | Name (Printed/Typed)<br>ANGELA NEIFERT-KRAISER Ph: 303-606-4398 | Date<br>03/26/2014 |
| Title<br>REGULATORY SPECIALIST   |   |                    |
| Approved by (Signature)<br> | Name (Printed/Typed)<br>KENT E. WALTER                          | Date<br>10/22/2010 |
| Title<br>Field Manager   | Office<br>White River Field Office                              |                    |

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

CONDITIONS OF APPROVAL ATTACHED

Electronic Submission #240141 verified by the BLM Well Information System  
For WPX ENERGY ROCKY MOUNTAIN, LLC, sent to the Meeker  
Committed to AFMSS for processing by JEANNE NEWMAN on 04/10/2014 ( )

CONDITIONS OF APPROVAL ATTACHED

OPERATOR

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

**Additional Operator Remarks:**

This well will be drilled from the new RG 34-27-299 well pad. A total of 3 wells being permitted at this time. There will be a total of 3 wells when completely drilled out.

Please see attached directional plan, plot, geological prognosis, casing and cementing plan and surface use plan of operation.

All Drilling operations will conform to the stipulations as specified in the WPX Energy Master Drilling Plan dated 04/10/13 for Federal 10 point drilling plan.

Surface and minerals are owned by the United States Government, Bureau of Land Management, 220 East Market Street, Meeker, CO 81641 (970)-250-3680

If additional information is needed please contact:

Mr. Scott Brady

1058 County Road #215

P.O. Box 370

Parachute, CO 81636

Office: (970)-285-9377 Cellular: (970)-250-3680



**Terra Energy Partners Rocky Mountain LLC, Federal 299-23-3**  
**CONDITIONS OF APPROVAL**  
September 24, 2020

**ADVISORY NARRATIVES AND SURFACE CONDITIONS OF  
APPROVAL  
APPLICATION FOR PERMIT TO DRILL**

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Operator: Terra Energy Partners Rocky Mountain LLC

|          |                         |           |                 |                   |                             |
|----------|-------------------------|-----------|-----------------|-------------------|-----------------------------|
| Loc. No. | <b>Federal 299-23-3</b> | Lease No. | <b>COC03453</b> | Legal Description | <b>NWSW Sec 23 T2S R99W</b> |
|----------|-------------------------|-----------|-----------------|-------------------|-----------------------------|

**GOVERNMENT ADDRESS**

|   |                                 |   |
|---|---------------------------------|---|
| <b>UNITED STATES DEPARTMENT OF INTERIOR<br/>BUREAU OF LAND MANAGEMENT</b> | <b>FIELD OFFICE<br/>ADDRESS</b> | White River Field Office<br>220 E. Market St.<br>Meeker, CO 81641<br>970-878-3800 |
|   | <b>OFFICE<br/>PHONE</b>         |   |
|   | <b>OFFICE<br/>HOURS</b>         | 7:45 a.m. to 4:30 p.m. (Monday -<br>Friday)                                       |

All lease and/or unit operations are to be conducted in such a manner to ensure full compliance with the applicable laws, regulations (43 CFR Part 3160), Onshore Oil and Gas Orders No. 1, 2, 3, 4, 5, 6 and 7, Notice to Lessees, and the approved plan of operations. Approval of this application does not relieve you of your responsibility to obtain other required federal, state, or local permits. A copy of the approved Form 3160-3 and the pertinent drilling plan, along with any advisory narratives and conditions of approval, shall be available at the drillsite to authorized representatives at all times. The operator is considered fully responsible for the actions of his subcontractors.

Your review and appeal rights are contained in 43 CFR 3165.3 and 3165.4.

**SURFACE CONDITIONS of APPROVAL THAT REQUIRE BLM NOTIFICATION**

48-Hours notification prior to Construction and/or Reclamation via Sundry

**AUTHORIZED OFFICER REPRESENTATIVE CONTACTS**

If you seek immediate approval or emergency assistance on any action that is related to the APD **Surface Use Plan**, contact the Natural Resource Specialist listed below.

**Supervisory Petroleum Engineering Technician:**

Bud Thompson Work Phone (970) 878-3828 blthomps@blm.gov Cell Phone (970) 942-7040

**Petroleum Engineering Technicians:**

Justin Wilson Work Phone (970) 878-3825 jrwilson@blm.gov Cell Phone (970) 942-7042

Erika Miller Work Phone (970) 878-3808 emiller@blm.gov Cell Phone (970) 296-0850

**Petroleum Engineer:**

Kenneth Rennick Work Phone (970) 878-3846 krennick@blm.gov

**Natural Resource Specialists**

Matthew Dupire Work Phone (970) 878-3839 email: mdupire@blm.gov

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***A COMPLETE COPY OF THE APPLICATION FOR PERMIT TO DRILL, THE CONDITIONS OF APPROVAL, and APPLICABLE MAPS MUST BE FURNISHED TO YOUR FIELD REPRESENTATIVE AND BE AVAILABLE ON SITE DURING CONSTRUCTION AND DRILLING ACTIVITIES.***

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Rev 10102018

**SITE SPECIFIC SURFACE CONDITIONS OF APPROVAL**

1. Any excavations into the underlying sedimentary rock formation must be monitored by a permitted paleontologist. The monitoring paleontologist must be present before the start of excavations that may impact the underlying rock.
2. Installation and removal of the surface pipeline from the RGU 23-7-297 well pad to Love Ranch CWMF and the XTO Fresh Water Pond within 300 meters of threatened plants will occur after the active blooming period (mid-April to June 30<sup>th</sup>) for Dudley Bluffs twinpod.
3. Personnel and activities associated with the construction of the Proposed Action will be confined to the permitted surface pipeline right-of-way (ROW). The minimum amount of construction equipment needed to safely install the surface pipeline along the slope from Love Ranch CWMF to the ridgetop would be used.
4. The construction contractor will perform dust suppression and dust monitoring during project construction activities. If winds or project construction equipment are creating large plumes of dust, dust suppression will be implemented. Dust suppression will be achieved with freshwater. There should be no traces of oil or solvents in the water and it should be properly permitted for this use by the State of Colorado.
5. T-posts would be installed, approximately every 10-feet, along both sides of the surface pipeline for the portion of the pipeline that will be placed along the hillside from the Love Ranch CWMF to the top of the ridge, in order to reduce lateral movement of the pipeline.
6. For future major planned construction and maintenance activities along the approved ROW that would cause surface disturbance within 300 meters of occupied or suitable special status plant habitat, resurveys for *Physaria* spp. must be conducted prior to disturbance. If such areas have not been surveyed in the last three years (most current survey is 2020) during the bloom period, surveys would be conducted in suitable and occupied habitat within the full extent of the planned construction footprint.
7. All construction equipment and vehicles associated with the Proposed Action that may act as a vector for weeds will be cleaned with compressed air before entering the Project Area.
8. If non-native or invasive species are found, TEP will treat the infestations using the White River Field Office Integrated Weed Management Plan (IWMP) (DOI-BLM-CO-110-2010-0005-EA and DOI-BLM-CO-110-2016-0069EA) as a compliance guideline. The individual plants and/or larger infestations will be recorded on a GPS unit to notify the BLM in addition to flagging, as stated in the IWMP.



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9. A valid BLM Pesticide Use Proposal (PUP) must be held by either the proponent or by a Third-Party contractor acting on the behalf of the proponent. The valid PUP must be attained prior to spraying.
  - a. The PUP application will be submitted via email and/or mail to the designated White River BLM Field Office Invasive Non-Native Weed Specialist. The PUP will include target weed species, the herbicides to be used, application rates and timeframes, estimated acres to be treated, as well as maps depicting the areas to be treated and known locations of weeds.
  - b. All general PUP applications must be submitted no later than February 1st of the year anticipating herbicide application.
  - c. PUP applications must be approved by the BLM and a valid PUP number must be received by the operator before applying herbicides on BLM lands.
10. Only ground (spot) treatment using backpack sprayers will be permitted within 600 meters of *P. obcordata*; beyond 600 meters from these threatened plants, other applicators may be used with the exception of aerial herbicide applicators, which will not be permitted in any part of the project area.
  - a. Appropriate adjuvants such as non-ionic surfactants or methylated seed oil (MSO) will be used with each herbicide as necessary.
  - b. Indicator dyes will be used with all herbicide.
  - c. No spraying of weeds will occur outside the project footprint area.
  - d. Proponent may use the Pesticide Use Proposal (PUP) and Certified Pesticide Applicator (CPA) already held by Proponent. The CPA, as directed by Proponent, must use the herbicides in Table 2 at the lowest rate needed, and always with an indicator dye, and appropriate spray adjuvant.
  - e. The weed technicians working under the CPA license must be able to correctly identify *P. obcordata* when they are implementing their control measures.
  - f. Technicians will control weed species before they flower and set seed.

Table E-1. Herbicides pending approval for use within 5 meters to 600 meters of *P. obcordata*, and their conventional buffer widths.

| Active Ingredient | Buffer Width (feet) | Application Rate   |
|-------------------|---------------------|--|
| Chlorsulfuron     | 1200                | No more than 1 oz. per acre  |
| Clopyralid        | 900                 | No more than 0.375 lbs (1 pint of transline) per acre                        |
| Glyphosate        | 50                  | No more than 2.25 lbs of the acid glyphosate per acre (3 qts of Roundup pro) |
| Imazapic          | 25                  | No more than 6 oz. per acre  |

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| Active Ingredient  | Buffer Width (feet) | Application Rate            |
|--------------------|---------------------|-----------------------------|
| Metsulfuron Methyl | 900                 | No more than 1 oz. per acre |

11. All disturbed areas (interim reclamation) on well pad RG 41-18-297 will be promptly (at the first appropriate seeding window between September 1 and March 15) seeded with recommended modified BLM Native Seed Mix #3 (Table E-2). The elevation and vegetation community for this location is: pinyon/juniper woodland with an elevation of 6638. It is recommended that this site be seeded in accordance with the WRFO Surface Reclamation Plan (Appendix 3 of the WRFO RMPA ROD). If an alternate date of seeding is requested, contact the designated Natural Resource Specialist/Realty Specialist prior to seeding for approval. Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application and drill seeding depth shall be no greater than ½ inch. If drill seeding cannot be accomplished, seed should be broadcast at double the rate used for drill seeding and harrowed or raked into the soil. Final reclamation of the well pad and associated access road will be completed using the reclamation practices and seed mixes recommended at that time.

Table E2. Recommended Modified BLM Native Seed Mix #3 for Reclamation on RG 41-18-297.

| Seed Mix | Cultivar    | Common Name              | Scientific Name                             | Application Rate (lbs. PLS/acre) |
|----------|-------------|--------------------------|---|----------------------------------|
| 3        | Whitmar     | Bluebunch Wheatgrass     | <i>Pseudoroegneria spicata ssp. inermis</i> | 3.5                              |
|          | Rimrock     | Indian Ricegrass         | <i>Achnatherum hymenoides</i>               | 4                                |
|          |             | Needle and Thread Grass  | <i>Hesperostipa comata ssp. comata</i>      | 3.5                              |
|          | Maple Grove | Lewis Flax               | <i>Linum lewisii</i>                        | 1                                |
|          |             | Scarlet Globemallow      | <i>Sphaeralcea coccinea</i>                 | 1                                |
|          |             | Sulphur Flower Buckwheat | <i>Eriogonum umbellatum</i>                 | 1.5                              |

12. Avoid direct discharge of pipeline hydrostatic test water to any reservoir, lake, wetland, or natural perennial or seasonally flowing stream or river.
13. Avoid dust suppression activities within 300 feet of the ordinary high-water mark of any reservoir, lake, wetland, or natural perennial or seasonally flowing stream or river.
14. Screen all pump intakes with ¼ inch or finer mesh material.
15. Disinfect heavy equipment, hand tools, boots and any other equipment that was previously used in a river, stream, lake, pond, or wetland prior to moving the equipment to another water body. The disinfection practice should follow this outline:

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- a. Remove all mud and debris from equipment and spray/soak equipment with a 1:15 solution of disinfection solution containing the following ingredients:
    - i. Dialkyl dimethyl ammonium chloride, 5-10% by weight;
    - ii. Alkyl dimethyl benzyl ammonium chloride, 5-10% by weight;
    - iii. Nonyl phenol ethoxylate, 5-10% by weight;
    - iv. Sodium sesquicarbonate, 1-5%;
    - v. Ethyl alcohol, 1-5%; and
    - vi. Tetrasodium ethylene diaminetetraacetate, 1-5%;
    - vii. and water, keeping the equipment moist for at least 10 minutes and managing rinsate as a solid waste in accordance with local, county, state, or federal regulations; or
  - b. Spray/soak equipment with water greater than 140 degrees Fahrenheit for at least 10 minutes.
  - c. Sanitize water suction hoses and water transportation tanks (using methods described above) and discard rinse water at an appropriately permitted disposal facility.
16. W-TL-15: Surface-disturbing and disruptive activities (including, but not limited to construction, drilling, and completions) will not be allowed within 0.25 miles of active nest sites of those raptors that are not considered special-status during the period from nest territory establishment to dispersal of young from nest (from February 1 through August 1).
- Exception: An exception to the TL can be granted if an environmental analysis of the proposed action indicates that nature or conduct of the activity could be conditioned so as not to interfere with adult attendance and visitation of the nest site, jeopardize survival of the eggs or nestlings, or otherwise impair the utility of nest for current or subsequent nesting activity or occupancy. The Authorized Officer may also grant an exception if the nest is unattended or remains unoccupied by May 15 of the project year. An exception may be granted to these dates by the Authorized Officer, consistent with policies derived from federal administration of the Migratory Bird Treaty Act.
- a. WR-TL-15: Surface-disturbing and disruptive activities (including, but not limited to construction, drilling, and completions) will not be allowed within 0.25 miles of active nest sites of those raptors that are not considered special-status during the period from nest territory establishment to dispersal of young from nest (from February 1 through August 1). The current survey is valid until June 1, 2022.
  - b. WR-TL-15: No active nests were located near the location and an exception to this stipulation is granted until June 1, 2022, at which time the timing limitation



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will be applied or a new biological survey must be conducted to consider another Exception to the TL.

| <b>Location</b>   | <b>Active/Inactive-WR-TL-15</b>  |
|---|--|
| RG 41-18-297 Pad  | b. Inactive nest, exception to TL granted while surveys are valid (until June 1, 2022) |
| RGU 23-7-297 Pad  | a. Active nest, TL applied   |
| RGU 44-1-297 Pad  | b. Inactive nest, exception to TL granted while surveys are valid (until June 1, 2022) |
| RGU 23-6-297 Pad  | a. Inactive nest, exception to TL granted while surveys are valid (until June 1, 2022) |
| Pitcher's Mound Pit   | b. Inactive nest, exception to TL granted while surveys are valid (until June 1, 2022) |
| RG 33-22-299 Injection Pad  | a. Active nest, TL applied   |
| RG 41-18-297 <i>surface pipeline in T2S, R97W, Sec. 7 &amp; 8</i> | a. Active nest, TL applied   |

17. The following COA applies to Pitcher's Mound Pit location:

Avoid or minimize the disruption of migratory bird nesting activity by scheduling or prioritizing vegetation clearing, facility construction, and concentrated operational activities (e.g., drilling, completion, utility installation) to avoid nesting habitats during the core migratory bird nesting season from May 15 to July 15.

18. The following COA applies to RG 41-18-297, RGU 23-7-297, RGU 44-1-297, RGU 23-6-297, Pitcher's Mound Pit, and all associated pipelines:

WR-TL-12: No surface disturbing activities (including construction, drilling, completion, and intensive maintenance activities) from December 1 through April 30 would be permitted in order to reduce the disturbance of big game animals on severe winter range. Exceptions and modifications to this Condition of Approval may be considered as expressed in WR-TL-12 in the WRFO Oil and Gas RMPA ROD (2015) for drilling and completion activities; *construction activities should be scheduled outside the timing limitation.*

19. The following COA applies to RG 33-22-299 (injection well pad):

WR-TL-14: No surface disturbing activities (including construction, drilling, completion, and intensive maintenance activities) from February 1 through March 30 would be permitted in order to reduce the disturbance of big game animals on winter range and winter concentration areas. Exceptions and modifications to this Condition of Approval

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may be considered as expressed in WR-TL-14 in the WRFO Oil and Gas RMPA ROD (2015) for drilling and completion activities; *construction activities should be scheduled outside the timing limitation.*

20. In accordance with the 1997 White River RMP/ROD, all trees removed in the process of construction shall be purchased from the BLM. Trees should first be used in reclamation efforts and then any excess material made available for firewood or other uses.
- a. Woody materials required for reclamation shall be removed in whole with limbs intact and shall be stockpiled along the margins of the authorized use area separate from the topsoil piles. Once the disturbance has been recontoured and reseeded, stockpiled woody material shall be scattered across the reclaimed area where the material originated. Redistribution of woody debris will not exceed 20 percent ground cover. Limbed material shall be scattered across reclaimed areas in a manner that avoids the development of a mulch layer that suppresses growth or reproduction of desirable vegetation. Woody material will be distributed in such a way to avoid large concentrations of heavy fuels and to effectively deter vehicle use. Woody materials that are to be stockpiled along margins and not used in the topsoil should not exceed pile dimensions of 8 x 8 x 8 feet. Materials used in the stockpiles should be a variety of diameters but should be no smaller than 6 inches in diameter. Additionally, the piles should be no less than 30 feet apart.
  - b. Trees that must be removed for construction and are not required for reclamation shall be cut down to a stump height of 6 inches or less prior to other heavy equipment operation. These trees shall be cut in four-foot lengths (down to 4 inches diameter) and placed in manageable stacks immediately adjacent to a public road to facilitate removal for company use or removal by the public.

**WHITE RIVER FIELD OFFICE STANDARD CONDITIONS OF APPROVAL (FEDERAL SURFACE AND SPLIT-ESTATE)**

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**A.1. General**

1. The Operator will submit a Sundry Notice a minimum of 48-hours prior to commencing construction and/or reclamation work.
2. Notify Craig Interagency Dispatch (970-826-5037) in the event of any fire.
  - c. The reporting party will inform the dispatch center of fire location, size, status, smoke color, aspect, fuel type, and provide their contact information.
  - d. The reporting party, or a representative of, should remain nearby, in a safe location, make contact with incoming fire resources to expedite actions taken towards an appropriate management response.
  - e. The applicant and contractors will not engage in any fire suppression activities outside the approved project area. Accidental ignitions caused by welding, cutting, grinding, etc. will be suppressed by the applicant only if employee safety

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is not endangered and if the fire can be safely contained using hand tools and portable hand pumps. If chemical fire extinguishers are used the applicant must notify incoming fire resources on extinguisher type and the location of use.

- f. Natural ignitions caused by lightning will be managed by Federal fire personnel. If a natural ignition occurs within the approved project area, the fire may be initially contained by the applicant only if employee safety is not endangered. The use of heavy equipment for fire suppression is prohibited, unless authorized by the Field Office Manager.

## **A.2. Wildlife**

3. In the event a producing well is established, all new production equipment which has open-vent exhaust systems, such as heater treaters, separators, dehydration units, and flare stacks, will be designed and constructed to prevent birds and bats from entering or nesting in or on such units, and to the extent practical, to discourage birds from perching on the exhaust stacks.
4. The operator will prevent access to facilities that store or are expected to store fluids which may pose a risk to such birds and bats (e.g., toxicity, compromised insulation, drowning). Features that prevent access to such fluids must be in place and functional within 24 hours of installation and will remain effective until such features are removed or incapable of storing fluids. Deterrence methods may include netting or other alternative methods that effectively prevent use and that meet BLM approval. All lethal and non-lethal events that involve migratory birds will be reported to the BLM Authorized Officer immediately.
5. Water Use. The purpose of this COA is to assist the BLM with ensuring that water depletions associated with Federal oil and gas development activities are adequately covered by the U.S. Fish and Wildlife Service (FWS) Programmatic Biological Opinion for the four endangered Colorado River fishes.

The Operator will provide the volumes of fresh water and reused/recycled water used during project development. The river sub-basin of origin (i.e., Colorado, Dolores, Green, Gunnison, White, and Yampa) will be identified for fresh water. The volumes per well will be identified by each development phase (construction, drilling, and completion) and by activity (e.g., dust abatement, pipeline hydrostatic testing, drilling, and completion operations). The water volumes will be identified in an attachment to the BLM Form 3160-4, "Well Completion or Recompletion Report and Log" (completion report) submitted to the BLM Field Office. All volumes are to be reported in barrels per well.

For reporting the water used during construction, submit the total water used for construction with the first completion report. Completion reports submitted subsequent to the first completion report will have the water-use that was not included in the previous completion reports.



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|   |                            |                 |                             |                   |                             |
|---|----------------------------|-----------------|-----------------------------|-------------------|-----------------------------|
| <b>Well Name/No.:</b>                     |                            |                 | <b>API No.:</b>             |                   |                             |
| <b>County:</b>                            |                            |                 | <b>Well Pad:</b>            |                   |                             |
| <b>Operator:</b>                          |                            |                 |                             |                   |                             |
| <b>Water Source<br/>(River Sub-Basin)</b> |                            |                 |                             |                   |                             |
| <b>Purpose</b>                            | <b>Water Use (barrels)</b> |                 |                             |                   |                             |
|   | <b>Construction</b>        | <b>Drilling</b> |                             | <b>Completion</b> |                             |
|   | <b>Fresh</b>               | <b>Fresh</b>    | <b>Reused/<br/>Recycled</b> | <b>Fresh</b>      | <b>Reused/<br/>Recycled</b> |
| Dust Abatement<br>(Road/Pipeline/Pad)     |                            |                 |                             |                   |                             |
| Pipeline Hydrostatic<br>Testing           |                            |                 |                             |                   |                             |
| Cementing                                 |                            |                 |                             |                   |                             |
| Mud                                       |                            |                 |                             |                   |                             |
| Acid Wash/<br>Hydraulic Fracturing        |                            |                 |                             |                   |                             |

### **A.3. Paleontological Resources**

6. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for disturbing or collecting vertebrate fossils, collecting large amounts of petrified wood (over 25lbs./day, up to 250lbs./year), or collecting fossils for commercial purposes on public lands.
7. If any paleontological resources are discovered as a result of operations under this authorization, the operator or any of their agents must stop work immediately at that site, immediately contact the Authorized Officer, and make every effort to protect the site from further impacts, including looting, erosion, or other human or natural damage. Work may not resume at that location until approved by the Authorized Officer. The BLM or designated paleontologist will evaluate the discovery and take action to protect or remove the resource within 10 working days. Within 10 days, the operator will be allowed to continue construction through the site, or will be given the choice of either (a) following the Paleontology Coordinator's instructions for stabilizing the fossil resource in place and avoiding further disturbance to the fossil resource, or (b) following the Paleontology Coordinator's instructions for mitigating impacts to the fossil resource prior to continuing construction through the project area.

### **A.4. Cultural Resources**

8. The applicant is responsible for informing all persons who are associated with the project that they will be subject to prosecution for knowingly disturbing archaeological sites or for collecting artifacts.

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9. If any archaeological materials are discovered as a result of operations under this authorization, activity in the vicinity of the discovery will cease, and the BLM WRFO Archaeologist will be notified immediately. Work may not resume at that location until approved by the Authorized Officer. The applicant will make every effort to protect the site from further impacts including looting, erosion, or other human or natural damage until BLM determines a treatment approach, and the treatment is completed. Unless previously determined in treatment plans or agreements, BLM will evaluate the cultural resources and, in consultation with the State Historic Preservation Office (SHPO), select the appropriate mitigation option within 48 hours of the discovery. The applicant, under guidance of the BLM, will implement the mitigation in a timely manner. The process will be fully documented in reports, site forms, maps, drawings, and photographs. The BLM will forward documentation to the SHPO for review and concurrence.
10. Pursuant to 43 CFR 10.4(g), the applicant must notify the Authorized Officer, by telephone and written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), the operator must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the Authorized Officer. Colorado Statute CRS 24-80-1302 must be adhered to upon the identification of suspected human skeletal remains and associated funerary items on Colorado State and private lands. The applicant will immediately notify the coroner of the county wherein the remains are located as well as the sheriff, police chief, or land managing agency official.

**A.5. Invasive, Noxious, and Non-Native Species**

11. All vehicles and construction equipment will be cleaned using compressed air or high-pressure water spraying equipment prior to use to reduce the potential for introduction of invasive, noxious weeds or other undesirable non-native species. The wash/blow down will concentrate on tracks, feet, or tires and on the undercarriage, with special emphasis on axles, frame, cross members, motor mounts, and on underneath steps, running boards, and front bumper/brush guard assemblies. Operator will dispose of solid wastes collected from the cleaning station.
12. All seed, straw, mulch, or other vegetative material to be used on BLM lands will comply with United States Department of Agriculture (USDA) state noxious weed seed requirements and must be certified by a qualified Federal, State, or county office as free of noxious weeds. Any seed lot with test results showing presence of State of Colorado A or B list species will be rejected in its entirety and a new tested lot will be used instead. Jointed Goatgrass, must be a species requested by the operator, to test for to ensure it is not present. If, present the seed, straw, mulch or other vegetative material will be rejected immediately and a new source will be selected from.
13. All sites will be monitored and treated for noxious weeds for the life of the project until Final Abandonment has been approved by the BLM. Monitoring will be conducted annually during the growing season to determine the presence of any State-listed noxious

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weeds. Noxious weeds that have been identified during monitoring will be promptly treated and controlled.

14. Pesticide Use Proposals (PUPs) must be submitted to and approved by the BLM before applying herbicides on BLM lands. The PUP will include target weed species, the herbicides to be used, application rates and timeframes, estimated acres to be treated, as well as maps depicting the areas to be treated and known locations of weeds. The WRFO recommends that all PUPs be submitted no later than March 1st of the year anticipating herbicide application.

#### **A.6. Waste**

15. When drilling to set the surface casing, drilling fluid will be composed only of fresh water, bentonite, and/or a benign lost circulation material that does not pose a risk of harm to human health or the environment (e.g., cedar bark, shredded cane stalks, mineral fiber and hair, mica flakes, ground and sized limestone or marble, wood, nut hulls, corncocks, or cotton hulls).
16. All substances that pose a risk of harm to human health or the environment will be stored in appropriate containers. Fluids that pose a risk of harm to human health or the environment, including but not limited to oil, condensate, and/or produced water, must be stored in appropriate containers and in secondary containment systems at 110 percent of the largest vessel's capacity. Secondary fluid containment systems, including but not limited to tank batteries must be lined with a minimum 24 mil impermeable liner.
17. As a reasonable and prudent lessee/operator in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will report all emissions or releases that may pose a risk of harm to human health or the environment, regardless of a substance's status as exempt or nonexempt and regardless of fault, to the BLM WRFO by phone at 970-878-3800 or by email to BLM\_CO\_WR\_NRS@blm.gov.
18. As a reasonable and prudent lessees/operator and/or right-of-way holder in the oil and gas industry, acting in good faith, all lessees/operators and right-of-way holders will provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any substance that may pose a risk of harm to human health or the environment, regardless of that substance's status as exempt or non-exempt. Where the lessee/operator or right-of-way holder fails, refuses or neglects to provide for the immediate clean-up and testing of air, water (surface and/or ground) and soils contaminated by the emission or release of any quantity of a substance that poses a risk of harm to human health or the environment, the BLM WRFO may take measures to clean-up and test air, water (surface and/or ground) and soils at the lessee/operator's expense. Such action will not relieve the lessee/operator of any liability or responsibility.

#### **A.7. Range Management**



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19. The operator must coordinate with the livestock grazing permittee (4M Ranch) authorized to graze livestock within the project area a minimum of 72 hours prior to drilling activities associated with this permit. Livestock grazing permittee contact information may be found at [www.blm.gov/ras/](http://www.blm.gov/ras/) or by contacting the appropriate BLM Field Office. The operator will provide the grazing permittee the location, nature, and extent of the anticipated activity being completed.
20. Any range improvement projects such as fences, water developments, cattleguards, gates, or other livestock handling/distribution facilities that are damaged or destroyed either directly or indirectly as a result of implementation of the Proposed Action will be promptly repaired or replaced by the applicant to restore pre-disturbance functionality. If the operator damages any range improvement project(s) the operator will notify the Authorized Officer and identify the actions taken to repair the feature(s). Fences if let down for any portion of the access route improvements and/or pipeline construction must be replaced/mended prior to work being completed for the day. At no time will fences be left down while no active work is being conducted.

#### **A.8. Visual Resource**

1. All long-term above ground structures will be painted an appropriate color from the BLM "Supplemental Environmental Colors" chart to blend with the natural color of the landscape background. The BLM has determined that the appropriate environmental color for this well location is "Shale Green" on the BLM's Standard Environmental Colors Chart CC-001: June 2008.

#### **A.9. Reclamation**

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##### ***Interim Reclamation***

21. All long-term above-ground structures will be painted and maintained Shale Green from the BLM "Supplemental Environmental Colors" chart to blend with the natural color of the landscape background
22. All long-term above-ground structures will be painted and maintained Shale Green from the BLM "Supplemental Environmental Colors" chart to blend with the natural color of the landscape background.
23. To reduce erosion and reduce the risk of weed establishment, interim reclamation will be initiated when either there are no drilling activities expected on the pad for the next six months or there has been no activity on the pad within the last six months, regardless of whether or not there are outstanding approved APDs.
24. In order to inspect and operate the well or complete workover operations, it may be necessary to drive, park, and operate equipment on restored, interim vegetation within the previously disturbed area. Damage to soils and interim vegetation will be repaired and reclaimed following use. To prevent soil compaction, under some situations, such as the presence of moist, clay soils, the vegetation and topsoil will be removed prior to workover operations and restored and reclaimed following workover operations.

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25. Topsoil will be conserved during excavation and reused as cover on disturbed areas to facilitate re-growth of vegetation. Topsoil will only be used for reclamation and will not be used to bed or pad the pipe during backfilling. A minimum of the top six inches of soil material will be stripped and stockpiled around the perimeter of the well location to control run-on and run-off, and to make redistribution of topsoil more efficient during interim reclamation. The stockpiled soil will be reasonably free of brush and tree parts. Topsoil will be clearly segregated from excess spoil material.
26. During pipeline construction, the ROW will remain undisturbed to the maximum extent possible. Only the minimum necessary disturbance will occur to make the working surface safe and passable. Topsoil will not be removed under areas used for the storage of soils and, if possible (i.e., not changing the grade of the working surface), topsoil will not be removed from working surfaces.

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***Final Reclamation***

27. Final abandonment of pipelines and flow lines will involve flushing, capping, and properly disposing of any fluids in the lines. All surface lines and any lines that are buried close to the surface that may become exposed in the foreseeable future due to water or wind erosion, soil movement, or anticipated subsequent use, must be removed. Deeply buried lines may remain in place unless otherwise directed by the Authorized Officer.
28. At the time of final abandonment of the well pad, the following are requirements for final reclamation of the access road. Reclamation of all portions of the access road constructed for the purpose of well pad development for the location must comply with the following:
  - a. Roads built for and no longer supporting oil and gas development have been recontoured, obliterated, revegetated, and are no longer distinguishable as a means of vehicle travel (i.e., no ruts or two-tracks). Particular emphasis must be placed on the edges of the road to ensure it is completely obliterated and no longer distinguishable.
  - b. When obliterating a road no longer needed, gravel or surfacing material should be removed and reused to the maximum extent possible. Culverts and other drainage features should be removed, original contours should be reestablished, and the road should be ripped or pitted to remove compaction and increase infiltration.

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***Monitoring and Final Abandonment Approval***

29. All seed tags will be submitted via Sundry Notice (SN)/letter to the designated Natural Resource Specialist/Realty Specialist within 14 calendar days from the time the seeding activities have ended. The SN/letter will include the purpose of the seeding activity (i.e., seeding well pad, cut and fill slopes, seeding pipeline corridor, etc.). In addition, the SN/letter will include the pipeline, well(s) or well pad number associated with the seeding activity, if applicable, the name of the contractor that performed the work, his/her phone number, the method used to apply the seed (e.g., broadcast, hydro-seeded, drilled), whether the seeding activity represents interim or final reclamation, the total acres

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seeded, an attached map that clearly identifies all disturbed areas that were seeded, and the date the seed was applied.

30. Each year by January 1st, the operator will submit a Reclamation Status Report to the WRFO via the most current BLM approved data management system that includes the pipeline name and/or well number, API number, legal description, UTM coordinates, project description (e.g., well pad, pipeline, etc.), reclamation status (e.g., interim or final), whether the well pad and/or pipeline has been re-vegetated and/or re-contoured, date seeded, photos of the reclaimed site, acres seeded, seeding method (e.g., broadcast, drilled, hydro-seeded, etc.), and contact information for the person responsible for developing the report. The report will include maps showing each point ( ), polygon (e.g., well pad), and/or polyline (e.g., road, pipeline) feature that was included in the report. The data must be submitted in UTM Zone 13N, NAD 83, in units of meters. In addition, scanned copies of seed tags that accompanied the seed bags will be included with the report. Internal and external review of the WRFO Reclamation Status Report and the process used to acquire the necessary information will be conducted annually, and new information or changes in the reporting process will be incorporated into the report.
31. The operator will be responsible for ensuring that all disturbance GIS and reclamation data will be submitted via White River Data Management System (WRDMS) which can be accessed at <https://my.usgs.gov/wrfo/>.

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***Performance Standards - Interim Reclamation Standard***

32. Disturbed areas not needed for long-term production operations or vehicle travel have been recontoured, protected from erosion, and revegetated with a self-sustaining, vigorous, diverse, native (or otherwise approved) plant community sufficient to minimize visual impacts, provide forage, stabilize soils, and impede the invasion of noxious weeds.

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***Performance Standards - Final Reclamation Standard***

33. The operator must meet the following reclamation success criteria, and these standards apply to both interim and final reclamation:
- a. Self-sustaining desirable vegetative groundcover consistent with the site Desired Plant Community (DPC) (as defined by the range site, WRFO Assessment, Inventory, and Monitoring (AIM) protocol site data (BLM TN 440), ecological site or an associated approved reference site) is adequately established, as described below, on disturbed surfaces to stabilize soils through the life of the project.
  - b. Vegetation with 80 percent similarity of desired foliar cover, bare ground, and shrub and/or forb density in relation to the identified DPC. Vegetative cover values for woodland or shrubland sites are based on the capability of those sites in an herbaceous state.
  - c. The resulting plant community must have composition of at least five desirable plant species, and no one species may exceed 70 percent relative cover to ensure that site species diversity is achieved. Desirable species may include native species from the surrounding site, species listed in the

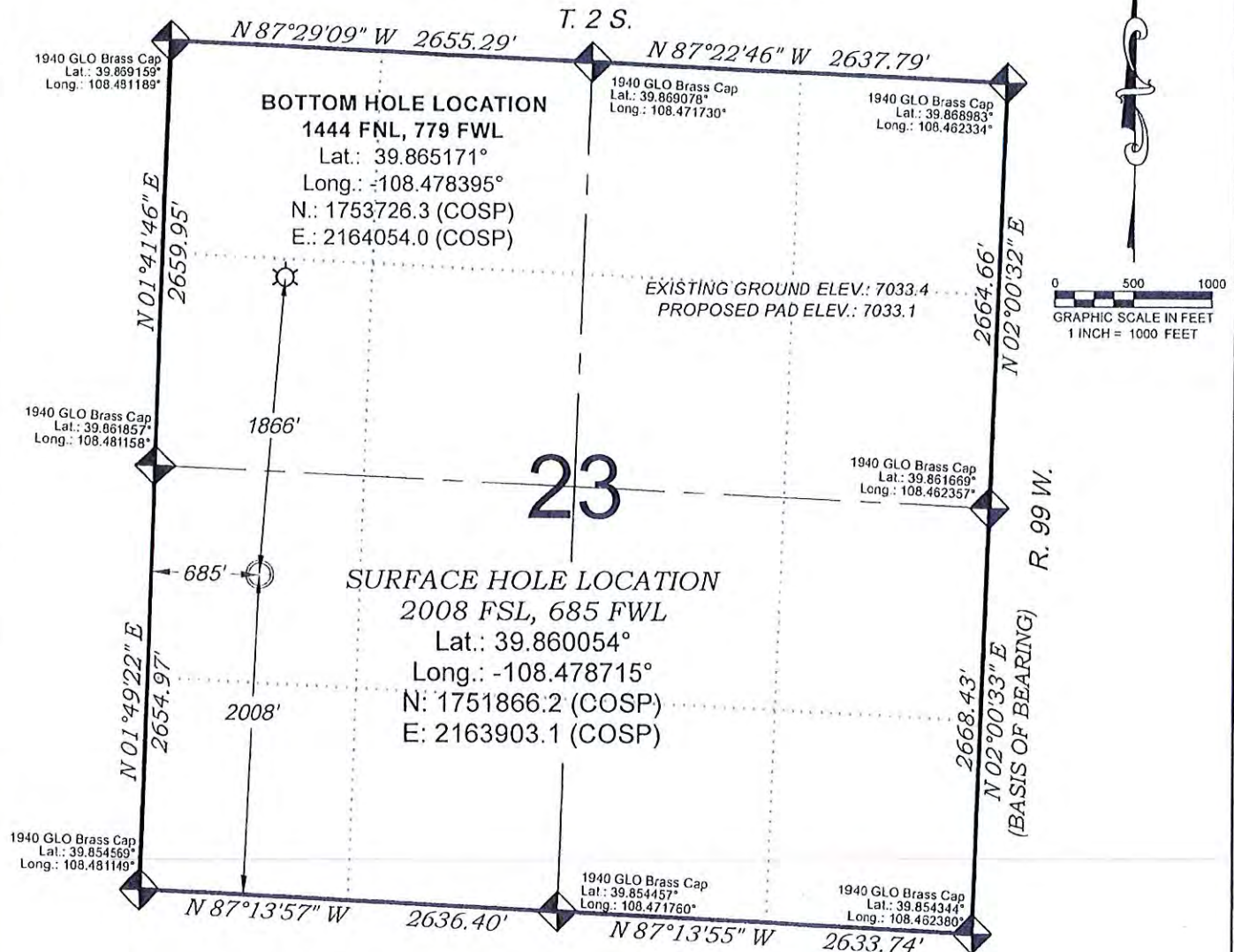


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range/ecological site description, AIM data, reference site, or species from the BLM approved seed mix.

- d. If non-prescribed or unauthorized plant species (e.g., yellow sweetclover, *Melilotus officinalis*) appear in the reclamation site, BLM may require their removal. Bare ground does not exceed the AIM data, range site description, or if not described, bare ground will not exceed that of a representative undisturbed DPC meeting the Colorado Public Land Health Standards.
- e. Reclamation sites affected by cheat grass and or other invasive annuals will be qualified based on the condition of the site (i.e., the relative vegetative cover) prior to disturbance.
- f. If the Project site contains less than 25 percent relative cover of undesirable species, interim and final reclamation will be considered acceptable when relative cover of undesirable species on the project site does not exceed 5 percent.
- g. If the project site contains 25 percent to 50 percent relative cover of undesirable species, interim and final reclamation will be considered acceptable when relative cover of undesirable species on the project site does not exceed 10 percent
- h. If the project site contains more than 50 percent relative cover of undesirable species on the project site does not exceed the level defined by site-specific criteria established in the reclamation plan for that site.

# Federal RG 912-23-299D



SEE CONSTRUCTION LAYOUT PLAT  
FOR VISIBLE IMPROVEMENTS  
WITHIN 500' OF THIS LOCATION

## SURVEYORS STATEMENT

I, MICHAEL J. LANGHORNE, A REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO DO HEREBY CERTIFY THAT THE SURVEY SHOWN HEREON WAS PREPARED UNDER MY DIRECT SUPERVISION AND HAS BEEN STAKED ON THE GROUND AS SHOWN ON THE PLAT AND CHECKING THAT THIS MAP IS A TRUE REPRESENTATION THEREOF.

MICHAEL J. LANGHORNE, COLORADO REGISTRATION NO. 36572  
FOR AND ON BEHALF OF  
BOOKCLIFF SURVEY SERVICES, INC.

## REFERENCES

- 1) Dependent ReSurvey T. 2 S., R. 99 W., 6th P.M. (GLO PLAT)
- 2) U.S.G.S. QUAD: Yankee Gulch, CO

136 East Third Street  
Rifle, Colorado  
81650 Ph. (970)  
625-2720 Fax (970)  
625-2773

**BOOKCLIFF**  
Survey Services, Inc.

REVISED: 6/17/20

SURVEY DATE: 6/8/18  
MAP DATE: 7/2/18  
SCALE: 1" = 1000'  
PLAT: 1 of 7  
PROJECT: TEP Valley

## - LEGEND -

FIELD LOCATED SECTION  
MONUMENTS AS DESCRIBED

FIELD SURVEYED  
WELL LOCATION

CALCULATED BOTTOM  
HOLE LOCATION

CALCULATED SECTION  
CORNER LOCATION

## NOTES

- 1) ELEVATIONS BASED ON N.A.V.D. 1988 PUBLISHED COORDINATES.
- 2) LATITUDES AND LONGITUDES ARE BASED ON NAD 83, PUBLISHED COORDINATES.
- 3) STATE PLANE COORDINATES ARE BASED ON COLORADO CENTRAL ZONE, U.S. SURVEY FEET.
- 4) ELEVATION MASK SET TO 15"
- 5) GPS OPERATOR J. KIRKPATRICK, OBSERVED A PDOP OF 2.7 FOR SURVEY POINT NUMBER 240.
- 6) SURFACE AND BOTTOM HOLE LOCATIONS ARE MEASURED 90° FROM SECTION LINES.

WELL LOCATION PLAT Prepared for:

**TERRA**

TEP Rocky Mountain LLC

NW1/4 SW1/4, SECTION 23  
T. 2 S., R. 99 W. of the 6th. P.M.  
Rio BLANCO COUNTY, COLORADO

REPLACED  
JUL 28 2020



## CASING & CEMENTING PLAN

Operator: WPX Energy  
 Well Name & Number: RG 943-27-299D  
 Location: Ryan Gulch

| Casing Design Calculations |                       |                         |                          |       |        |                    |               |                          |                |
|----------------------------|-----------------------|-------------------------|--------------------------|-------|--------|--------------------|---------------|--------------------------|----------------|
| Type of Casing             | Size of Hole (inches) | Size of Casing (inches) | Weight per Foot (lbs/ft) | Grade | Thread | Interval (ft - ft) | Length (feet) | Setting Depth (TVD feet) | Collapse (psi) |
| Surface                    | 14.750                | 9.625                   | 36.0                     | J-55  | ST&C   | 0-3267             | 3,267         | 2,985                    | 2,020          |
| Production                 | 8.750                 | 5.500                   | 11.6                     | P-110 | LT&C   | 0-6994             | 6,994         | 6,568                    | 7,460          |

| Surface Casing Shoe |           | Production Casing Shoe |           |
|---------------------|-----------|------------------------|-----------|
| Max MW =            | 9.5 ppg   | Max MW =               | 10.5 ppg  |
| HP =                | 1,475 psi | HP =                   | 3,586 psi |

True Vertical Depth = 6,568  
 Bottom Hole Pressure = 2,956  
 Gradient = 0.45  
 Max. Sur. Pressure = 1,511  
 BOP Required = 2M  
 5M system will be used as per I

| Casing Safety Factors |           |             |   |
|-----------------------|-----------|-------------|---|
| Surface Casing        | Pb = 2.33 | Min = 1.000 | 0 |
|                       | Pc = 1.37 | Min = 1.100 | 0 |
|                       | Sj = 3.67 | Min = 1.600 | 0 |
| Production Casing     | Pb = 7.04 | Min = 1.000 | 0 |
|                       | Pc = 2.08 | Min = 1.125 | 0 |
|                       | Sj = 5.48 | Min = 1.600 | 0 |

### Cement Design Calculations

Estimating Cement for Ryan Gulch Wells (Permitting purpose only)

| Critical Depths - Permitting Purposes Only |                |
|--|----------------|
| Casing/Formation                           | Measured Depth |
| Cement DV Tool                             | 1,600 ft       |
| Surface Casing                             | 3,267          |
| TOC (Surface Casing)                       | 3,267 ft       |
| Top of Injection (Ohio)                    | 5,526 ft       |
| Total Depth                                | 6,994 ft       |

| Production Cement Tops<br>(Permitting Purposes Only) |                      |
|--|----------------------|
| Cement Slurry  | TOC - Measured Depth |
| 1st Lead   | 3,067 ft             |
| 2nd Lead   | 3,067 ft             |
| Tail   | 5,326 ft             |

|                                   | 1st Stage |        | 2nd Stage |
|-----------------------------------|-----------|--------|-----------|
|                                   | Lead      | Tail   | Tail      |
| Surface Cement                    |           |        |           |
| Volume, bbls                      | 58        | 87     | 194       |
| Volume, ft <sup>3</sup>           | 326       | 489    | 1090      |
| Volume, sacks                     | 192       | 249    | 556       |
| Slurry Weight, ppg                | 12.8      | 12.8   | 12.8      |
| Slurry Yield, ft <sup>3</sup> /sk | 1.700     | 1.960  | 1.960     |
| Mixwater, gal/sk                  | 13.440    | 13.440 | 13.440    |
| Annular Capacity (BBI)            | 0.0870    | 0.0870 | 0.1214    |
| Annular Capacity (CF)             | 0.4887    | 0.4887 | 0.6813    |
| Total Sacks =                     |           |        | 997       |

| Production Cement      | 1st Lead | 2nd Lead |
|------------------------|----------|----------|
| Volume, bbls           | 0        | 102      |
| Volume, cu ft          | 0        | 571      |
| Volume, sacks          | 0        | 315      |
| Slurry Weight, ppg     | 11.0     | 12.7     |
| Slurry Yield, cu ft/sk | 2.750    | 1.810    |
| Annular Capacity (BBI) | 0.0547   | 0.0450   |
| Annular Capacity (CF)  | 0.3072   | 0.2526   |
| Total Sacks =          |          |          |

|  |                                |
|--|--------------------------------|
|  | <b>Total Cubic Ft. = 1,905</b> |
|--|--------------------------------|

|  |                          |
|--|--------------------------|
|  | <b>Total Cubic Ft. =</b> |
|--|--------------------------|

**NOTES:**

Surface Casing 14-3/4" hole - Cement from DV tool to surface (1st Stage). Tapered 13-1/2" hole Surface Casing - Cement from Production Casing 8-3/4" hole - Cement 200' to last casing string.

No excess is included in calculations.

Normal Surface excess is 20% over gauge hole for 1st Stage and 30% over gauge hole for 2nd Stage.

Normal Production excess is 35% over gauge hole.

| Burst Tension |               |
|---------------|---------------|
| Burst (psi)   | Tension (psi) |
| 3,520         | 394,000       |
| 10,640        | 445,000       |

ft  
psi  
psi/ft  
psi  
System  
Master APD

| Tail   |
|--------|
| 75     |
| 421    |
| 293    |
| 13.5   |
| 1.440  |
| 0.0450 |
| 0.2526 |
| 608    |

m surf TD to DV tool (2nd Stage).



**GEOLOGIC & DRILLING PROGNOSIS**Prepared: 14-Mar-14 SCS  
Edited: 25-Mar-14 IJPWELL NAME: RG 943-27-299D  
Directional from the pad RG 34-277-299STATE: Colorado API:  
COUNTY: Rio BlancoBOTTOM HOLE LOCATION: Sec 27 2S 99W 10 ACRE FED  
TYPE OF UNIT: Statewide Spacing  
SURFACE HOLE FOOTAGE: 928 FSL 2563 FEL Sec 27 T2S R99W  
BOTTOM HOLE FOOTAGE: 1970 FSL 918 FEL Sec 27 T2S R99W  
SURFACE HOLE XY: X 2160440.6 Y 1745571.7  
BOTTOM HOLE XY: X 2162119.7 Y 1746568.7  
FEDERAL EA: NA  
HARDLINE: NOELEVATION (ft): PAD: 7210  
KELLY BUSHING: 7231RIG INFORMATION:  
RIG NAME: Cyclone 29  
KB HEIGHT (ft): 21**ESTIMATE TOPS:**

| Formation           | TVD     | MD      | Comments   |
|---------------------|---------|---------|--|
| Uinta               | surface | Surface |  |
| Green River FM      | 860     | 874     |  |
| A Groove            | 970     | 991     | Cement basket @ 1500 ft  |
| B Groove            | 1115    | 1149    | Tapered surface from 14.75 tp 13.5 @ 1550 ft                               |
| Dissolution Surface | 1645    | 1749    | Possible lost circulation zone. Cmt stage tool @ 1600 ft                   |
| Garden Gulch        | 1885    | 2021    | Cement basket @ 1750 ft  |
| Orange Marker       | 2210    | 2389    | Cement basket @ 1900 ft  |
| Wasatch             | 2485    | 2700    | Surface casing set @ 3267 ft MD  |
| Top of G Sand       | 3790    | 4173    |  |
| Fort Union          | 3960    | 4356    |  |
| Ohio Creek          | 5100    | 5526    |  |
| Mesaverde           | 5315    | 5741    | (Water zones may be encountered within the upper portion of the Mesaverde) |
| TD                  | 6568    | 6994    |  |

MUD LOGGING (md): Surface to TD. (One man or computer unit with at least total gas and drill rate.)

**LOGGING PROGRAM:**Type of Log: Open-hole Triple-Combo (DIL-GR-SP-Neutron Density)  
Interval (md): GR from TD to surface, DIL-SP from TD to surface casing.

Strap drill pipe by latest trip prior to TD

**CSG & CEMENT PROGRAM: SHOE TEST REQUIRED**

|                      | csg size (in) | depth set at (tvd) | depth set at (md) | hole size (in) | Approximate Cmt (ft3) Tail | Tail Yield ft <sup>3</sup> /Sx | Approx. Sx Tail    | Approximate Cmt (ft3) Lead | Lead Yield ft <sup>3</sup> /Sx | Approx. Sx Lead | WOC (hrs) |
|----------------------|---------------|--------------------|-------------------|----------------|----------------------------|--------------------------------|--------------------|----------------------------|--------------------------------|-----------------|-----------|
| Conductor:           | 18            | 80                 | 80                | 30             | To Surface-Ready Mix       |                                |                    |                            |                                |                 |           |
| Surface:             | 9.625         | 2985               | 3267              | 14.75/13.5     | 1579                       | 1.96                           | 806                | 326                        | 1.70                           | 192             | 8         |
| Liner or Production: | 5.5           | 6568               | 6994              | 8.75           | 421                        | 1.44                           | 293                | 571                        | 1.81                           | 315             |           |
|                      |               |                    |                   |                | Surface (Sacks): 997       |                                | Prod. (Sacks): 608 |                            |                                |                 |           |

**ANTICIPATED PRESSURES**

| MASP  | Prod Csg Test Pressure | Anticipated BHP | Prod. Csg. Grade |
|-------|------------------------|-----------------|------------------|
| 1,511 | 7,400                  | 2,956           | P-110            |

MUD PROGRAM: (Do not deviate from mud engineer's recommendation without prior consent from Parachute office)

| FROM (md) | TO (md) | TYPE MUD | #/GAL    | VIS   | WL   |
|-----------|---------|----------|----------|-------|------|
| 0         | 3267    | Spud/RCA | 8.0-9.0  | 45-50 |      |
| 3267      | 6994    | LSND     | 9.0-10.0 | 40-50 | 8-10 |

(Write mud added to system on tour sheets and report all mud mixed and daily cost in morning report)

LOST CIRCULATION: Report depth and bbls of mud lost on morning report and tour sheet - Any severe lost circulation problems should be reported immediately to well supervisor.

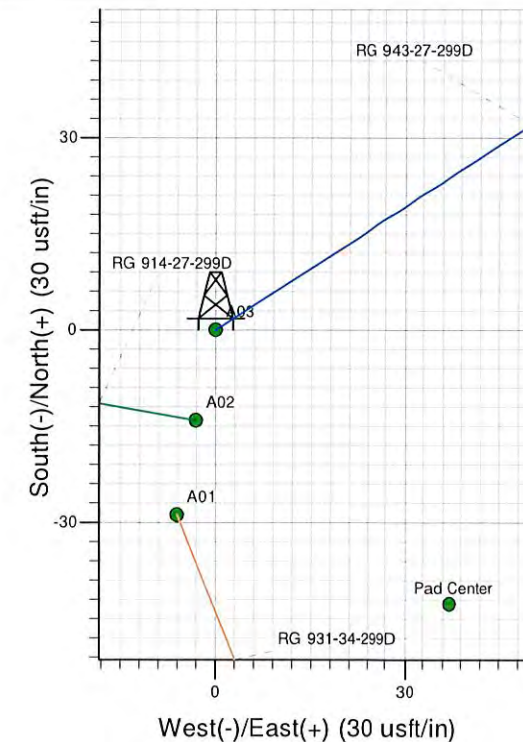
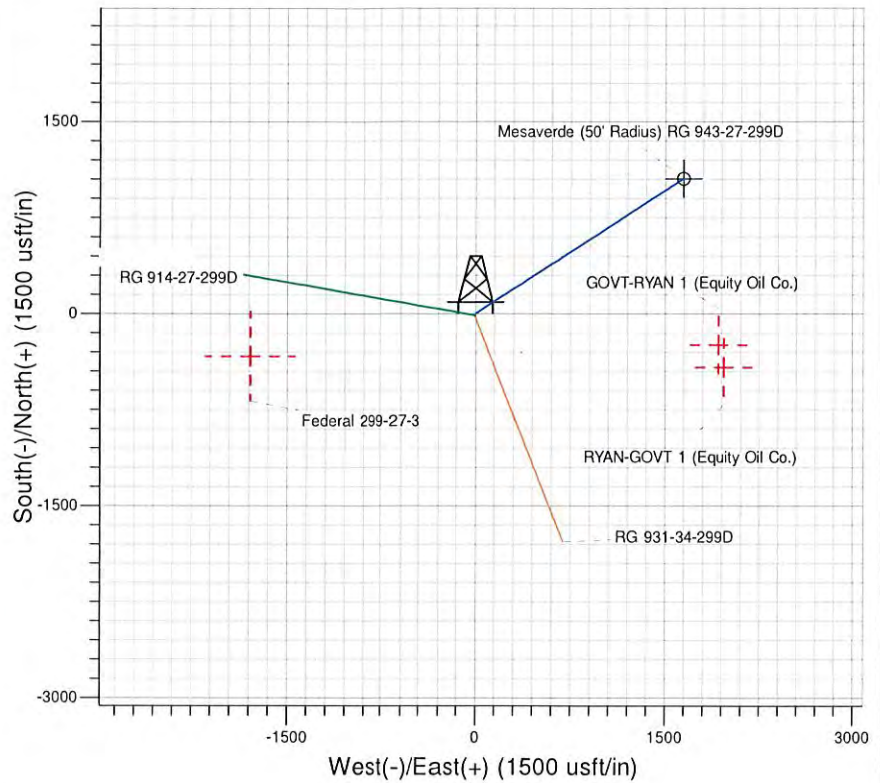
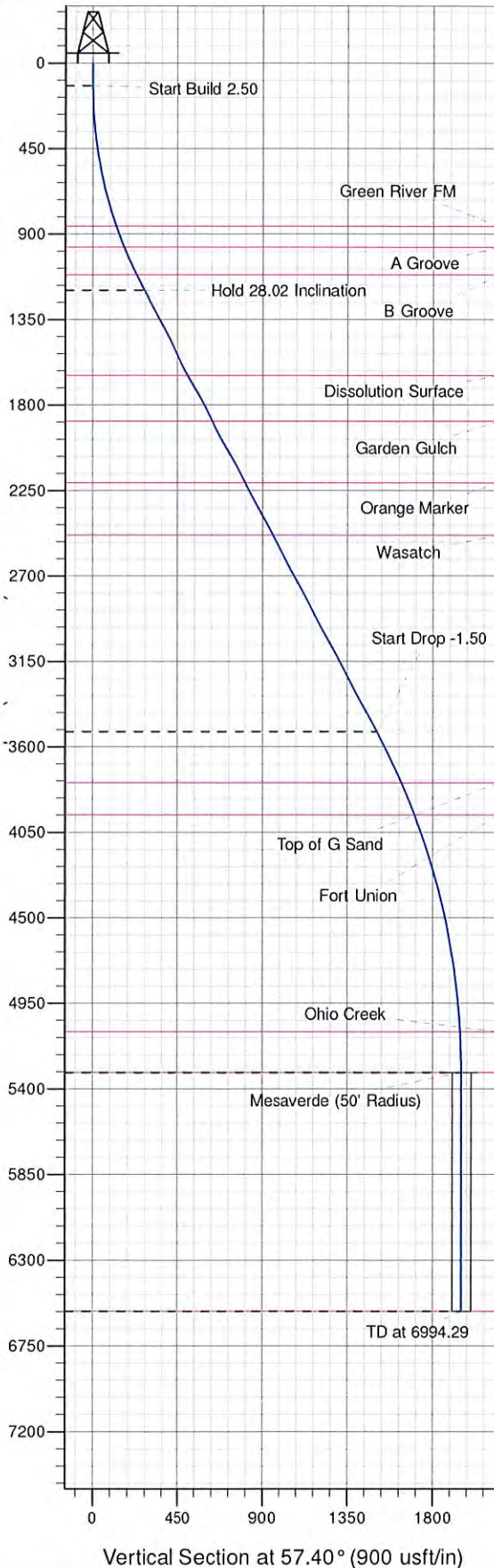
SURVEYS: Run every 100' on surface hole and trips unless otherwise instructed.

(note, if there are questions concerning TD or logging, please call Geologist)

|                 |               |              |              |
|-----------------|---------------|--------------|--------------|
| WPX Geologists: | Office        | Cell         | Cell 2       |
|                 | Sam Shiverick | 303-606-4255 | 914-643-6124 |
|                 | Scott Meade   |              | 720-498-5295 |
|                 |               |              | 970-260-8131 |



Surface Location: RG 34-27-299 Pad  
North American Datum 1983 , US State Plane 1983 , Colorado Central Zone  
Ground Elevation: 72 J0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.00 0.00 1745571.10 2160440.60 39.84247 -108.49030 A03  
KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs)



Project: RG 02-02S-098W  
Site: RG 34-27-299 Pad  
Well: RG 943-27-299D  
Design #1 14Nov13 kjs



Azimuths to True North  
Magnetic North: 10.27°  
Magnetic Field  
Strength: 52163.4snT  
Dip Angle: 65.88°  
Date: 11/14/2013  
Model: IGRF2005-10

#### ANNOTATIONS

| TVD     | MD      | Inc   | Azi   | +N/-S   | +E/-W   | Vsect   | Departure | Annotation             |
|---------|---------|-------|-------|---------|---------|---------|-----------|------------------------|
| 120.00  | 120.00  | 0.00  | 0.00  | 0.00    | 0.00    | 0.00    | 0.00      | Start Build 2.50       |
| 1196.65 | 1240.80 | 28.02 | 57.40 | 144.74  | 226.31  | 268.64  | 268.64    | Hold 28.02 Inclination |
| 3520.58 | 3873.29 | 28.02 | 57.40 | 811.06  | 1268.14 | 1505.33 | 1505.33   | Start Drop -1.50       |
| 5315.00 | 5741.29 | 0.00  | 0.00  | 1052.30 | 1645.33 | 1953.06 | 1953.06   | Mesaverde              |
| 6568.00 | 6994.29 | 0.00  | 0.00  | 1052.30 | 1645.33 | 1953.06 | 1953.06   | TD at 6994.29          |



# **PICEANCE HL NAD 83**

**RG 02-02S-098W**

**RG 34-27-299 Pad**

**RG 943-27-299D - Slot A03**

**Wellbore #1**

**Plan: Design #1 14Nov13 kjs**

## **Standard Planning Report - Geographic**

**12 March, 2014**

**WPX**  
Planning Report - Geographic

|           |                       |                              |  |
|-----------|-----------------------|------------------------------|--|
| Database: | COMPASS-PICEANCE      | Local Co-ordinate Reference: | Well RG 943-27-299D - Slot A03                         |
| Company:  | PICEANCE HL NAD 83    | TVD Reference:               | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| Project:  | RG 02-02S-098W        | MD Reference:                | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| Site:     | RG 34-27-299 Pad      | North Reference:             | True   |
| Well:     | RG 943-27-299D        | Survey Calculation Method:   | Minimum Curvature                                      |
| Wellbore: | Wellbore #1           |                              |  |
| Design:   | Design #1 14Nov13 kjs |                              |  |

|             |   |               |                             |
|-------------|---|---------------|-----------------------------|
| Project     | RG 02-02S-098W, Rio Blanco County, CO, RG 02-02S-098W |               |                             |
| Map System: | US State Plane 1983                                   | System Datum: | Mean Sea Level              |
| Geo Datum:  | North American Datum 1983                             |               |                             |
| Map Zone:   | Colorado Central Zone                                 |               | Using geodetic scale factor |

|                       |           |                  |                   |                   |            |
|-----------------------|-----------|------------------|-------------------|-------------------|------------|
| Site                  |           | RG 34-27-299 Pad |                   |                   |            |
| Site Position:        |           | Northing:        | 1,745,527.20 usft | Latitude:         | 39.84235   |
| From:                 | Map       | Easting:         | 2,160,476.30 usft | Longitude:        | -108.49017 |
| Position Uncertainty: | 0.00 usft | Slot Radius:     | 13.200 in         | Grid Convergence: | -1.886     |

|                      |                           |           |                     |                   |               |               |
|----------------------|---------------------------|-----------|---------------------|-------------------|---------------|---------------|
| Well                 | RG 943-27-299D - Slot A03 |           |                     |                   |               |               |
| Well Position        | +N/-S                     | 0.00 usft | Northing:           | 1,745,571.10 usft | Latitude:     | 39.84247      |
|                      | +E/-W                     | 0.00 usft | Easting:            | 2,160,440.60 usft | Longitude:    | -108.49031    |
| Position Uncertainty |                           | 0.00 usft | Wellhead Elevation: |                   | Ground Level: | 7,210.00 usft |

|           |             |             |                 |               |                     |
|-----------|-------------|-------------|-----------------|---------------|---------------------|
| Wellbore  | Wellbore #1 |             |                 |               |                     |
| Magnetics | Model Name  | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|           | IGRF2005-10 | 11/14/2013  | 10.272          | 65.880        | 52,163              |

|                   |                         |              |               |               |
|-------------------|-------------------------|--------------|---------------|---------------|
| Design            | Design #1 14Nov13 kjs   |              |               |               |
| Audit Notes:      |                         |              |               |               |
| Version:          | Phase:                  | PLAN         | Tie On Depth: | 0.00          |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft)  | Direction (°) |
|                   | 0.00                    | 0.00         | 0.00          | 57.40         |

| Plan Sections         |                 |             |                       |              |              |                         |                        |                       |         |                      |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|------------------------|-----------------------|---------|----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target               |
| 0.00                  | 0.00            | 0.00        | 0.00                  | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |
| 120.00                | 0.00            | 0.00        | 120.00                | 0.00         | 0.00         | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |
| 1,240.80              | 28.02           | 57.40       | 1,196.65              | 144.74       | 226.31       | 2.50                    | 2.50                   | 0.00                  | 57.398  |                      |
| 3,873.29              | 28.02           | 57.40       | 3,520.58              | 811.06       | 1,268.14     | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |
| 5,741.29              | 0.00            | 0.00        | 5,315.00              | 1,052.30     | 1,645.33     | 1.50                    | -1.50                  | 0.00                  | 180.000 | Mesaverde (50' Radiu |
| 6,994.29              | 0.00            | 0.00        | 6,568.00              | 1,052.30     | 1,645.33     | 0.00                    | 0.00                   | 0.00                  | 0.000   |                      |



**WPX**  
Planning Report - Geographic

|           |                       |                              |  |
|-----------|-----------------------|------------------------------|--|
| Database: | COMPASS-PICEANCE      | Local Co-ordinate Reference: | Well RG 943-27-299D - Slot A03                         |
| Company:  | PICEANCE HL NAD 83    | TVD Reference:               | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| Project:  | RG 02-02S-098W        | MD Reference:                | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| Site:     | RG 34-27-299 Pad      | North Reference:             | True   |
| Well:     | RG 943-27-299D        | Survey Calculation Method:   | Minimum Curvature                                      |
| Wellbore: | Wellbore #1           |                              |  |
| Design:   | Design #1 14Nov13 kjs |                              |  |

| Planned Survey                |                 |             |                       |              |              |                     |                    |          |            |
|-------------------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|----------|------------|
| Measured Depth (usft)         | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude  |
| 0.00                          | 0.00            | 0.00        | 0.00                  | 0.00         | 0.00         | 1,745,571.10        | 2,160,440.60       | 39.84247 | -108.49031 |
| 100.00                        | 0.00            | 0.00        | 100.00                | 0.00         | 0.00         | 1,745,571.10        | 2,160,440.60       | 39.84247 | -108.49031 |
| 120.00                        | 0.00            | 0.00        | 120.00                | 0.00         | 0.00         | 1,745,571.10        | 2,160,440.60       | 39.84247 | -108.49031 |
| <b>Start Build 2.50</b>       |                 |             |                       |              |              |                     |                    |          |            |
| 200.00                        | 2.00            | 57.40       | 199.98                | 0.75         | 1.18         | 1,745,571.81        | 2,160,441.80       | 39.84247 | -108.49030 |
| 300.00                        | 4.50            | 57.40       | 299.82                | 3.81         | 5.95         | 1,745,574.71        | 2,160,446.67       | 39.84248 | -108.49029 |
| 400.00                        | 7.00            | 57.40       | 399.30                | 9.20         | 14.39        | 1,745,579.82        | 2,160,455.29       | 39.84250 | -108.49026 |
| 500.00                        | 9.50            | 57.40       | 498.26                | 16.93        | 26.48        | 1,745,587.15        | 2,160,467.62       | 39.84252 | -108.49021 |
| 600.00                        | 12.00           | 57.40       | 596.50                | 26.98        | 42.19        | 1,745,596.68        | 2,160,483.66       | 39.84255 | -108.49016 |
| 700.00                        | 14.50           | 57.40       | 693.83                | 39.33        | 61.50        | 1,745,608.39        | 2,160,503.36       | 39.84258 | -108.49009 |
| 800.00                        | 17.00           | 57.40       | 790.07                | 53.96        | 84.36        | 1,745,622.25        | 2,160,526.69       | 39.84262 | -108.49001 |
| 873.50                        | 18.84           | 57.40       | 860.00                | 66.14        | 103.41       | 1,745,633.80        | 2,160,546.13       | 39.84265 | -108.48994 |
| <b>Green River FM</b>         |                 |             |                       |              |              |                     |                    |          |            |
| 900.00                        | 19.50           | 57.40       | 885.03                | 70.83        | 110.74       | 1,745,638.25        | 2,160,553.61       | 39.84267 | -108.48991 |
| 990.80                        | 21.77           | 57.40       | 970.00                | 88.07        | 137.70       | 1,745,654.59        | 2,160,581.12       | 39.84271 | -108.48982 |
| <b>A Groove</b>               |                 |             |                       |              |              |                     |                    |          |            |
| 1,000.00                      | 22.00           | 57.40       | 978.54                | 89.92        | 140.59       | 1,745,656.34        | 2,160,584.07       | 39.84272 | -108.48981 |
| 1,100.00                      | 24.50           | 57.40       | 1,070.41              | 111.18       | 173.84       | 1,745,676.50        | 2,160,618.01       | 39.84278 | -108.48969 |
| 1,149.25                      | 25.73           | 57.40       | 1,115.00              | 122.45       | 191.45       | 1,745,687.18        | 2,160,635.98       | 39.84281 | -108.48963 |
| <b>B Groove</b>               |                 |             |                       |              |              |                     |                    |          |            |
| 1,200.00                      | 27.00           | 57.40       | 1,160.47              | 134.59       | 210.44       | 1,745,698.69        | 2,160,655.35       | 39.84284 | -108.48956 |
| 1,240.80                      | 28.02           | 57.40       | 1,196.65              | 144.74       | 226.31       | 1,745,708.32        | 2,160,671.55       | 39.84287 | -108.48950 |
| <b>Hold 28.02 Inclination</b> |                 |             |                       |              |              |                     |                    |          |            |
| 1,300.00                      | 28.02           | 57.40       | 1,248.92              | 159.73       | 249.74       | 1,745,722.52        | 2,160,695.47       | 39.84291 | -108.48942 |
| 1,400.00                      | 28.02           | 57.40       | 1,337.20              | 185.04       | 289.32       | 1,745,746.52        | 2,160,735.85       | 39.84298 | -108.48928 |
| 1,500.00                      | 28.02           | 57.40       | 1,425.47              | 210.35       | 328.89       | 1,745,770.51        | 2,160,776.24       | 39.84305 | -108.48914 |
| 1,600.00                      | 28.02           | 57.40       | 1,513.75              | 235.66       | 368.47       | 1,745,794.51        | 2,160,816.63       | 39.84312 | -108.48899 |
| 1,700.00                      | 28.02           | 57.40       | 1,602.03              | 260.97       | 408.04       | 1,745,818.51        | 2,160,857.02       | 39.84319 | -108.48885 |
| 1,748.67                      | 28.02           | 57.40       | 1,645.00              | 273.29       | 427.31       | 1,745,830.19        | 2,160,876.68       | 39.84322 | -108.48879 |
| <b>Dissolution Surface</b>    |                 |             |                       |              |              |                     |                    |          |            |
| 1,800.00                      | 28.02           | 57.40       | 1,690.31              | 286.28       | 447.62       | 1,745,842.50        | 2,160,897.41       | 39.84326 | -108.48871 |
| 1,900.00                      | 28.02           | 57.40       | 1,778.59              | 311.59       | 487.20       | 1,745,866.50        | 2,160,937.79       | 39.84333 | -108.48857 |
| 2,000.00                      | 28.02           | 57.40       | 1,866.87              | 336.91       | 526.77       | 1,745,890.49        | 2,160,978.18       | 39.84340 | -108.48843 |
| 2,020.54                      | 28.02           | 57.40       | 1,885.00              | 342.11       | 534.90       | 1,745,895.42        | 2,160,986.48       | 39.84341 | -108.48840 |
| <b>Garden Gulch</b>           |                 |             |                       |              |              |                     |                    |          |            |
| 2,100.00                      | 28.02           | 57.40       | 1,955.14              | 362.22       | 566.35       | 1,745,914.49        | 2,161,018.57       | 39.84347 | -108.48829 |
| 2,200.00                      | 28.02           | 57.40       | 2,043.42              | 387.53       | 605.92       | 1,745,938.48        | 2,161,058.96       | 39.84354 | -108.48815 |
| 2,300.00                      | 28.02           | 57.40       | 2,131.70              | 412.84       | 645.50       | 1,745,962.48        | 2,161,099.35       | 39.84360 | -108.48801 |
| 2,388.70                      | 28.02           | 57.40       | 2,210.00              | 435.29       | 680.60       | 1,745,983.76        | 2,161,135.17       | 39.84367 | -108.48788 |
| <b>Orange Marker</b>          |                 |             |                       |              |              |                     |                    |          |            |
| 2,400.00                      | 28.02           | 57.40       | 2,219.98              | 438.15       | 685.08       | 1,745,986.48        | 2,161,139.74       | 39.84367 | -108.48787 |
| 2,500.00                      | 28.02           | 57.40       | 2,308.26              | 463.46       | 724.65       | 1,746,010.47        | 2,161,180.12       | 39.84374 | -108.48773 |
| 2,600.00                      | 28.02           | 57.40       | 2,396.54              | 488.77       | 764.23       | 1,746,034.47        | 2,161,220.51       | 39.84381 | -108.48759 |
| 2,700.00                      | 28.02           | 57.40       | 2,484.82              | 514.09       | 803.80       | 1,746,058.46        | 2,161,260.90       | 39.84388 | -108.48744 |
| 2,700.21                      | 28.02           | 57.40       | 2,485.00              | 514.14       | 803.89       | 1,746,058.51        | 2,161,260.98       | 39.84388 | -108.48744 |
| <b>Wasatch</b>                |                 |             |                       |              |              |                     |                    |          |            |
| 2,800.00                      | 28.02           | 57.40       | 2,573.09              | 539.40       | 843.38       | 1,746,082.46        | 2,161,301.29       | 39.84395 | -108.48730 |
| 2,900.00                      | 28.02           | 57.40       | 2,661.37              | 564.71       | 882.95       | 1,746,106.45        | 2,161,341.68       | 39.84402 | -108.48716 |
| 3,000.00                      | 28.02           | 57.40       | 2,749.65              | 590.02       | 922.53       | 1,746,130.45        | 2,161,382.06       | 39.84409 | -108.48702 |
| 3,100.00                      | 28.02           | 57.40       | 2,837.93              | 615.33       | 962.11       | 1,746,154.45        | 2,161,422.45       | 39.84416 | -108.48688 |
| 3,200.00                      | 28.02           | 57.40       | 2,926.21              | 640.64       | 1,001.68     | 1,746,178.44        | 2,161,462.84       | 39.84423 | -108.48674 |



**WPX**  
Planning Report - Geographic

|           |                       |                              |  |
|-----------|-----------------------|------------------------------|--|
| Database: | COMPASS-PICEANCE      | Local Co-ordinate Reference: | Well RG 943-27-299D - Slot A03                         |
| Company:  | PICEANCE HL NAD 83    | TVD Reference:               | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| Project:  | RG 02-02S-098W        | MD Reference:                | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| Site:     | RG 34-27-299 Pad      | North Reference:             | True   |
| Well:     | RG 943-27-299D        | Survey Calculation Method:   | Minimum Curvature                                      |
| Wellbore: | Wellbore #1           |                              |  |
| Design:   | Design #1 14Nov13 kjs |                              |  |

| Planned Survey        |                 |             |                       |              |              |                     |                    |          |            |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|---------------------|--------------------|----------|------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Map Northing (usft) | Map Easting (usft) | Latitude | Longitude  |
| 3,266.60              | 28.02           | 57.40       | 2,985.00              | 657.50       | 1,028.04     | 1,746,194.42        | 2,161,489.74       | 39.84428 | -108.48665 |
| 9 5/8"                |                 |             |                       |              |              |                     |                    |          |            |
| 3,300.00              | 28.02           | 57.40       | 3,014.49              | 665.95       | 1,041.26     | 1,746,202.44        | 2,161,503.23       | 39.84430 | -108.48660 |
| 3,400.00              | 28.02           | 57.40       | 3,102.76              | 691.27       | 1,080.83     | 1,746,226.43        | 2,161,543.62       | 39.84437 | -108.48646 |
| 3,500.00              | 28.02           | 57.40       | 3,191.04              | 716.58       | 1,120.41     | 1,746,250.43        | 2,161,584.01       | 39.84444 | -108.48632 |
| 3,600.00              | 28.02           | 57.40       | 3,279.32              | 741.89       | 1,159.98     | 1,746,274.42        | 2,161,624.39       | 39.84451 | -108.48618 |
| 3,700.00              | 28.02           | 57.40       | 3,367.60              | 767.20       | 1,199.56     | 1,746,298.42        | 2,161,664.78       | 39.84458 | -108.48603 |
| 3,800.00              | 28.02           | 57.40       | 3,455.88              | 792.51       | 1,239.14     | 1,746,322.42        | 2,161,705.17       | 39.84465 | -108.48589 |
| 3,873.29              | 28.02           | 57.40       | 3,520.58              | 811.06       | 1,268.14     | 1,746,340.00        | 2,161,734.77       | 39.84470 | -108.48579 |
| Start Drop -1.50      |                 |             |                       |              |              |                     |                    |          |            |
| 3,900.00              | 27.62           | 57.40       | 3,544.20              | 817.78       | 1,278.64     | 1,746,346.37        | 2,161,745.49       | 39.84472 | -108.48575 |
| 4,000.00              | 26.12           | 57.40       | 3,633.40              | 842.13       | 1,316.72     | 1,746,369.45        | 2,161,784.34       | 39.84478 | -108.48562 |
| 4,100.00              | 24.62           | 57.40       | 3,723.76              | 865.21       | 1,352.81     | 1,746,391.34        | 2,161,821.18       | 39.84485 | -108.48549 |
| 4,172.56              | 23.53           | 57.40       | 3,790.00              | 881.16       | 1,377.74     | 1,746,406.46        | 2,161,846.62       | 39.84489 | -108.48540 |
| Top of G Sand         |                 |             |                       |              |              |                     |                    |          |            |
| 4,200.00              | 23.12           | 57.40       | 3,815.20              | 887.02       | 1,386.90     | 1,746,412.01        | 2,161,855.96       | 39.84491 | -108.48537 |
| 4,300.00              | 21.62           | 57.40       | 3,907.67              | 907.52       | 1,418.96     | 1,746,431.45        | 2,161,888.68       | 39.84496 | -108.48525 |
| 4,356.13              | 20.78           | 57.40       | 3,960.00              | 918.45       | 1,436.06     | 1,746,441.81        | 2,161,906.13       | 39.84499 | -108.48519 |
| Fort Union            |                 |             |                       |              |              |                     |                    |          |            |
| 4,400.00              | 20.12           | 57.40       | 4,001.11              | 926.71       | 1,448.97     | 1,746,449.64        | 2,161,919.31       | 39.84502 | -108.48515 |
| 4,500.00              | 18.62           | 57.40       | 4,095.45              | 944.58       | 1,476.91     | 1,746,466.58        | 2,161,947.82       | 39.84506 | -108.48505 |
| 4,600.00              | 17.12           | 57.40       | 4,190.62              | 961.11       | 1,502.76     | 1,746,482.25        | 2,161,974.20       | 39.84511 | -108.48496 |
| 4,700.00              | 15.62           | 57.40       | 4,286.56              | 976.30       | 1,526.50     | 1,746,496.65        | 2,161,998.43       | 39.84515 | -108.48487 |
| 4,800.00              | 14.12           | 57.40       | 4,383.21              | 990.12       | 1,548.12     | 1,746,509.76        | 2,162,020.49       | 39.84519 | -108.48479 |
| 4,900.00              | 12.62           | 57.40       | 4,480.50              | 1,002.58     | 1,567.59     | 1,746,521.57        | 2,162,040.37       | 39.84522 | -108.48472 |
| 5,000.00              | 11.12           | 57.40       | 4,578.36              | 1,013.66     | 1,584.92     | 1,746,532.07        | 2,162,058.05       | 39.84525 | -108.48466 |
| 5,100.00              | 9.62            | 57.40       | 4,676.72              | 1,023.36     | 1,600.08     | 1,746,541.27        | 2,162,073.53       | 39.84528 | -108.48461 |
| 5,200.00              | 8.12            | 57.40       | 4,775.52              | 1,031.67     | 1,613.07     | 1,746,549.14        | 2,162,086.78       | 39.84530 | -108.48456 |
| 5,300.00              | 6.62            | 57.40       | 4,874.70              | 1,038.58     | 1,623.88     | 1,746,555.69        | 2,162,097.81       | 39.84532 | -108.48452 |
| 5,400.00              | 5.12            | 57.40       | 4,974.17              | 1,044.09     | 1,632.49     | 1,746,560.92        | 2,162,106.60       | 39.84534 | -108.48449 |
| 5,500.00              | 3.62            | 57.40       | 5,073.87              | 1,048.19     | 1,638.91     | 1,746,564.81        | 2,162,113.15       | 39.84535 | -108.48447 |
| 5,526.17              | 3.23            | 57.40       | 5,100.00              | 1,049.04     | 1,640.23     | 1,746,565.61        | 2,162,114.49       | 39.84535 | -108.48447 |
| Ohio Creek            |                 |             |                       |              |              |                     |                    |          |            |
| 5,600.00              | 2.12            | 57.40       | 5,173.75              | 1,050.89     | 1,643.13     | 1,746,567.36        | 2,162,117.45       | 39.84536 | -108.48446 |
| 5,700.00              | 0.62            | 57.40       | 5,273.72              | 1,052.18     | 1,645.14     | 1,746,568.59        | 2,162,119.51       | 39.84536 | -108.48445 |
| 5,741.29              | 0.00            | 0.00        | 5,315.00              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| Mesaverde - Mesaverde |                 |             |                       |              |              |                     |                    |          |            |
| 5,800.00              | 0.00            | 0.00        | 5,373.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 5,900.00              | 0.00            | 0.00        | 5,473.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,000.00              | 0.00            | 0.00        | 5,573.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,100.00              | 0.00            | 0.00        | 5,673.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,200.00              | 0.00            | 0.00        | 5,773.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,300.00              | 0.00            | 0.00        | 5,873.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,400.00              | 0.00            | 0.00        | 5,973.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,500.00              | 0.00            | 0.00        | 6,073.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,600.00              | 0.00            | 0.00        | 6,173.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,700.00              | 0.00            | 0.00        | 6,273.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,800.00              | 0.00            | 0.00        | 6,373.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,900.00              | 0.00            | 0.00        | 6,473.71              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| 6,994.29              | 0.00            | 0.00        | 6,568.00              | 1,052.30     | 1,645.33     | 1,746,568.70        | 2,162,119.70       | 39.84536 | -108.48445 |
| TD at 6994.29 - TD    |                 |             |                       |              |              |                     |                    |          |            |



**WPX**  
Planning Report - Geographic

|                  |                       |                                     |  |
|------------------|-----------------------|-------------------------------------|--|
| <b>Database:</b> | COMPASS-PICEANCE      | <b>Local Co-ordinate Reference:</b> | Well RG 943-27-299D - Slot A03                         |
| <b>Company:</b>  | PICEANCE HL NAD 83    | <b>TVD Reference:</b>               | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| <b>Project:</b>  | RG 02-02S-098W        | <b>MD Reference:</b>                | KELLY BUSHING @ 7231.00usft (Cyclone 29 (21' RKB) kjs) |
| <b>Site:</b>     | RG 34-27-299 Pad      | <b>North Reference:</b>             | True   |
| <b>Well:</b>     | RG 943-27-299D        | <b>Survey Calculation Method:</b>   | Minimum Curvature                                      |
| <b>Wellbore:</b> | Wellbore #1           |                                     |  |
| <b>Design:</b>   | Design #1 14Nov13 kjs |                                     |  |

| Design Targets            |           |          |          |          |          |              |              |          |            |
|---------------------------|-----------|----------|----------|----------|----------|--------------|--------------|----------|------------|
| Target Name               | Dip Angle | Dip Dir. | TVD      | +N/-S    | +E/-W    | Northing     | Easting      | Latitude | Longitude  |
| - hit/miss target         | (°)       | (°)      | (usft)   | (usft)   | (usft)   | (usft)       | (usft)       |          |            |
| - Shape                   |           |          |          |          |          |              |              |          |            |
| Mesaverde (50' Radius)    | 0.00      | 0.00     | 5,315.00 | 1,052.30 | 1,645.33 | 1,746,568.70 | 2,162,119.70 | 39.84536 | -108.48445 |
| - plan hits target center |           |          |          |          |          |              |              |          |            |
| - Circle (radius 50.00)   |           |          |          |          |          |              |              |          |            |

| Casing Points  |                |        |                 |               |
|----------------|----------------|--------|-----------------|---------------|
| Measured Depth | Vertical Depth | Name   | Casing Diameter | Hole Diameter |
| (usft)         | (usft)         |        | (in)            | (in)          |
| 3,266.60       | 2,985.00       | 9 5/8" | 9.625           | 12.250        |

| Formations     |                |                     |           |     |               |  |
|----------------|----------------|---------------------|-----------|-----|---------------|--|
| Measured Depth | Vertical Depth | Name                | Lithology | Dip | Dip Direction |  |
| (usft)         | (usft)         |                     |           | (°) | (°)           |  |
| 873.50         | 860.00         | Green River FM      |           |     |               |  |
| 990.80         | 970.00         | A Groove            |           |     |               |  |
| 1,149.25       | 1,115.00       | B Groove            |           |     |               |  |
| 1,748.67       | 1,645.00       | Dissolution Surface |           |     |               |  |
| 2,020.54       | 1,885.00       | Garden Gulch        |           |     |               |  |
| 2,388.70       | 2,210.00       | Orange Marker       |           |     |               |  |
| 2,700.21       | 2,485.00       | Wasatch             |           |     |               |  |
| 4,172.56       | 3,790.00       | Top of G Sand       |           |     |               |  |
| 4,356.13       | 3,960.00       | Fort Union          |           |     |               |  |
| 5,526.17       | 5,100.00       | Ohio Creek          |           |     |               |  |
| 5,741.29       | 5,315.00       | Mesaverde           |           |     |               |  |
| 6,994.29       | 6,568.00       | TD                  |           |     |               |  |

| Plan Annotations |                |                   |              |                        |
|------------------|----------------|-------------------|--------------|------------------------|
| Measured Depth   | Vertical Depth | Local Coordinates |              | Comment                |
| (usft)           | (usft)         | +N/-S (usft)      | +E/-W (usft) |                        |
| 120.00           | 120.00         | 0.00              | 0.00         | Start Build 2.50       |
| 1,240.80         | 1,196.65       | 144.74            | 226.31       | Hold 28.02 Inclination |
| 3,873.29         | 3,520.58       | 811.06            | 1,268.14     | Start Drop -1.50       |
| 5,741.29         | 5,315.00       | 1,052.30          | 1,645.33     | Mesaverde              |
| 6,994.29         | 6,568.00       | 1,052.30          | 1,645.33     | TD at 6994.29          |

# **WPX Energy**

(WPX Energy Rocky Mountain, LLC)  
(WPX Energy Ryan Gulch, LLC)



## **MASTER APD Standard Operating Practices**

**Including:  
10 Point Drilling Plan**

**For**

**Wells located within the townships of:**

|                    |                                      |
|--------------------|--------------------------------------|
| Ryan Gulch and     | 1 South – 98 West, 2 South – 97 West |
| Barcus Creek Areas | 3 South – 98 West, 2 South – 98 West |
|                    | 3 South – 97 West, 2 South – 99 West |
|                    | 1 North – 99 West, 1 North – 98 West |

**In**

**Rio Blanco County, Colorado**

**Mineral Ownership: UNITED STATES GOVERNMENT**



*approved 4/10/2013*

# 10 Point Drilling Plan

WPX Energy  
Garfield County, Colorado

|                           |
|---------------------------|
| <b>DRILLING PROGNOSIS</b> |
|---------------------------|

## 1 & 2 Estimated Tops of Geological Markers and Formations Expected to Contain Water, Oil and Gas and Other Minerals

Formation depths will be submitted with the well-specific *Drilling Prognosis* (See attachment A for example *drilling prognosis*). Wells in the Ryan Gulch Area will be listed within a formation top table included with the following tops listed

### ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

| <i>Formation</i>               | <i>Depth (MD)</i> | <i>Depth (TVD)</i> |
|--------------------------------|-------------------|--------------------|
| Uinta                          | Surface           | Surface            |
| Green River                    |                   |                    |
| A Groove                       |                   |                    |
| B Groove                       |                   |                    |
| Dissolution Surface            |                   |                    |
| Garden Gulch                   |                   |                    |
| Orange Marker                  |                   |                    |
| Wasatch                        |                   |                    |
| G Sand                         |                   |                    |
| Ft. Union                      |                   |                    |
| Mesaverde                      |                   |                    |
| *Approximate Top of Gas (MVRD) |                   |                    |
| *Cameo Coals                   |                   |                    |
| *Rollins SS                    |                   |                    |
| *Cozzette                      |                   |                    |
| *Upper Sego                    |                   |                    |
| *Lower Sego                    |                   |                    |
| <i>Total Depth</i>             |                   |                    |

\* Targeted Completion Intervals

### ESTIMATED DEPTH OF ANTICIPATED WATER, OIL, GAS OR MINERAL FORMATIONS (TVD)

| <i>Formation</i> | <i>Depth (TVD)</i> | <i>Substance</i>          |
|------------------|--------------------|---------------------------|
| Uinta            | Surface            | water possible above 300' |
| Green River      |                    | water, oil and gas        |
| Wasatch          |                    | water, oil and gas        |
| Ft. Union        |                    | water, oil and gas        |
| Mesaverde        |                    | water, oil and gas        |
| Cameo Coals      |                    | water, oil and gas        |
| Rollins SS       |                    | water, oil and gas        |
| Cozzette         |                    | water, oil and gas        |
| Upper Sego       |                    | water, oil and gas        |
| Lower Sego       |                    | water, oil and gas        |

Any sources water and prospectively valuable minerals encountered during drilling will be recorded by depth and adequately protected. A sample will be taken of any water flow and furnished to the White River Field Office for analysis, if requested.

### 3. PRESSURE CONTROL EQUIPMENT – Schematic Attached

#### BOP and Pressure Containment Data

After setting surface casing to the specified depth (section 5), 5,000-psi equipment will be used. Equipment will be installed per **Attachments C & D**. Test pressures will be as follows:

|  |           |
|--|-----------|
| 11" minimum – 5,000-psi ram type BOP's | 5,000 psi |
| 11" minimum – 5,000-psi annular BOP's  | 2,500 psi |
| Ancillary equipment and choke manifold | 5,000 psi |
| Surface casing                         | 1,500 psi |

+BOP and choke manifold equipment and installation will be consistent with 43 CFR Part 3160 and onshore order 2 Well Control Requirements as it pertains to 5,000-psi systems.

**A. Type:** Eleven (11) Inch Double Gate Hydraulic BOP with Eleven (11) Inch Annular Preventer. The Blow-Out Preventer will be equipped as follows:

1. One (1) blind ram (above)
2. One (1) pipe ram (below)
3. Drilling spool with two (2) side outlets (choke side 3-inch minimum, kill side 2-inch minimum)
4. 3-inch diameter choke line
5. Two (2) choke line valves (3-inch minimum)
6. Kill line (2-inch minimum)
7. Two (2) adjustable chokes with one (1) remotely controlled from rig floor
8. Two (2) kill line valves and a check valve
9. Upper and lower kelly cock valves with handles available
10. Safety valve(s) & subs to fit all drill string connections in use
11. Inside BOP or float sub available
12. Pressure gauge on choke manifold
13. Fill-up line above the uppermost preventer

**B. Pressure Rating: 5,000 psi (Although in some area's a 3000 psi BOP could be used, WPX Energy chooses to standardize around a 5000 psi BOP system)**

*Note: A 5000# BOP system or better will be used. Schematics for a 5000# system are attached. All associated equipment will be installed in accordance with Oil and Gas Operating Order No. 2 for that pressure rating.*

**C. Testing Procedure:**

Annular Preventer

At a minimum, the Annular Preventer will be pressure tested to 50% of the 5000# BOP working pressure for a period of ten (10) minutes or until provisions of the test are met, whichever is longer.

At a minimum, the above pressure test will be performed:

1. *When the annular preventer is initially installed;*
2. *Whenever any seal subject to test pressure is broken;*
3. *Following related repairs; and*
4. *At thirty (30) day intervals.*

In addition, the annular preventer will be functionally operated at least weekly.

#### Blow-Out Preventer

At a minimum, the BOP, choke manifold, and related equipment will be pressure tested to 500 psi greater than the MASP (if isolated from the surface casing by a test plug), or to 70% of the internal yield strength of the surface casing (if the BOP is not isolated from the casing by a test plug). Pressure will be maintained for a period of at least ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the above pressure test will be performed:

1. *When the BOP is initially installed;*
2. *Whenever any seal subject to test pressure is broken;*
3. *Following related repairs; and*
4. *At thirty (30) day intervals.*

In addition, the pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills and tests will be recorded in the IADC driller's log.

#### **D. Choke Manifold Equipment:**

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration.

#### **E. Accumulator:**

The accumulator will have sufficient capacity to open the hydraulically-controlled choke line valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psi above precharge on the closing manifold without the use of the closing unit pumps. The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity and the fluid level of the reservoir will be maintained at the manufacturer's recommendations.

The BOP system will have two (2) independent power sources to close the preventers. Nitrogen bottles (3 minimum) will be one (1) of these independent power sources and will maintain a charge equal to the manufacturer's specifications.

The accumulator precharge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six (6) months thereafter. The accumulator pressure will be corrected if the measured precharge pressure is found to be above or below the maximum or minimum limits specified in *Onshore Oil & Gas Order Number 2*.

A manual locking device (i.e., hand wheels) or automatic locking device will be installed on all systems of 2M or greater. A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator system is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls for all 3M or greater systems will be capable of closing all preventers. Remote controls for 5M or greater systems will be capable of both opening and closing all preventers. Master controls will be at the accumulator



and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

**F. Miscellaneous Information:**

The Blow-Out Preventer and related pressure control equipment will be installed, tested and maintained in compliance with the specifications in and requirements of *Onshore Oil & Gas Order Number 2*. The choke manifold and BOP extensions rods with hand wheels will be located outside the rig sub-structure. The hydraulic BOP closing unit will be located at least twenty-five (25) feet from the well head but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole.

A flare system will be in place during production hole drilling operations. The flare system will be agreed upon with the local BLM inspector in the field. The flare system shall be anchored and require a flare pit. Depending on the surface location, the normal length of the flare line will be 100' from well center. It will have straight lines unless turns are targeted with running tees. Noncombustible gas is not likely or expected.

**4. Auxiliary equipment**

- a) Manually operated kelly cocks.
- b) Full opening floor valves capable of fitting all drill-string connections will be kept on the floor in the open position.

**5. CASING PROGRAM**

**Casing Program:** All New **Casing Program** – proposed casing depths will be submitted on *the drilling prognosis* and the Casing and Cementing Plan (see attachment A and D for examples) attached to the BLM Application for Permit to Drill.

These are minimum weights and grades of casing that will be run. Operator may, at its discretion, run casing that is of superior weight and/or grade than listed. However, if substitution is made, verbal notification to the BLM will be made prior to running casing.

| <i>Hole Size</i> | <i>Casing Size</i> | <i>Wt./Ft.</i> | <i>Grade</i> | <i>Joint</i> | <i>Depth Set</i>                                 |
|------------------|--------------------|----------------|--------------|--------------|--|
| 26"              | 18"                | 1/4" wall      | Line Pipe    | Welded       | 0 – 80' MD<br>Into Hard Rock                     |
| 14.75" – 13.5"   | 9.625"             | 36.0#          | J-55         | ST&C         | 0 – 3800' MD<br>500' to 750'<br>Into Wasatch     |
| 8.75" – 7.875"   | 4.500"             | 11.6#          | P-110        | LT&C         | 0 – 13000' MD<br>250' below top<br>of Lower Sego |

Surface Casing:

Surface casing will be set 500' to 750' into the Wasatch, depending on problems encountered and depth of Wasatch across the field. The deeper the Wasatch the more stable the top of the Wasatch is.



A float collar and float shoe will be used. The float collar will be located one joint up from the float shoe.

The surface casing will have one centralizer per joint on the bottom three joints; one above and one below the stage tool. In addition, one centralizer will be placed every third joint from the stage tool to above the "A" groove for a total of approximately 11 centralizers.

To aid in surface string cementation, a two stage cement program with stage tool set at approximately **150'** above the dissolution zone will be utilized. Three cement baskets, one located 150' above the cement stage tool and two located 150' and 300' below the stage tool, will be used.

Casing string(s) will be pressure tested to 0.22 psi/foot of casing string length or 1500 psi, whichever is greater (not to exceed 70% of the internal yield strength of the casing), after cementing and prior to drilling out from under the casing shoe.

The hole will be tapered from 14.75" to 13.5" at approximately 1000' to 50' above the dissolution surface zone. The 14.75" is to aid in remedial cementation if required. Utilization of a trimming line on remedial cementation.

#### Production Casing:

A float collar and float shoe will be used. The float collar will be located one joint up from the casing shoe.

The production casing will have approximately 25 centralizers; one on each of the bottom two joints, and one every third joint from the bottom of casing through 200' above top of gas.

The production hole will be a combination of 8 3/4" and 7 7/8". Minimum 8 3/4" hole through the Fort Union formation at approximately 7500'.

#### Casing Strengths

|        |       |       |      | COLLAPSE | BURST<br>(minimum) | TENSILE    |
|--------|-------|-------|------|----------|--------------------|------------|
| 9-5/8" | 36.0# | J-55  | ST&C | 2020 psi | 3520 psi           | 394,000 lb |
| 4-1/2" | 11.6# | P-110 | LT&C | 7580 psi | 10690 psi          | 279,000 lb |

#### MINIMUM DESIGN FACTORS:

|          |     |
|----------|-----|
| COLLAPSE | 1.1 |
| BURST    | 1.0 |
| TENSION  | 1.5 |

Area Fracture Gradient: 0.65 psi per foot

## 6. CEMENTING PROGRAM

**Cementing Program:** Proposed cementing volumes will be submitted on *the drilling prognosis* and the Casing and Cementing Plan (see attachment A and D for examples) attached to the BLM Application for Permit to Drill. Presently WPX Energy uses Halliburton Cementing for the covered areas. Halliburton has a developed slurries that meet BLM 43CFR3160 Onshore oil and gas order No. 2 requirement. See "attachment E". In the event that WPX Energy chooses to change cementing contractors, similar slurries will be formulated.

### Conductor Casing

18" Conductor                      cemented to surface with construction cement

### **Surface Cementing General Procedure**

#### Surface Casing

9-5/8" Surface Casing    Full cement returns back to surface will be attempted.  
1 Stage Cement – 50/50 Pos/A cement or equiv, plus additives mixed at 12.8#/gal, 1.7 ft<sup>3</sup>/sk, 8.93 gal/sk  
2 Stage Cement – 50/50 Pos/A cement or equiv, plus additives mixed at 12.8#/gal, 1.7 ft<sup>3</sup>/sk, 8.93 gal/sk

*If full returns are not seen or fallback occurs, remedial cement will be performed after consultation with the BLM inspector. All cement slurries will be designed to BLM 43CFR3160 Onshore oil and gas order No. 2 requirement (500 psi compressive strength at the shoe prior to drilling out.)*

#### **Primary Cementation:**

##### 1<sup>st</sup> Stage:

1. Confirm cementing volumes.
2. RU cementing equipment. Be rigged up to displace with either cementing unit or rig pumps. **Cementing unit considered primary, rig pumps secondary backup.**
3. Make up 9-5/8" cement head. Pressure test lines to 3000 psi.
4. Pump 20 bbls Fresh Water spacer.
5. Mix and pump Lead slurries as specified in cementing program.
6. Load top wiper plug. Drop top plug and displace with freshwater or freshwater mud as per cementing program. Do not over displace by more than ½ the shoe track volume (1.5 bbls).
7. Release pressure rapidly to seat floats.
8. Drop stage tool opening plug (bomb) and displace to stage tool. Shift stage tool open.
9. Circulate at a low pump rate for a minimum of 4 hours. Check cement samples from 1<sup>st</sup> stage job.

##### 2<sup>nd</sup> Stage:

1. Pump 20 bbls Fresh Water spacer.
2. Mix and pump Tail slurry as specified in cementing program.
3. Drop closing plug and displace to stage tool. Shift stage tool closed.
4. Perform Top Out job as required to bring cement to surface. Run 1.9" tubing as deep as possible. Estimate volumes based on lift pressure. Notify BLM and COGCC of lift pressure, estimated cement top and volumes used on remedial work.

Note: If cement is not indicated at surface, prepare to run a CBL log to determine top of cement. Do not run CBL log until cement has set at least 12 hours or as indicated by surface cement samples.

All waiting on cement (WOC) times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out. The BOP will not be nipped up until the lead or remedial cement reaches a minimum compressive strength of 100 psi. See attached Cement Test/Additive report.

#### Production Casing

4-1/2" Production      *Lead 1 cement* - To cover to 200' into the surface casing. Type TXI Lightweight or equiv, plus additives. 11.0#/gal, 2.95 ft<sup>3</sup>/sk, 16.59 gal/sk  
*Lead 2 cement* - To cover to 200' over Mesaverde top (volume to be calculated from caliper log if obtained). Type G or equiv, plus additives. 12.7#/gal, 1.86 ft<sup>3</sup>/sk, 10.1 gal/sk  
*Tail Cement* - To cover 200' above top of gas. Type A or equiv, plus additives. 13.5#/gal, 2.15 ft<sup>3</sup>/sk, 10.8 gal/sk

#### **Production Cementing General Procedure**

##### **Primary Cementation:**

1. Confirm cementing volumes. Ensure adequate cement volume is available.
2. RU cementing equipment. Be rigged up to displace with either cementing unit or rig pumps. **Cementing unit considered primary, rig pumps secondary backup.**
3. Make up 4-1/2" cement head and load top wiper plugs (Rig Supervisor to witness). Pressure test lines to 4000 psi.
4. Pump 100 bbls Fresh Water spacer.
5. Mix and pump Lead and Tail slurries as specified in cementing program.
6. Drop top plug and displace with freshwater as per cementing program. Do not over displace by more than 3 bbls.
7. Release pressure rapidly to seat floats and determine if floats are holding. If floats do not hold, attempt to rock floats shut. If floats still do not hold, pump back all volume bled off. Hold pressure on DP for 4 hrs. while WOC then recheck floats.

The cement volumes are approximate on submitted well-specific *Drilling Prognosis* and were calculated under the assumption that a gauge hole will be achieved. Actual cement volumes will vary due to variations in the actual hole gauge and will be determined by running a caliper log or by a specific excess for the area.

7. **MUD PROGRAM** – dependent on well location. Proposed depths will be submitted on *the geological prognosis* attached to the BLM Application for Permit to Drill.

| <i>Interval</i> | <i>Mud Type</i> | <i>Weight</i> | <i>Viscosity</i> | <i>Fluid Loss</i> |
|-----------------|-----------------|---------------|------------------|-------------------|
| 0 – 3800'       | Fresh Water/Gel | Fresh Water   | 45 – 50          | No Control        |
| 3800' – 13000'  | Fresh Water/Gel | 8.0 – 9.5     | 40 – 50          | 8 – 10 ml         |

Sufficient mud material(s) to maintain mud properties, control lost circulation and maintain well control will be available at the well during drilling operations. Spud mud will be used to drill surface (gel and lime). All mud additives are biodegradable and Material Safety Data Sheets will be kept on location at all times. No chrome constituent additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

## 8. Testing, Logging and Core Programs

Cores: None

DST's: As needed; none anticipated

Sampling: None

Surveys: Run every 100' on surface hole and trips. Run no less than every 500' on prod. hole.

Mud logger: one-man or computer unit with at least total gas and drill rate from the top of the Mesaverde to TD.

Logging Program: Open-hole logs: An attempt will be made to obtain one open-hole log across the Mesaverde Formation per 40-acre tract. Logs and intervals include DIL-GR-SP from TD to surface casing.  
Cased-hole logs: All wells that are not logged open-hole will be logged with cased-hole logging tools. Logs and intervals include a cased-hole pulsed neutron log from TD to 100' above top of Mesaverde and GR from TD to surface casing.

Directional Drilling: Directional Drilling Plan will be submitted for all deviated wellbores. See well-specific *Directional Plan* for details.

## 9. Anticipated Pressures and Temperatures

0.40 to 0.46 psi/ft pore pressure grad, BHT of 250 to 280 degrees F.

Proper mud weight will be maintained to drill at a balanced or slightly over-balanced condition. Notification will be made if planned drilling practices deviate from this.

No abnormal temperatures or pressures are anticipated. No H<sub>2</sub>S has been encountered in or known to exist from previous wells drilled to similar depths in the general area.

Maximum anticipated bottom hole pressure equals bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot). Maximum surface pressure = Max BHP – (0.22 x TD).

## 10. Drilling Schedule

Anticipated starting date: See "Item 22" of *Federal Form 3160-3*  
Duration of operation: 150 days

### Notification of Operations:

White River Field Office, Bureau of Land Management  
Address 220 East Market Street, Meeker, CO 81641  
Phone (970) 878-3800

No location will be moved, no well will be plugged and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the Authorized Officer. If operations are to be suspended, prior approval of the Authorized Officer will be obtained and notification given before resumption of operations.

The spud date will be reported orally to the Authorized Officer within a minimum of twenty-four (24) hours prior to spudding. Written notification in the form of a Sundry Notice (Form 3160-5) will be submitted to the Field Office within twenty-four (24) hours after spudding. If the spudding occurs on a weekend or holiday, the written report will be submitted on the following regular workday.

Onshore Oil and Gas Order No. 1 and No. 2 will be followed.

Immediate Report: Spills, blowouts, fires, leaks, accidents or any other unusual occurrences shall be promptly reported to the Field Office in accordance with requirement of NTL-3A.

Should the well be successfully completed for production, the Authorized Officer will be notified when the well is placed in a producing status. Such notification will be made verbally followed by written communication not later than five (5) business days following the date the well is placed on production.

No well abandonment operations will be commenced without prior approval of the Authorized Officer. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the Authorized Officer. A "Subsequent Report of Abandonment" (Form 3160-5) will be filed with the Field Office within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment notice will be completed to the satisfaction of the Authorized Officer or his representative, or the appropriate surface managing agency.

Approval to vent/flare gas during initial well evaluation will be obtained from the Field Office. The preliminary approval will not exceed 30 days or 50 MMCF gas. Approval to vent/flare beyond this initial test period will require Field Office approval pursuant to guidelines in NTL-4A.

Upon completion of approved plugging, a regulation marker will be erected in accordance with 43 CFR 3162.6. The marker will be constructed after contouring. The top of the marker will be closed or capped and the following minimum information will be permanently placed on the marker with a plate, cap or beaded-on with a welding torch: "Fed" or "Ind", as applicable; "well number, location by quarter, quarter section, township and range"; and "lease number".

WPX Energy will be operating under its Nationwide Bond # K04991187.



## **Down Hole - Standard Conditions of Approval**

WPX Energy  
Rio Blanco County, Colorado

### **NOTIFICATION REQUIREMENTS**

- |                                 |   |   |
|---------------------------------|---|---|
| Location Construction           | - | at least forty-eight (48) hours prior to construction of location and access roads.   |
| Spud Notice                     | - | at least twenty-four (24) hours prior to spudding the well.   |
| Casing String and Cementing     | - | at least twenty-four (24) hours prior to running casing and cementing all casing strings.   |
| BOP and Related Equipment Tests | - | at least twenty-four (24) hours prior to initiating pressure tests.   |
| First Production-Notice         |   | within five (5) business days after new well begins, or production resumes after well has been off production for more than ninety (90) days. |
| Reclamation                     | - | At least (24) hours prior to re-shaping the well pad.   |

For more specific details on notification requirements, please check the Conditions of Approval for Notice to Drill and Surface Use Program.

**APD approval is valid for a period of two (2) years from the signature date. An extension period may be granted, if requested, prior to the expiration of the original approval period.**

Please contact the BLM office, Bud Thompson 970-878-3828 office, 970-942-7040 cell at least 24 hours prior to running the surface and production casing and conducting the BOP test.

## REGULATORY REMINDERS

Approval of this application does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease, which would entitle the applicant to conduct operations thereon.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with applicable laws, regulations (43 CFR 3100), Onshore Oil and Gas Orders, and the approved plan of operations. The operator is fully responsible for the actions of his subcontractors.

A copy of the approved application for permit to drill (APD), including the conditions of approval and accompanying surface use plan will be furnished to the field representative by the operator to insure compliance and will be available to authorized personnel at the drill site whenever active construction or drilling operations are underway.

**Be aware fire restrictions may be in effect when location is being constructed and/or when well is being drilled. Contact the appropriate Surface Management Agency for information.**

### A. DRILLING PROGRAM

All operations, unless otherwise specifically approved in the APD, must be conducted in accordance with Onshore Oil and Gas Order No. 2.

#### 1. Estimated Depth at Which Oil, Gas, Water, or Other Mineral Bearing Zones are Expected to be Encountered

Any usable water zones encountered below the surface casing shall be isolated and or protected by cementing across the zone. The minimum requirement is to cement from 50 feet above to 50 feet below each usable water zone encountered.

If gas is found to be present in the Wasatch formation, then the zone will need to be isolated either by the primary cement job or remedial cementing.

#### 2. Pressure Control Equipment

The BOP and related equipment shall meet the minimum requirements of Onshore Oil and Gas Order No. 2 for equipment and testing requirements, procedures, etc., for a 5M system and individual components shall be operable as designed. Chart recorders shall be used for all pressure tests.

#### 3. Casing Program and Auxiliary Equipment

The surface casing shall be cemented back to surface either during the primary cement job or by remedial cementing. Leak-off tests of the casing shoe will be performed and recorded for all wells.

#### 4. Mud Program and Circulating Medium

Hazardous substances specifically listed by the EPA as a hazardous waste or demonstrating a characteristic of a hazardous waste will not be used in drilling, testing, or completion operations.

No chromate additives will be used in the mud system on Federal and Indian lands without prior BLM approval to ensure adequate protection of fresh water aquifers.

5. Coring, Logging and Testing Program

Daily drilling and completion progress reports shall be submitted to this office on a weekly basis.

All Drill Stem tests (DST) shall be accomplished during daylight hours, unless specific approval to start during other hours is obtained from the AO. However, DSTs may be allowed to continue at night if the test was initiated during daylight hours and the rate of flow is stabilized and if adequate lighting is available (i.e., lighting which is adequate for visibility and vapor proof for safe operations). Packers can be released, but tripping should not begin before daylight unless prior approval is obtained from the AO.

A cement bond log (CBL) will be run from the production casing shoe to TOC and shall be utilized to determine the bond quality for the production casing.

Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (Form 3160-4) will be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3164. One copy of all logs, core descriptions, core analyses, well-test data, geologic summaries, sample description, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, will be filed with Form 3160-4. Samples (cuttings, fluids, and/or gases) will be submitted when requested by the AO.

6. Notifications of Operations

No location will be constructed or moved, no well will be plugged, and no drilling or workover equipment will be removed from a well to be placed in a suspended status without prior approval of the AO. If operations are to be suspended, prior approval of the AO will be obtained and notification given before resumption of operations.

The White River Field Office, TBD, shall be notified, during regular work hours (7:45 a.m.-4:30 p.m., Monday through Friday except holidays), at least 24 hours prior to spudding the well.

Operator shall report production data to MMS pursuant to 30 CFR 216.5 using form MMS/3160.

The date on which production is commenced or resumed will be construed for oil wells as the date on which liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which liquid hydrocarbons are first produced into a permanent storage facility, whichever first occurs; and, for gas wells as the date on which associated liquid hydrocarbons are first sold or shipped from a temporary storage facility, such as a test tank, and for which a run ticket is required to be generated or, the date on which gas is first measured through permanent metering facilities, whichever first occurs.

Should the well be successfully completed for production, the AO will be notified when the well is placed in a producing status. Such notification will be sent by telegram or other written communication, not later than five (5) days following the date on which the well is placed on production.

A schematic facilities diagram as required by 43 CFR 3162.7-5 (b.9. d.), and shall be submitted to the appropriate District Office within sixty (60) days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with 43 CFR 3162.7-5 (b. 4).

No well abandonment operations will be commenced without the prior approval of the AO. In the case of newly drilled dry holes or failures, and in emergency situations, oral approval will be obtained from the AO. A "Subsequent Report of Abandonment" Form 3160-5, will be filed with the AO within thirty (30) days following completion of the well for abandonment. This report will indicate where plugs were placed and the current status of surface restoration. Final abandonment will not be approved until the surface reclamation work required by the approved APD or approved abandonment notice has been completed to the satisfaction of the AO or his representative, or the appropriate Surface Managing Agency.

7. Other Information

All loading lines will be placed inside the berm surrounding the tank battery.

All off-lease storage, off-lease measurement, or commingling on-lease or off-lease will have prior written approval from the AO.

All open-vent exhaust stacks associated with heater-treater, separator, and dehydrator units must be constructed to prevent birds and bats from entering them and to the extent practical to discourage perching and nesting.

The oil and gas measurement facilities will be installed/situated on the lease. The oil and gas meters will be calibrated in place prior to any deliveries. Tests for meter accuracy will be conducted following initial installation and at least quarterly thereafter. The AO will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration reports will be submitted to the Grand Junction Field Office. All meter measurement facilities will conform with Onshore Oil & Gas Order No. 4 for liquid hydrocarbons and Onshore Oil & Gas Order No. 5 for natural gas measurement.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the AO. Safe drilling and operating practices must be observed. All wells, whether drilling, producing, suspended, or abandoned will be identified in accordance with 43 CFR 3162.

"Sundry Notice and Report on Wells" (Form 3160-5) will be filed for approval for all changes of plans and other operations in accordance with 43 CFR 3162.3-2.

Section 102(b)(3) of the Federal Oil and Gas Royalty Management Act of 1982, as implemented by the applicable provisions of the operating regulations at Title 43 CFR 3162.4-1(c), requires that "not later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site, or resumes production in the case of a well which has been off production for more than 90 days, the operator shall notify the authorized officer by letter or sundry notice, Form 3160-5, or orally to be followed by a letter or sundry notice, of the date on which such production has begun or resumed."

If you fail to comply with this requirement in the manner and time allowed, you shall be liable for a civil penalty of up to \$10,000 per violation for each day such violation continues, not to exceed a maximum of 20 days. See Section 109(c)(3) of the Federal Oil and Gas Royalty Management Act of 1982 and the implementing regulations at Title 43 CFR 3162.4-1(b)(5)(ii).

In the event after-hours approval or notification is necessary, please contact one of the following individuals:

**BLM White River Field Office  
220 E. Market St.  
Meeker, CO 81641  
(970)878-3800**

TBD, Petroleum Engineer  
Office TBD  
Cell TBD

Bud Thompson, PET  
Office (970)878-3828  
Cell (970)942-7040

Erika Miller, PET  
Office (970)878-3808  
Cell (970)942-8279

Steve Halcomb, PET  
Office (970)878-3869  
Cell (970)942-7484

Joe Beck, PET  
Office (970)878-3826  
Cell (970)942-7042

## **EPA'S LIST OF NONEXEMPT EXPLORATION AND PRODUCTION WASTES**

While the following wastes are nonexempt, they are not necessarily hazardous.

- Unused fracturing fluids or acids
- Gas plant cooling tower cleaning wastes
- Painting wastes
- Oil and gas service company wastes, such as empty drums, drum rinsate, vacuum truck rinsate, sandblast media, painting wastes, spent solvents, spilled chemicals, and waste acids
- Vacuum truck and drum rinsate from trucks and drums, transporting or containing nonexempt waste
- Refinery wastes
- Liquid and solid wastes generated by crude oil and tank bottom reclaimers
- Used equipment lubrication oils
- Waste compressor oil, filters, and blowdown
- Used hydraulic fluids
- Waste solvents
- Waste in transportation pipeline-related pits
- Caustic or acid cleaners
- Boiler cleaning wastes
- Boiler refractory bricks
- Incinerator ash
- Laboratory wastes
- Sanitary wastes
- Pesticide wastes
- Radioactive tracer wastes
- Drums, insulation and miscellaneous solids.

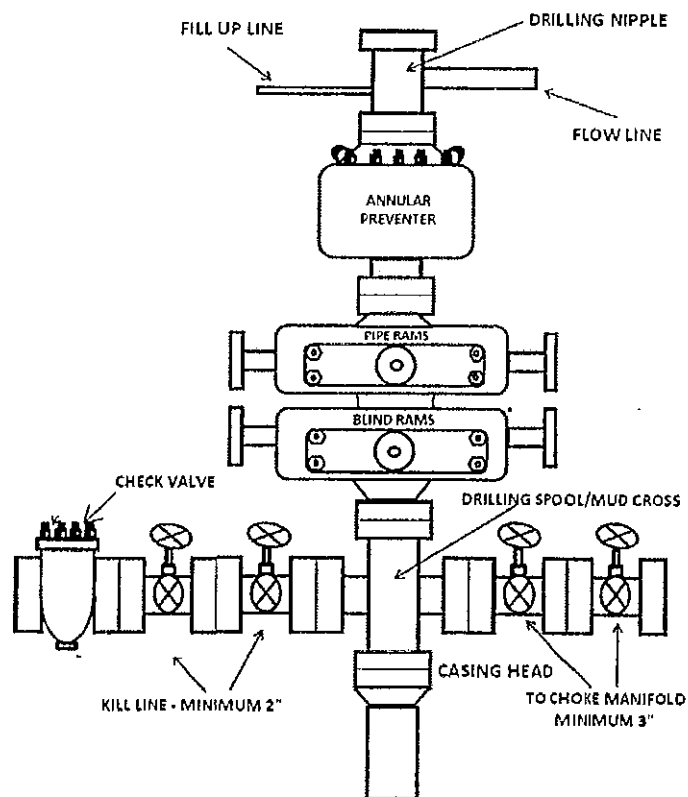


## ATTACHMENT "B"

### BOP AND PRESSURE CONTAINMENT DATA

1. BOP EQUIPMENT SHALL CONSIST OF A DOUBLE GATE, HYDRAULICALLY OPERATED ANNULAR PREVENTER WITH PIPE & BLIND RAMS OR TWO SINGLE RAM TYPE PREVENTERS, ONE EQUIPPED WITH PIPE RAMS, THE OTHER EQUIPPED WITH BLIND RAMS.
2. BOP'S ARE TO BE WELL BRACED WITH HAND CONTROLS EXTENDED CLEAR OF THE SUBSTRUCTURE.
3. ACCUMULATOR TO PROVIDE CLOSING PRESSURE IN EXCESS OF THAT REQUIRED WITH SUFFICIENT VOLUME TO OPERATE ALL COMPONENTS.
4. AUXILIARY EQUIPMENT: LOWER KELLY COCK, FULL OPENING STABBING VALVE, 2 ½" CHOKE MANIFOLD.
5. ALL BOP EQUIPMENT, AUXILIARY EQUIPMENT, STAND PIPE, VALVES, & ROTARY HOSE TO BE TESTED TO THE RATE PRESSURE OF THE BOP'S AT THE TIME OF INSTALLATION & EVERY 30 DAYS THEREAFTER. BOP'S TO BE MECHANICALLY CHECKED DAILY.
6. MODIFICATION OF HOOK-UP OR TESTING PROCEDURE MUST BE APPROVED IN WRITING ON TOUR REPORTS BY WELLSITE REPRESENTATIVE.

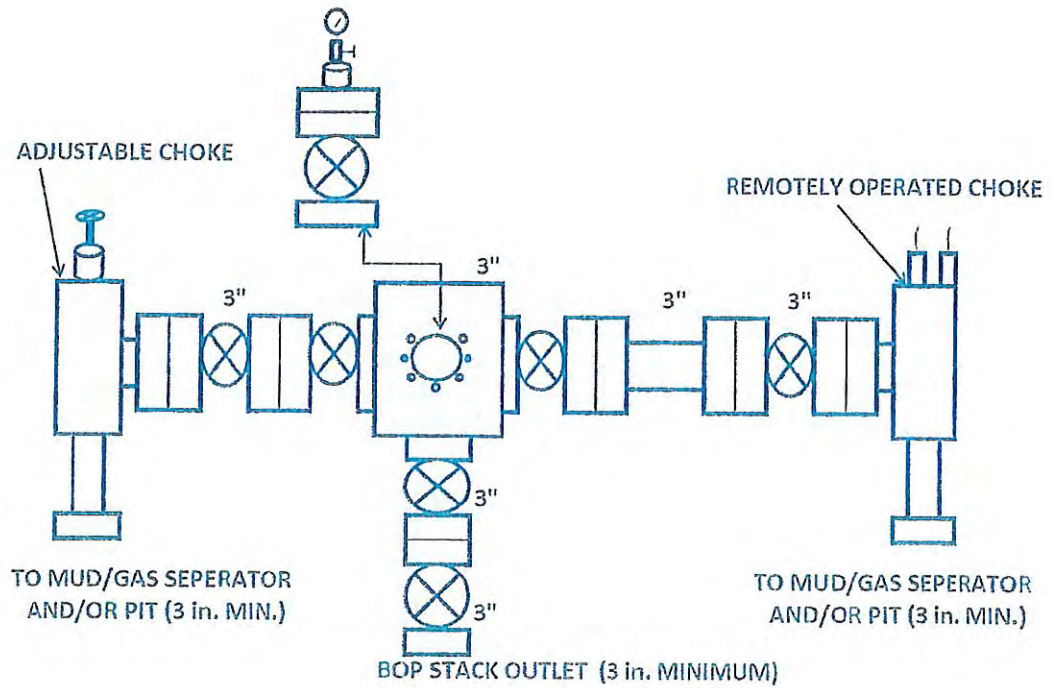
### **BLOWOUT PREVENTER (TYPICAL 5000 psi)**



Please Note: Diagram is NOT to SCALE!!!

ATTACHMENT "C"

**CHOKE MANIFOLD (TYPICAL 5000 psi)**



**Please Note: Diagram is NOT to SCALE !!!**

**Lessee's or Operator's Representative and Certification**

**A) Representative**

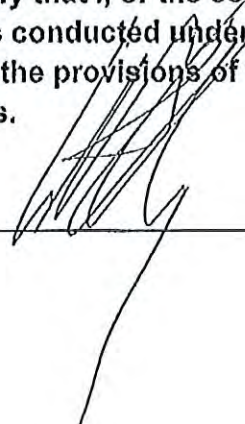
**NAME:** Scott Brady  
**ADDRESS:** WPX Energy Rocky Mountain, LLC  
1058 County Road #215  
P.O. Box 370  
Parachute, Colorado 81635  
  
**PHONE:** 970-683-2284  
**CELLULAR:** 970-270-9187

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations and Onshore Oil and Gas Orders. The Operator is fully responsible for the actions of its subcontractors. A copy of these conditions will be furnished to the field representative to ensure compliance.

**B) Representative Certification:**

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein, will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

**DATE:** \_\_\_\_\_

  
3/25/14  
Scott Brady

Drilling Superintendent

WPX Energy Rocky Mountain, LLC



**TEP Rocky Mountain LLC**  
**Surface Use Plan of Operations for**  
**Federal 299-23-3 Pad – RG 912-23-299D Injection Well**  
**July 28, 2020**

**INTRODUCTION**

TEP Rocky Mountain LLC (“TEP”) is proposing to drill, complete, and operate one (1) new federal injection well (Federal RG 912-23-299D) from the Federal 299-23-3 pad located on Federal surface. The Federal 299-23-3 pad is an existing pad located in the NW¼SW¼ of Section 23, Township 2 South, Range 99 West, 6<sup>th</sup> P.M. The Federal 299-23-3 pad has one (1) existing plugged and abandoned (PA) well (Federal 299-23-3 well), which was plugged on October 22, 2019. The proposed RG 912-23-299D well will be directionally drilled and completed into Federal pore space located in SW¼NW¼ of Section 23, Township 2 South, Range 99 West, 6<sup>th</sup> P.M.

TEP would reconstruct and expand the Federal 299-23-3 pad to accommodate development of the new RG 912-23-299D injection well. The pad would be expanded slightly around the perimeter of the existing disturbance footprint to provide the required surface area for drilling and completions operations. The new RG 912-23-299D injection wellhead would be offset approximately fifteen (15) feet south west of the abandoned well on the Federal 299-23-3 pad.

TEP would complete the new injection well on location with water provided via an existing three-inch (3”) water pipeline which ties back into TEP’s existing water management system. TEP would pump water from the Mautz Ranch Pit (Pit 22-19-298), which located on TEP’s surface in SE¼NW¼ of Section 19, Township 2 South, Range 98 West, 6<sup>th</sup> P.M, to the Federal 299-23-3 pad. Flowback equipment will be placed on location during completions operations to process any returned flowback fluids. Flowback fluids returned during flowback operations will flow through flowback separation equipment. Water will be delivered to temporary tank on location and will be pumped from the tanks through existing pipeline infrastructure to the Mautz Ranch Pit for recycle or injection. Separated frac sand will be stored and disposed of on location. See Methods for Handling Waste Disposal below for further details.

Once injection operations commence, produced water will be pumped or trucked from producing Ryan Gulch and Barcus Creek wells to the Mautz Ranch Pit. Incoming produced water will be cleaned, separated, and then pumped via existing pipelines to the new RG 912-23-299D injection well for downhole disposal. An existing electric 600 HP centrifugal pump at the Mautz Ranch Pit will be used for injection operations. Please see the attached flow diagram showing additional details on how water is offloaded and processed through equipment located at the Mautz Ranch Pit and Injection Facility.

Construction activities for the Federal 299-23-3 pad would begin in Spring 2021 and take approximately three (3) weeks to complete. Drilling and completion operations would begin March 2022 and are anticipated to take no more than two (2) months. The pad location would be reclaimed within six (6) months from completion of the proposed well, or during the next growing season if surface conditions prohibit reclamation activities. Reclamation of the Federal 299-23-3 pad is anticipated to take approximately three (3) to six (6) weeks. Development may be accelerated or delayed based on market conditions and company constraints.

**BLM Rights-of-Way (“ROW”)/Temporary Use Permit (“TUP”) Requirements:**

The following ROW/TUPs would be required for the development of the proposed Federal RG 912-23-299D injection well on the existing Federal 299-23-3 pad which is located BLM surface:

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**JUL 28 2020**  
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1. *BLM Right-of-Way Grant for Proposed Federal RG 912-23-299D Injection Well:* Grant would include reconstruction of the existing Federal 299-23-3 pad, access to the facility, drilling, completions, and injection operations for the Federal RG 912-23-299D injection well. The ROW grant (COC 76535) was initiated for the above-mentioned actions following submittal of the well name change sundry for the RG 943-27-299D submitted August 10, 2018. The existing Federal 299-23-3 pad is located within the NW¼SW¼ of Section 23, Township 2 South, Range 99 West, 6<sup>th</sup> P.M. and is accessed from Rio Blanco County Road 68. The bottom hole location for the proposed Federal RG 912-23-299D injection well would be located within SW¼NW¼ of Section 23, Township 2 South, Range 99 West, 6<sup>th</sup> P.M.

#### Private Landowner Surface Use Agreements/ROWs:

All components of the Federal RG 912-23-299D Injection well project will be located on BLM surface. No private landowner SUA's or ROW's would be required.

### **EXISTING ROADS**

Existing roads, lease roads, and public roads will be utilized during drilling, completions, and operation of the new proposed RG 912-23-299D injection well on the Federal 299-23-3 pad.

TEP will be responsible for continuous inspection and maintenance of the existing access road. TEP will conform to a schedule of preventive maintenance, which at a minimum, provides for the following corrective measures on a biannual basis. (Problem areas will be corrected as needed.)

1. Road surface grading.
2. Relief ditch, culvert cleaning and cattle guard cleaning.
3. Erosion control measures for cut and fill slopes and all other disturbed areas.
4. Road closures in periods of excessive soil moisture to prevent rutting caused by vehicular traffic.
5. Road and slope stabilization measures as required. The road shall be maintained to the standards required for the construction of the road until final abandonment and rehabilitation takes place.

During the field onsite conducted on June 26<sup>th</sup> 2018, it was determined that the existing access would require maintenance prior to drilling activities. TEP will resurface approximately 2,230 feet of the existing access road from County Road 68 to the Federal 299-23-3 pad by blading the existing road and importing gravel. The running surface of the existing road will remain as currently constructed, generally twenty feet (20') in width. All existing drainage ditches, culverts, and any other existing storm water controls along the access road will be inspected, during construction of the pad, and repaired or replaced as necessary.

### **NEW OR RECONSTRUCTED ACCESS ROADS**

No new road required.

### **LOCATION OF EXISTING WELLS**

The Existing Well Locations within One-Mile Radius (Plat 5B) plat identifies all existing wells within one mile of the pad location. See the Plat 5C for details.

Geospatial data will be electronically sent to the White River Field Office.

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## LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES

### Production Equipment

TEP will utilize the existing Mautz Ranch Pit and injection facility for injection of water into the proposed Federal RG 912-23-299D injection well. Production equipment at the Mautz Ranch Pit and Injection Facility, which will be utilized for injection operations, includes an existing tank battery for produced water and condensate storage, filter pods, and an electric centrifugal pump.

An automation system will be utilized to control, monitor, and track injection pressures and rates. The system will incorporate real time data acquisition and monitoring. To support injection operations into the Federal RG 912-23-299D well, pressure sensors and pressure control equipment will be added to the wellhead, and a winterization package will be installed to protect the wellhead.

### Pipelines

TEP operates an existing three-inch (3") FlexSteel water injection pipeline, which ties into an existing six-inch (6") FlexSteel water pipeline adjacent to County Road 68. These existing water pipelines will be used to supply water to the location for completions and injection operations.

No new pipelines would be required for development or operation of the new injection well.

### Temporary Pipelines

No temporary surface pipeline will be needed to develop the proposed injection well.

## LOCATION AND TYPES OF WATER SUPPLY

Fresh water required for drilling operations and dust control will be trucked via existing county, state, and/or lease roads from approved sources.

Completions operations will utilize recycled produced water from other producing wells and will be delivered via existing pipelines to the Federal 299-23-3 pad. Frac equipment (pump trucks/tanks) will be located on pad. See Table 1 the Water Source table below for additional details on water supply.

**Table 1. Water Source Table**

| Water Source Type         | Water Source Use   | Latitude | Longitude  | Permit Type      | Transport Method | Land Ownership | Transport Land Ownership | Volume (bbl.)/ well | Volume (ac-ft.)/ well | Volume (gal)/ well |
|---------------------------|--|----------|------------|------------------|------------------|----------------|--------------------------|---------------------|-----------------------|--------------------|
| Perennial Surface (Fresh) | Surface Casing; Intermediate/Production Casing; Dust Control | 39.8608  | -108.4345  | Private Contract | Trucking         | Private        | Private                  | 4,500.00            | 0.58                  | 189,000            |
| Recycled                  | Stimulation  | 39.8635  | -108.43669 | Private Contract | Pipeline         | Private        | Private                  | 66,000.00           | 8.51                  | 2,772,000          |

## SOURCE OF CONSTRUCTION MATERIALS

Surface and subsoil materials within the proposed construction areas will be used. Additional gravel or pit lining material (if required) will be obtained from the United White River gravel pit located in Section 36 of Township 2 North, Range 97 West, 6<sup>th</sup> P.M. Table 2 below list the construction material sources.

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**Table 2. Construction Material Source Table**

| <i>Material Type</i>     | <i>Location/Company Name</i> | <i>Street Address</i> | <i>City</i> | <i>State</i> | <i>Zip Code</i> | <i>Latitude</i> | <i>Longitude</i> | <i>Township</i> | <i>Range</i> | <i>Section</i> |
|--------------------------|------------------------------|-----------------------|-------------|--------------|-----------------|-----------------|------------------|-----------------|--------------|----------------|
| <i>Surface (Topsoil)</i> | On Site Material             | N/A                   | N/A         | N/A          | N/A             | N/A             | N/A              | N/A             | N/A          | N/A            |
| <i>Subsurface</i>        | On Site Material             | N/A                   | N/A         | N/A          | N/A             | N/A             | N/A              | N/A             | N/A          | N/A            |
| <i>Gravel</i>            | United White River           | 41253 CR 5            | Meeker      | Colorado     | 81641           | 40.091583       | 108.227879       | 2N              | 97W          | 36             |

## **METHODS FOR HANDLING WASTE DISPOSAL**

### Drill Cuttings Management

Drill cuttings will be managed on location within a bermed cuttings management area located in the north-east corner of the proposed pad. The estimated cuttings volume for the new injection well on the Federal 299-23-3 pad is 800cy. The moisture content will be kept as low as practicable to prevent accumulation of liquids. The drill cuttings will be tested to ensure they meet the applicable COGCC Table 910-1 standards. In cases where emergencies such as weather conditions, safety concerns, or operational constraints exist, cuttings may be temporarily stored on another location in accordance with COGCC waste management and CDPHE storm water regulations. See the attached construction layout(s) for further details.

### Flowback

During flowback operations returned frac sand will be managed within a forty foot (40') by forty foot (40') area with a two and one half foot (2.5') high berm surrounding the area and will be located on pad within the pad perimeter berm. Returned frac sand will be buried onsite during reclamation of the pad. Any excess frac sand not disposed of onsite will be hauled to an approved third-party disposal facility. See the Waste Handling table (Table 4) below for additional details.

### Sewage

Chemical toilets or an enclosed sewer system will be used. Contents will be hauled to and disposed of at an approved disposal facility. Disposal of sewage will occur approximately once per week. See the Waste Handling table (Table 4) below for additional details.

### Garbage

All garbage and trash will be stored in enclosed trash containers and removed and deposited in an approved permitted and controlled landfill within one (1) week following termination of drilling operations. No garbage or trash will be disposed of on location. The well site and access road will be kept free of trash and debris at all times. Disposal of garbage and trash will occur approximately once per week during drilling and completions operations. See the Waste Handling table (Table 3) below for additional details.

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**Table 3. Waste Handling**

| Waste Type     | Waste Content Description   | Amount of Waste per Well | Unit of Measure | Disposal Frequency | Containment Description                     | Disposal Type                                    | Disposal Location |
|----------------|---|--------------------------|-----------------|--------------------|---|--|-------------------|
| Drilling       | Drill Cuttings  | 800                      | Cubic Yards     | One Time Only      | Cuttings MGMT/Cuttings Trench               | Off-site Disposal                                | Private           |
| Sewage         | Sewage  | 200                      | Barrels         | Weekly             | Chemical toilets or enclosed sewer system   | Haul to Commercial Facility                      | Commercial        |
| Garbage        | Garbage/Trash   | 4000                     | Pounds          | Weekly             | Enclosed trash containers                   | Haul to Commercial Facility                      | Commercial        |
| Flowback       | Frac Sand   | 35000                    | Pounds          | One Time Only      | Earthen berm containment on pad             | Burial on Site                                   | Private           |
| Produced Water | Produced water after well is turned over to production. The volume reported is not accurate nor known at this time. | 100+                     | Barrels         | Weekly             | Water is piped into existing infrastructure | Recycled/Off-Lease Injection/Commercial Facility | Private           |

### Produced Water

The Federal RG 912-23-299D Injection Well will be utilized to provide additional injection capacity for water produced from other existing wells and future wells planned in the Ryan Gulch Development Area. Produced water (water produced after a well has been turned over to production) is disposed of through: (1) natural evaporation at the evaporation ponds, (2) delivered and injected into one of the approved UIC facilities, (3) re-used in hydraulic fracturing operations, or (4) hauled to an approved third-party disposal facility. Please refer to the TEP Rocky Mountain (Terra) active Produced Water Disposal Destinations as of October 1, 2018 document for specific details on active destinations for produced water.

TEP will submit a sundry documenting the proposed destination of waste materials once these details are known. Please see the Produced Water Disposal Destination as of October 1, 2018 document for specific details on active destinations for produced water.

### Waste Management Plan for E&P Wastes from Previous Drilling Activities

E&P wastes from previous drilling activities are known to be buried / stabilized on-site at the Federal 299-23-3 well location. Specifically drill cuttings and pit liner from past drilling activities may be encountered during upcoming construction activities at this location. TEP will attempt to avoid disturbance of the former drill cuttings disposal area, however, in the event that drill cuttings are encountered during construction activities, the cuttings will be initially screened with a Petro-Flag field test kit to ensure that Total Petroleum Hydrocarbon (TPH) levels are below the acceptable COGCC cleanup standards for TPH (500 ppm). If the drill cutting are below the TPH cleanup threshold, the cuttings may be moved, mixed with other fill materials, and re-used on-site as needed. However, if the Petro-Flag results exceed the COGCC cleanup standards for TPH, a representative soil sample from the cuttings materials will be collected and sent to an approved analytical laboratory for full COGCC 910-1 analysis. The purpose of submitting the sample to the lab is to confirm actual TPH concentrations within the soil and to determine if any of the excavated cuttings require further treatment or amendment prior to final stabilization. If the analytical results demonstrate that the cuttings in-fact exceed COGCC cleanup standards, the excavated cuttings will be mixed and blended with clean fill at a ratio of approximately 1 part cuttings to 1 part clean fill, which is an accepted practice for treating drill cuttings that may exceed COGCC cleanup standards. After the materials have been thoroughly blended, an additional sample will be collected and sent to the laboratory for confirmatory analysis. This process will be repeated until the former cuttings have been

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adequately treated to concentrations that are below the appropriate COGCC cleanup standards. Once all COGCC cleanup criteria have been attained, the blended material may be used to recontour the location after construction, or for whatever purposes as may be needed. Any remnants / scraps of old pit liner materials encountered during construction may not be left on the surface. All liner materials will be collected and discarded at a local landfill as a solid waste material. No further testing of the liner materials is required.

## **ANCILLARY FACILITIES**

TEP will utilize the Mautz Ranch Pit (Pit 22-19-298) and injection facility to store produced water and pump water to the proposed injection well. Produced water will be cleaned and separated at the Mautz Ranch Multi Well Pit and then piped to the Federal RG 912-23-299D well via existing water pipelines. Additional ancillary facilities are represented on the attached Ancillary Facilities Map.

## **WELLSITE LAYOUT**

The wellsite will be constructed per that attached construction sheets. Additional site specific details can be found on the following documents:

- Federal 299-23-3 Construction Layout (Plat 2)
- Federal 299-23-3 Construction Layout Cross Section (Plat 3)
- Federal 299-23-3 Drill Rig Layout (Plat 4)
- Federal 299-23-3 Access Road & Topo Map (Plat 5)
- Federal 299-23-3 Existing Wells Located within One- Mile Radius (Plat 5B)
- Federal 299-23-3 Hydrology Map (Plat 5C)
- Federal 299-23-3 Ancillary Facility Map (Plat 5E)
- Federal 299-23-3 Location Drawing (Plat 6)
- Federal 299-23-3 Multi-Well Plan (Plat 6A)
- Federal 299-23-3 Location Table (Plat 6B)
- Federal 299-23-3 Interim Reclamation Pad Layout (Plat 7)
- Federal 299-23-3 Construction Storm Water Control Exhibit
- Federal 299-23-3 Interim Reclaim Storm Water Control Exhibit
- Federal 299-23-3 Plan of Development Map (POD)
- Federal RG 912-23-299D Flow Diagram

## **PROJECT DISTURBANCE AND PLANS FOR SURFACE RECLAMATION**

### Surface Disturbance

The existing 0.51-acre Federal 299-23-3 pad will be reconstructed to a 3.26-acre footprint for drilling and completions operations. The existing 0.82-acre road to the Federal 299-23-3 pad would remain in place. Long-term disturbance attributed to the Federal 299-23-3 pad would be approximately 0.58-acres. Total long-term disturbance of the pad and access road would be approximately 1.40-acres.

Table 4, Proposed Disturbance for Project Components, below shows the proposed surface disturbance acreage for each component of the development plan.

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### Interim Reclamation

Immediately upon completion of drilling and well completions operations, the locations and surrounding area will be cleared of all remaining debris, materials, trash and junk not required for production. All trash removed will be hauled to the nearest approved disposal facility. Any cuttings located on pad will be sampled to ensure compliance with COGCC 900 and 1000 series rules.

A working area (production pad) must be maintained around the injection well and associated equipment as these must remain accessible.

Unless an agreement is made with the Bureau of Land Management ("BLM") to keep the road and/or pad in place, the disturbed areas surrounding the well location, including the access road will be re-contoured to blend as nearly as possible with the natural topography. Final grading of back-fill and cut slopes will be done to prevent erosion and encourage establishment of vegetation.

Existing drainages will be re-established. Prior to seeding, stockpiled topsoil (stripped surface material) will be spread to a uniform depth that will allow the establishment of desirable vegetation. Soil samples will be collected once re-contouring and topsoil redistribution has occurred. Recommendations regarding seed mix and/or amendments will be reviewed with BLM prior to application.

All compacted portions of the pad, road, and pipeline route not required for long term injection operations will be ripped to a depth of eighteen (18) inches when subsurface conditions permit. If the seed bed has begun to crust over or seal, the seed bed will be prepared by disking or some other mechanical means sufficient to allow penetration of the seed into the soil. In addition, broadcast seed should be covered by using a harrow, drag bar, or chain. Generally, slopes steeper than 2:1 will be hydroseeded and slope shallower than 2:1 will be drill seeded. Seeding will occur during the appropriate time of year. TEP will notify the Authorized Officer twenty-four (24) hours prior to seeding and shall provide evidence of certification of seed mix.

A BLM recommended interim seed mix (prior to final reclamation) will be used on all disturbed areas except within the footprint of the production pad, as shown on the interim reclamation layout (plat 7). See attached seed mix for further details.

Areas being reclaimed may be fenced to exclude livestock for the first two (2) growing seasons or until the seeded species have established. The type of fencing will be approved by the Authorized Officer.

Noxious weeds which may be introduced due to soil disturbance and reclamation will be treated by methods approved by the Authorized Officer. The Pesticide Use Permit shall be on record with the BLM for treatment of noxious weeds. Reclamation monitoring will be conducted per the 2015 Oil and Gas RMPA, Appendix 3.

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Table 4. Proposed Disturbance of Project Components

| Well Pad                         | Surface Ownership | Number or Length (feet)<br>(Federal/Private) | Existing Disturbance<br>(acres)<br>(Federal/Private) | Re-disturbance<br>(acres)<br>(Federal/Private) | New Disturbance<br>(acres)<br>(Federal/Private) | Total Short-Term Disturbance<br>(acres)<br>(Federal/Private) | Long Term Disturbance<br>(acres)<br>(Federal/Private) |
|----------------------------------|-------------------|--|--|--|---|--|---|
| Well Pad/Support Pads            |                   |  |  |  |   |  |   |
| Federal 299-23-3 Pad             | Federal           | 1/0  | 0.51/0   | 2.09/0   | 0.66/0  | 3.26/0   | 0.58/0  |
| <b>Subtotal</b>                  |                   | <b>1/0</b>                                   | <b>0.51/0</b>  | <b>2.09/0</b>                                  | <b>0.66/0</b>                                   | <b>3.26/0</b>  | <b>0.58/0</b>   |
| Access Roads                     |                   |  |  |  |   |  |   |
| Federal 299-23-3 Pad Access Road | Federal           | 2,230/0                                      | 0.82/0   | 0/0  | 0/0   | 0.82/0   | 0.82/0  |
| <b>Subtotal</b>                  |                   | <b>2,230/0</b>                               | <b>0.82/0</b>  | <b>0/0</b>                                     | <b>0/0</b>                                      | <b>0/0</b>   | <b>0/0</b>  |
| <b>Grand Total (Fed/Fee)</b>     |                   |  | <b>1.33/0</b>  | <b>2.09/0</b>                                  | <b>0.66/0</b>                                   | <b>4.08/0</b>  | <b>1.40/0</b>   |

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## Final Reclamation

Unless an agreement is made with the BLM to keep the road and/or pad in place, the disturbed areas surrounding the well location, including the access road will be re-contoured to blend as nearly possible with the natural topography. Final grading of back-filled and cut slopes will be done to prevent erosion and encourage establishment of vegetation. Existing drainages will be re-established.

The long-term objective is to establish a self-perpetuating plant community that is compatible with and capable of supporting the identified land use.

The seed mix will be certified and there will be no primary or secondary noxious weeds in the seed mixture. The operator shall notify the Authorized Officer twenty-four (24) hours prior to seeding and shall provide evidence of certification of the above seed mix to the Authorized Officer.

All compacted portions of the pad, road, and pipeline route will be ripped to a depth of eighteen (18) inches when subsurface conditions permit. Prior to seeding, stockpiled topsoil (stripped surface material) will be spread to a uniform depth that will allow the establishment of desirable vegetation. If the seed bed has begun to crust over or seal, the seed bed will be prepared by disking or some other mechanical means sufficient to allow penetration of the seed into the soil. In addition, broadcast seed should be covered by using a harrow, drag bar, or chain.

Areas being reclaimed may be fenced to exclude livestock for the first two (2) growing seasons or until the seeded species have established. The type of fencing will be approved by the Authorized Officer.

Noxious weeds which may be introduced due to soil disturbance and reclamation will be treated by methods approved by the Authorized Officer. The Pesticide Use Permit shall be on record with the BLM for treatment of noxious weeds.

Upon completion of approved plugging and abandonment of the injection well, a regulation marker will be erected in accordance with 43 CFR 3162.6. The marker will be constructed after contouring. The top of the marker will be closed or capped, and the following minimum information will be permanently placed on the marker with a plate, cap or beaded-on with a welding torch: "Fed" or "Ind", as applicable; "well number, location by quarter, quarter section, township and range"; and "lease number".

Pipelines that are associated with only the plugged wells will be decommissioned/abandoned per COGCC 1100 rule.

## **SURFACE OWNERSHIP:**

Surface owner name and contact information can be found in Table 8, Surface Ownership Information, below. Please see the Access Road & Topo Map (Plat 5), Plan of Development Map (POD), and the Location Drawing (Plat 6) for further details.

**Table 8. Surface Ownership Information**

| <b>Disturbance Type</b>      | <b>Surface Owner</b> | <b>Fee Owner Name</b> | <b>Fee Owner Address</b> | <b>Fee Owner Phone</b> |
|------------------------------|----------------------|-----------------------|--------------------------|------------------------|
| Federal 299-23-3 Pad         | Federal              | --                    | --                       | --                     |
| Federal 299-23-3 Access Road | Federal              | --                    | --                       | --                     |

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## OTHER INFORMATION

### Estimated Traffic Impact

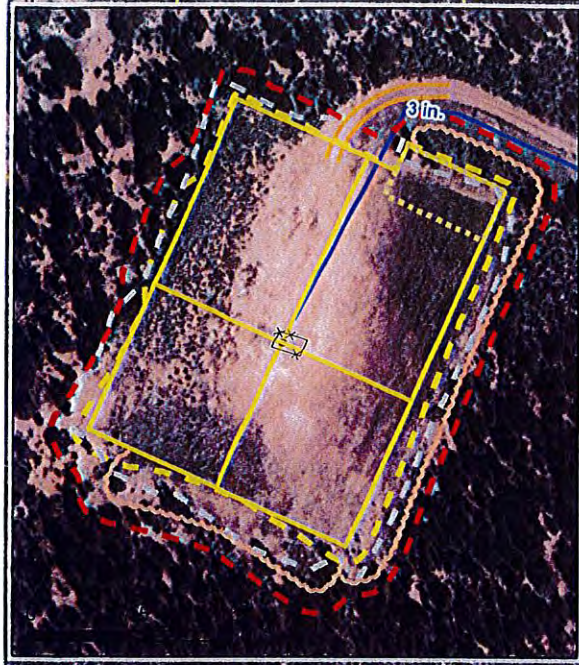
During the construction phase of development on the Federal 299-23-3 Pad, TEP estimates that there will be thirty-five (35) heavy duty truck trips and fifty (50) light duty truck trips for a total of seventy-five (75) truck trips during construction of the pad. During the drilling phase TEP estimates there will be three hundred and twenty-five (325) heavy duty truck trips and six hundred and sixteen (616) light duty truck trips, for a total of nine hundred and forty-one (941) truck trips during drilling operations. During the well completion phase of development TEP estimates there will be two hundred and twenty-two (222) heavy duty truck trips and five hundred and sixty-one (561) light duty truck trips, for a total of seven hundred and eighty-three (783) truck trips during completions operations. Once the well is turned over to operations, TEP estimates there will be seventeen (17) heavy duty and three hundred and seventy (370) light duty truck trips, for a total of three hundred and eighty-seven (387) truck trip over the remaining life of the well. The estimated total number of truck trips estimated for development of the proposed injection well is 2,186 truck trips.

### Additional Information

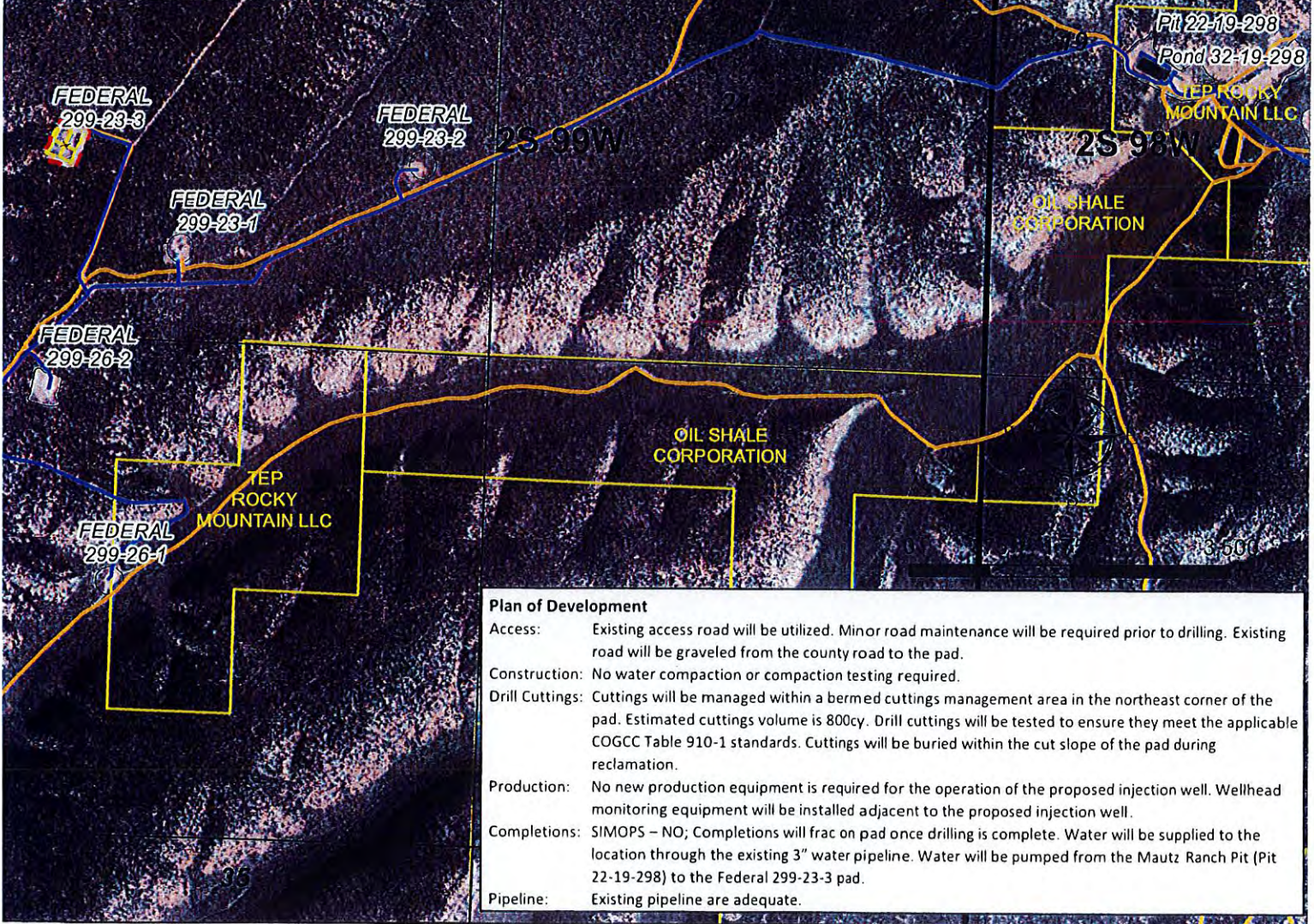
Additional information may be provided upon request by Authorized Officer.

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**General Information**  
 Location: Existing location, 1 New Injection Well, 1 Existing  
 Ownership: Fed Surface, Fed Mineral  
 SUA Status: N/A  
 Adjacent Owners: TEP, Oil Shale Corp



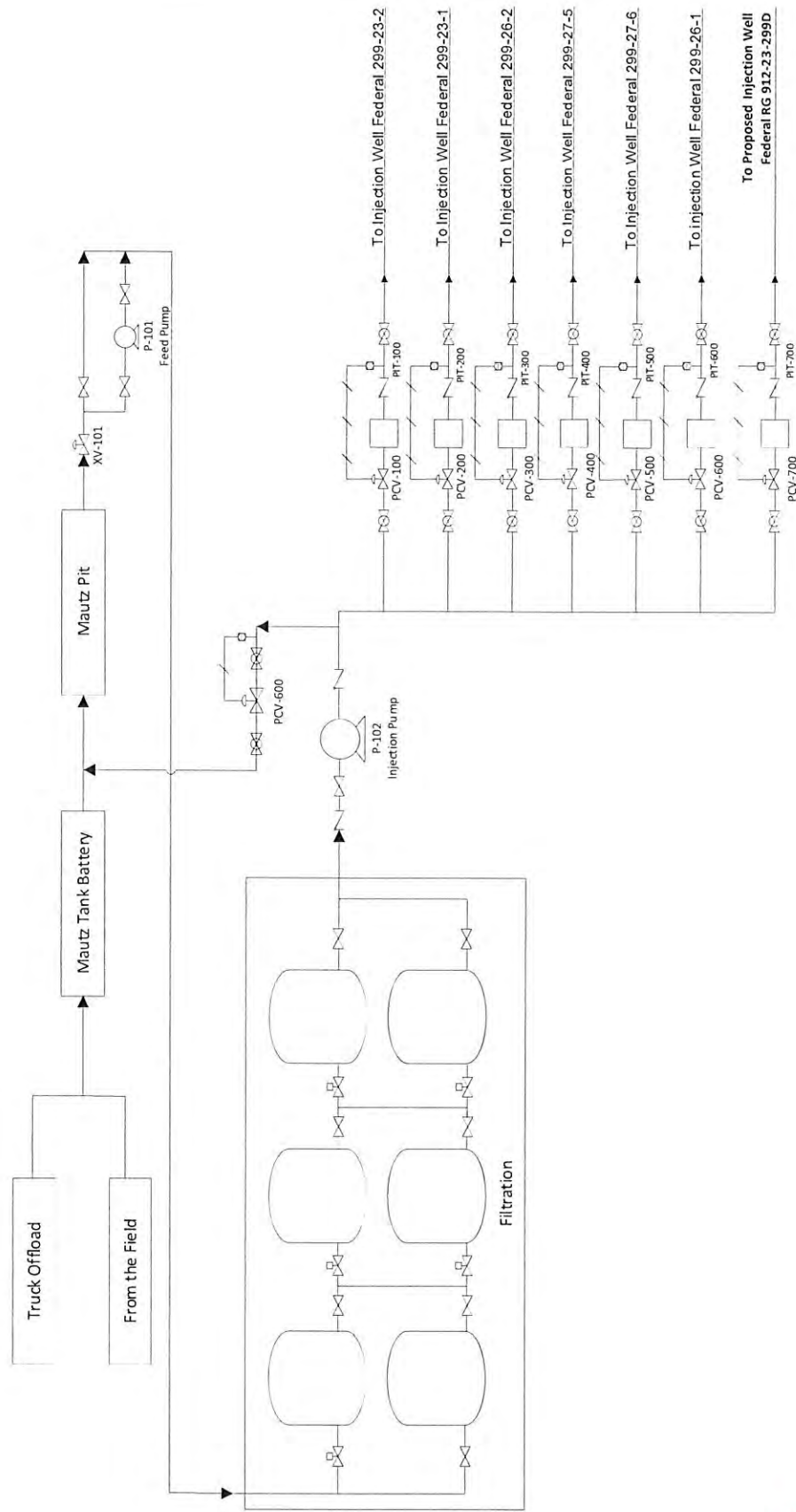
**Plan of Development**  
 Access: Existing access road will be utilized. Minor road maintenance will be required prior to drilling. Existing road will be graveled from the county road to the pad.  
 Construction: No water compaction or compaction testing required.  
 Drill Cuttings: Cuttings will be managed within a bermed cuttings management area in the northeast corner of the pad. Estimated cuttings volume is 800cy. Drill cuttings will be tested to ensure they meet the applicable COGCC Table 910-1 standards. Cuttings will be buried within the cut slope of the pad during reclamation.  
 Production: No new production equipment is required for the operation of the proposed injection well. Wellhead monitoring equipment will be installed adjacent to the proposed injection well.  
 Completions: SIMOPS – NO; Completions will frac on pad once drilling is complete. Water will be supplied to the location through the existing 3" water pipeline. Water will be pumped from the Mautz Ranch Pit (Pit 22-19-298) to the Federal 299-23-3 pad.  
 Pipeline: Existing pipeline are adequate.

- Legend**
- Existing Water Pipeline
  - Proposed Topsoil Windrow
  - Proposed Cuttings Management
  - Proposed Daylight Line
  - Proposed Pad or Pit
  - Existing Road
  - Existing Well
  - Existing Limit of Disturbance
  - Proposed Limit of Disturbance
  - ✕ Existing Fence
  - Parcel Ownership
  - Existing Pad

**TEP Rocky Mountain LLC**  
**Federal 299-23-3 Pad**  
**Plan of Development**  
**T2S R99W, Section 23**  
**August 7, 2018**

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**JUL 28 2020**





# Flow Diagram

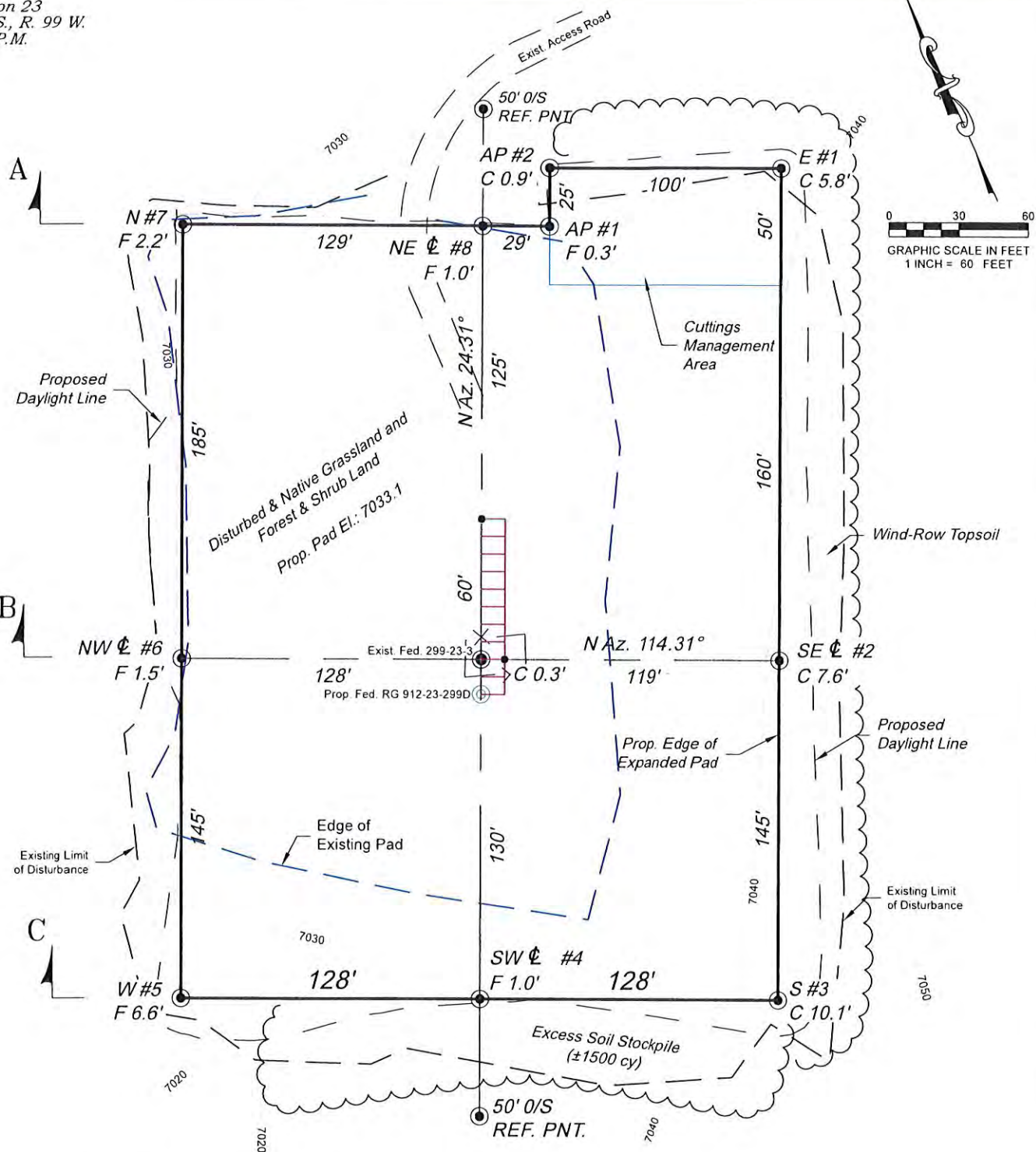
Terra Energy – Ryan Gulch  
Mautz Injection Facility

DRAWN BY: AJT

DATE: 7/12/2017

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Section 23  
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ESTIMATED EARTHWORK QUANTITIES (cy)

| ITEM   | CUT  | FILL | TOPSOIL | EXCESS |
|--------|------|------|---------|--------|
| Pad    | 5020 | 2000 | 1560    | 1460   |
| Trench | 0    |      |         | 0      |
| Totals | 5020 | 2000 | 1560    | 1460   |

\*NOTES:

- 1.) Topsoil Volume Based on 12" Soil Depth.
- 2.) 10% Swell Factor Applied to Earthwork Cut Volume.
- 3.) Total Disturbed Area = ±3.25 ac.

REVISED: 6/17/20

136 East Third Street  
Rifle, Colorado 81650  
Ph. (970) 625-2720  
Fax (970) 625-2773



**BOOKCLIFF**  
Survey Services, Inc.

SCALE: 1" = 60'  
DATE: 7/02/18  
PLAT: 2 of 7  
PROJECT: Highlands  
DFT: cs

Construction Plan Prepared for:



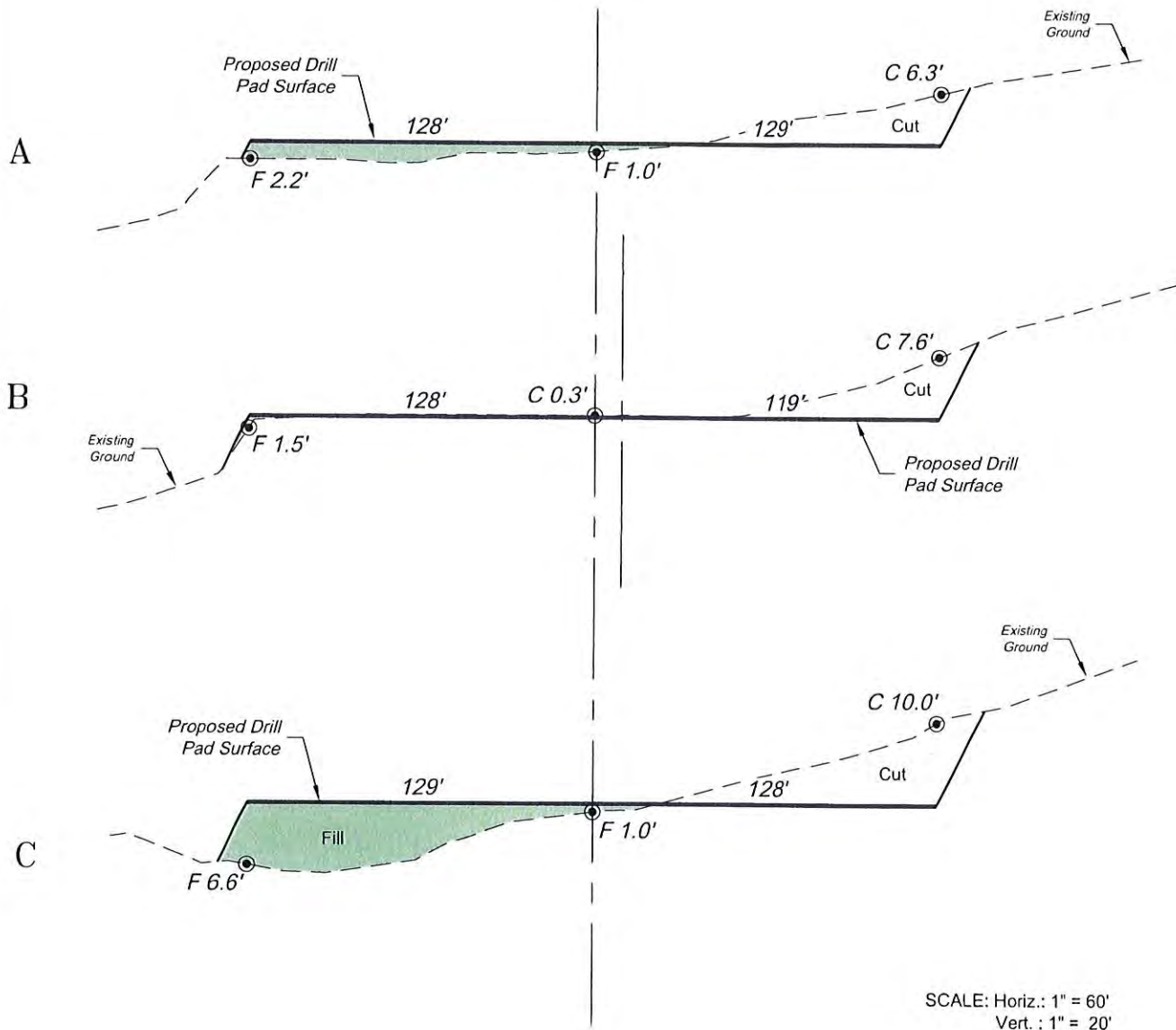
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Federal 299-23-3 Drill Pad - Plat 2  
CONSTRUCTION LAYOUT

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JUL 28 2020

Section 23  
T. 2 S., R. 99 W.  
6th. P.M.

WELLS



\*NOTE:  
CUT SLOPE: 1.5:1  
FILL SLOPE: 1.5:1,  
OTHERWISE NOTED.

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Ph. (970) 625-2720  
Fax (970) 625-2773



SCALE: As Noted  
DATE: 7/028/18  
PLAT: 3 of 7  
PROJECT: Highlands  
DFT: cs

Construction Plan Prepared for:



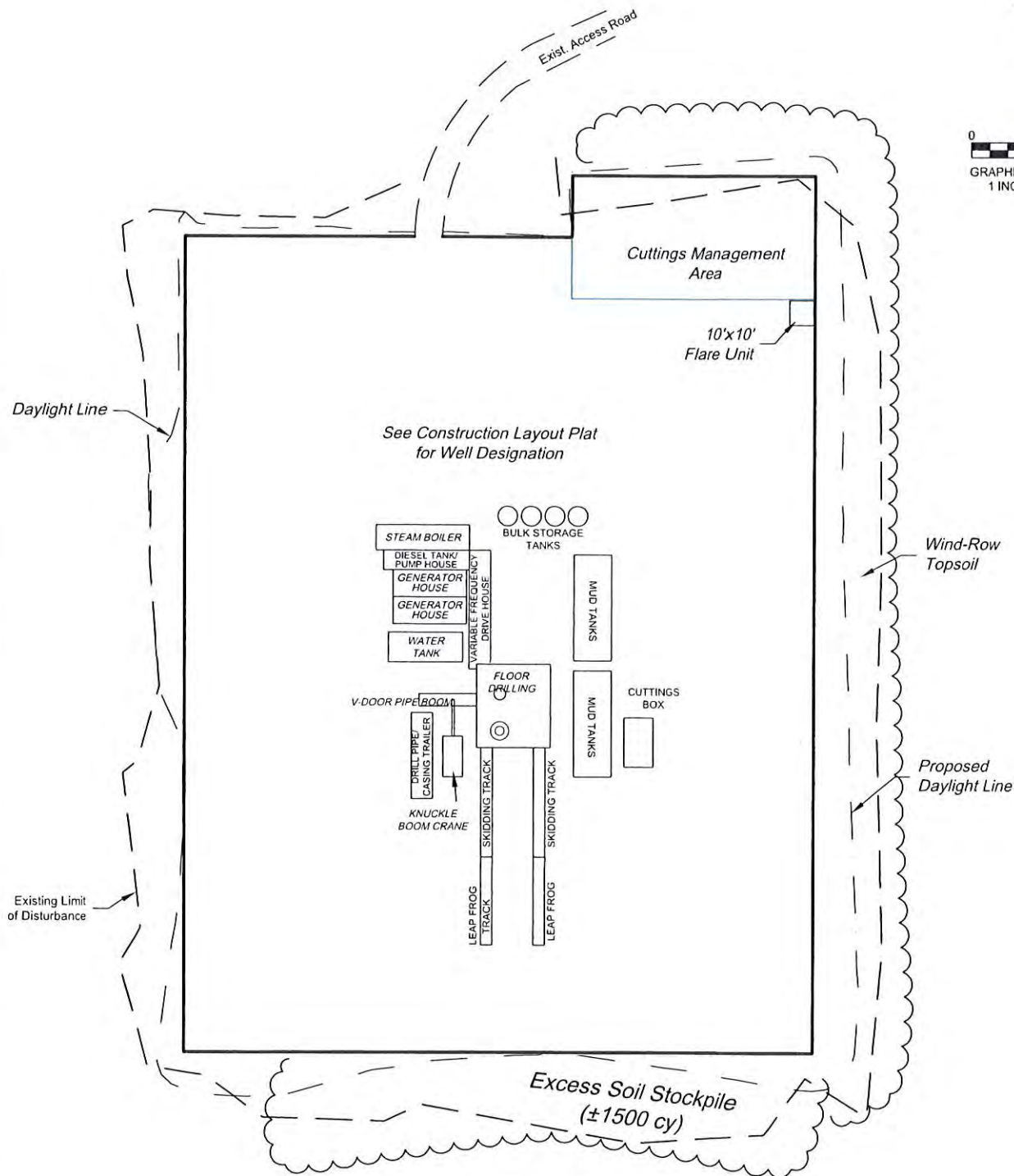
TEP Rocky Mountain LLC

Federal 299-23-3 Drill Pad - Plat 3  
CONSTRUCTION LAYOUT  
CROSS SECTIONS

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JUL 20 2020



Section 23  
T. 2 S., R. 99 W.  
6th. P.M.



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REVISED: 7/24/18

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Rifle, Colorado 81650  
Ph. (970) 625-2720  
Fax (970) 625-2773



**BOOKCLIFF**  
Survey Services, Inc.

SCALE: 1" = 60'  
DATE: 7/02/18  
PLAT: 4 of 7  
PROJECT: Highlands  
DFT: cs

Construction Plan Prepared for:



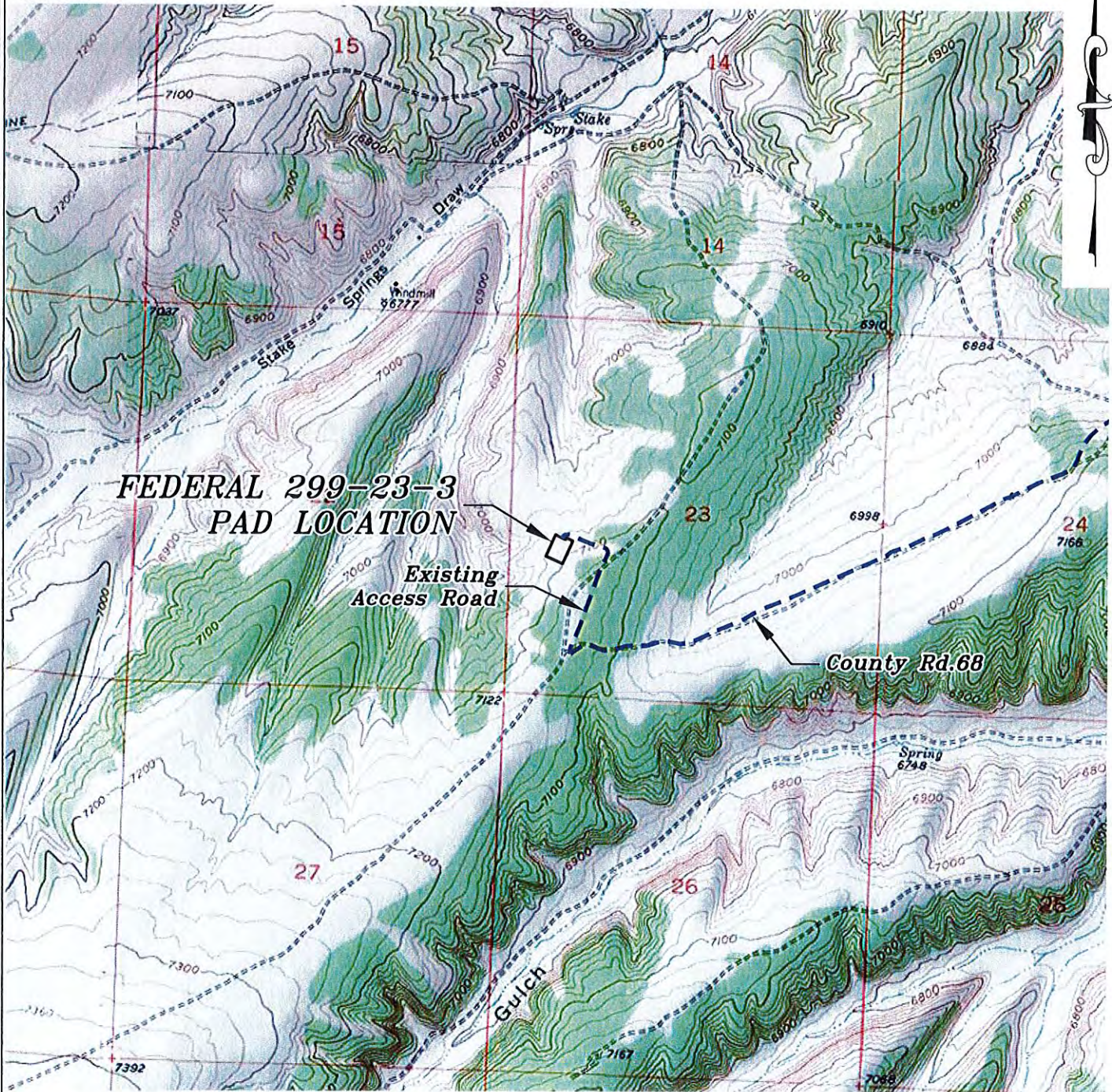
TEP Rocky Mountain LLC

Federal 299-23-3 Drill Pad - Plat 4  
DRILL RIG LAYOUT

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JUL 26 2020



Section 23  
T. 2 S., R. 99 W.  
6th. P.M.



0 1000 2000  
GRAPHIC SCALE IN FEET  
1 INCH = 2000 FEET

**ACCESS DESCRIPTION:**

FROM THE INTERSECTION OF STATE HIGHWAY 64 AND RIO BLANCO COUNTY ROAD 5 PROCEED SOUTHERLY ALONG COUNTY ROAD 5  $\pm 14.5$  MILES TO THE INTERSECTION WITH COUNTY ROAD 24 (Mile Marker 26.8), PROCEED WESTERLY ALONG COUNTY ROAD 24  $\pm 7.1$  MILES TO THE INTERSECTION WITH COUNTY ROAD 68, PROCEED LEFT IN A SOUTHWESTERLY DIRECTION  $\pm 6.1$  MILES TO AN INTERSECTION WITH A DIRT/GRAVEL ROAD, PROCEED RIGHT IN A NORTHERLY DIRECTION  $\pm 0.4$  MILES TO THE FEDERAL 299-23-3 INJECTION PAD LOCATION, AS SHOWN HEREON.

REVISED: 7/13/18

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Ph. (970) 625-2720  
Fax (970) 625-2773



**BOOKCLIFF**  
Survey Services, Inc.

SCALE: 1" = 2000'  
DATE: 6/25/18  
PLAT: 5 of 7  
PROJECT: Highlands  
DFT: cs

Construction Plan Prepared for:



TEP Rocky Mountain LLC

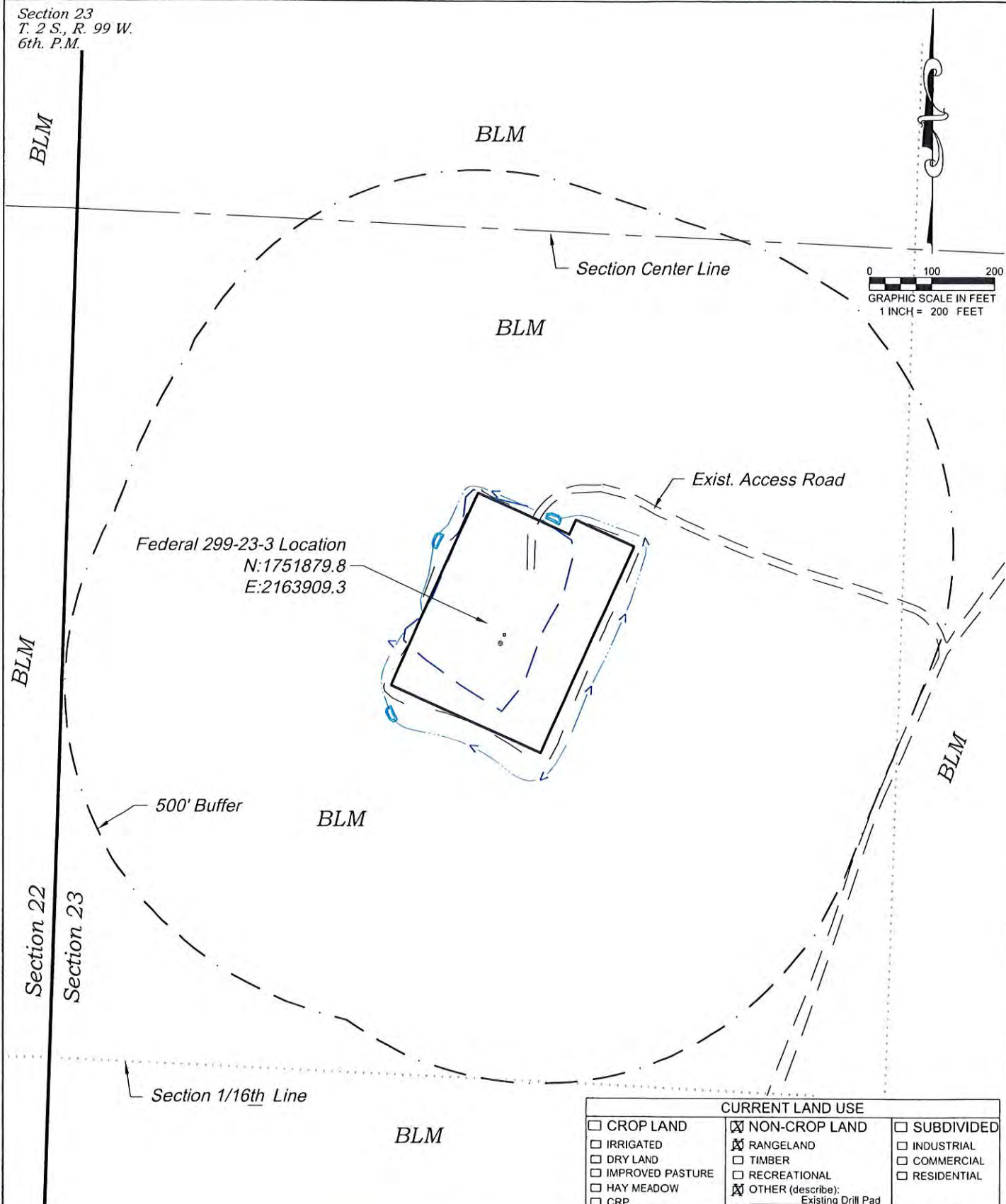
Federal 299-23-3 Drill Pad - Plat 5  
ACCESS ROAD & TOPO MAP

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JUL 28 2020



Section 23  
T. 2 S., R. 99 W.  
6th. P.M.

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| CURRENT LAND USE                          |   |                                      |
|---|---|--------------------------------------|
| <input type="checkbox"/> CROP LAND        | <input checked="" type="checkbox"/> NON-CROP LAND     | <input type="checkbox"/> SUBDIVIDED  |
| <input type="checkbox"/> IRRIGATED        | <input checked="" type="checkbox"/> RANGELAND         | <input type="checkbox"/> INDUSTRIAL  |
| <input type="checkbox"/> DRY LAND         | <input type="checkbox"/> TIMBER                       | <input type="checkbox"/> COMMERCIAL  |
| <input type="checkbox"/> IMPROVED PASTURE | <input type="checkbox"/> RECREATIONAL                 | <input type="checkbox"/> RESIDENTIAL |
| <input type="checkbox"/> HAY MEADOW       | <input checked="" type="checkbox"/> OTHER (describe): |                                      |
| <input type="checkbox"/> CRP              | Existing Drill Pad                                    |                                      |

REVISED: 7/13/18

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Ph. (970) 625-2720  
Fax (970) 625-2773



SCALE: 1" = 200'  
DATE: 6/25/18  
PLAT: 6 of 7  
PROJECT: Highlands  
DFT: CS

Construction Plan Prepared for:



TEP Rocky Mountain LLC

Federal 299-23-3 Drill Pad - Plat 6  
LOCATION MAP

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Section 23  
T. 2 S., R. 99 W.  
6th. P.M.

BLM

Federal RG 912-23-299D  
N Az. 04°38'14"  
1866 ft.

BLM

0 250 500  
GRAPHIC SCALE IN FEET  
1 INCH = 500 FEET

Section 22

Section 23

Exist. Federal 299-23-3

1509'

BLM

BLM

Exist. Access Road

BLM

BLM

BLM

Exist. County Rd. 68

Section 27

Section 26

| CURRENT LAND USE                          |   |                                      |
|---|---|--------------------------------------|
| <input type="checkbox"/> CROP LAND        | <input checked="" type="checkbox"/> NON-CROP LAND     | <input type="checkbox"/> SUBDIVIDED  |
| <input type="checkbox"/> IRRIGATED        | <input checked="" type="checkbox"/> RANGELAND         | <input type="checkbox"/> INDUSTRIAL  |
| <input type="checkbox"/> DRY LAND         | <input type="checkbox"/> TIMBER                       | <input type="checkbox"/> COMMERCIAL  |
| <input type="checkbox"/> IMPROVED PASTURE | <input type="checkbox"/> RECREATIONAL                 | <input type="checkbox"/> RESIDENTIAL |
| <input type="checkbox"/> HAY MEADOW       | <input checked="" type="checkbox"/> OTHER (describe): |                                      |
| <input type="checkbox"/> CRP              | Existing Drill Pad                                    |                                      |

REVISED: 7/13/18

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Rifle, Colorado 81650  
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Fax (970) 625-2773



**BOOKCLIFF**  
Survey Services, Inc.

SCALE: 1" = 500'  
DATE: 7/02/18  
PLAT: 6A of 7  
PROJECT: Highlands  
DFT: cs

Construction Plan Prepared for:



TEP Rocky Mountain LLC

Federal 299-23-3 Drill Pad - Plat 6A  
MULTI-WELL PLAN

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JUL 28 2018

Section 23  
T. 2 S., R. 99 W.  
6th. P.M.

*Visible Improvements to Well Head*

| <i>Description</i>  | <i>Building</i> | <i>Building Unit</i> | <i>High Occu. Building</i> | <i>DOAA</i> | <i>Public Road</i> | <i>Above Ground Utility</i> | <i>Railroad</i> | <i>Property Line</i> |
|---------------------|-----------------|----------------------|----------------------------|-------------|--------------------|-----------------------------|-----------------|----------------------|
| Fed. RG 912-23-299D | 328° 4276       | 328° 4276            | >5280                      | >5280       | 164° 1356          | 200° 3526                   | >5280           | 138° 2823            |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |
|                     |                 |                      |                            |             |                    |                             |                 |                      |

*Production Equipment*

|            |    |    |    |    |    |    |    |    |
|------------|----|----|----|----|----|----|----|----|
| Seperators | NA | NA | NA | NA | NA | NA | NA | NA |
| Tanks      | NA | NA | NA | NA | NA | NA | NA | NA |

REVISED: 6/17/20

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Fax (970) 625-2773



**BOOKCLIFF**  
Survey Services, Inc.

SCALE: NA  
DATE: 7/02/18  
PLAT: 6B of 7  
PROJECT: Highlands  
DFT: CS

Construction Plan Prepared for:



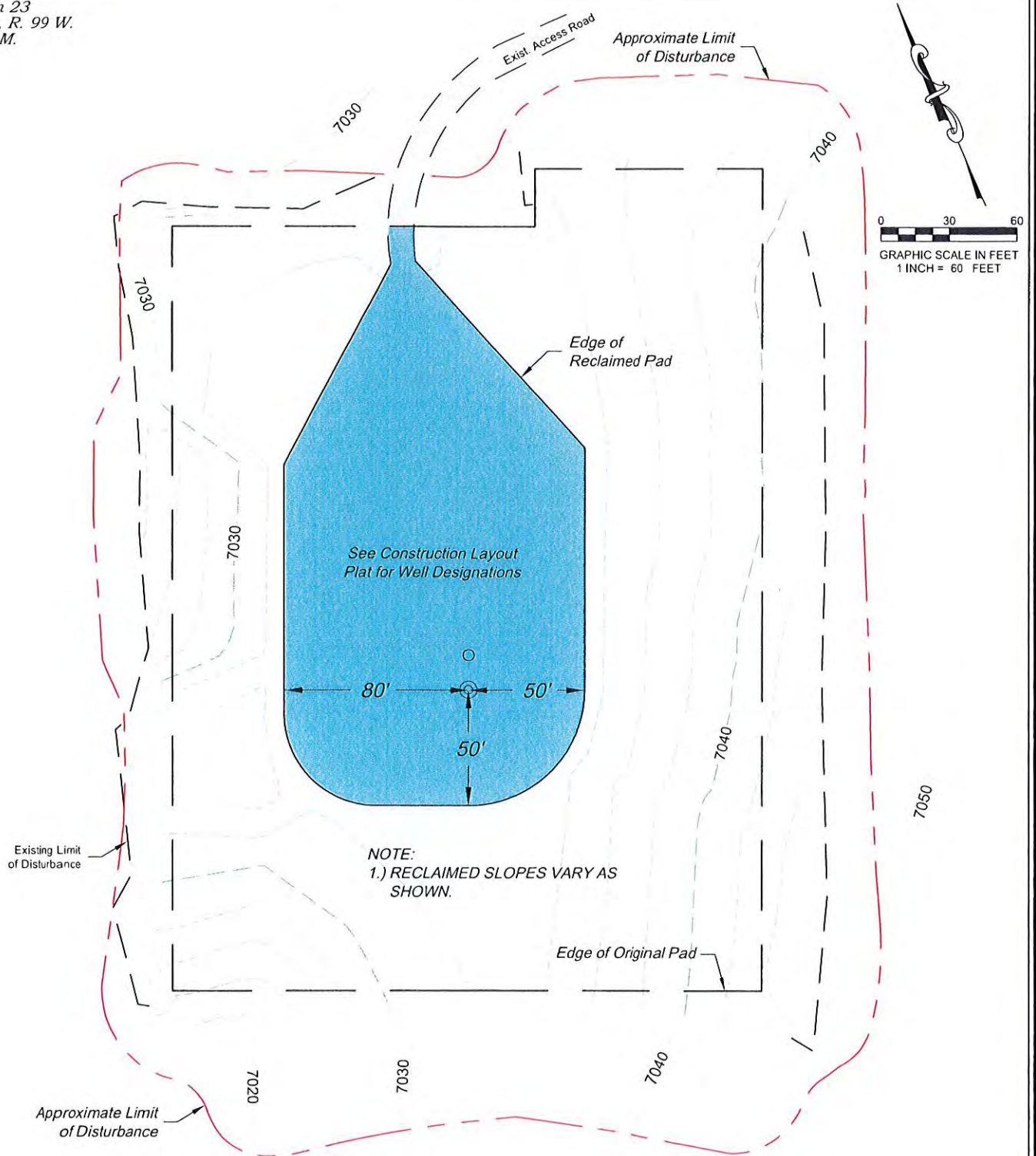
TEP Rocky Mountain LLC

*Federal 299-23-3 Drill Pad - Plat 6B*  
*LOCATION TABLE*

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JUL 28 2020



Section 23  
T. 2 S., R. 99 W.  
6th. P.M.



TOTAL DISTURBANCE PAD : ±3.25 ac.  
TOTAL DISTURBANCE ROAD : ±0.0 ac  
INTERIM RECLAIMED PAD : ±0.58 ac.  
(Shaded Area)

REVISED: 7/24/18

Construction Plan Prepared for:



TEP Rocky Mountain LLC

Federal 299-23-3 Drill Pad - Plat 7  
INTERIM RECLAMATION

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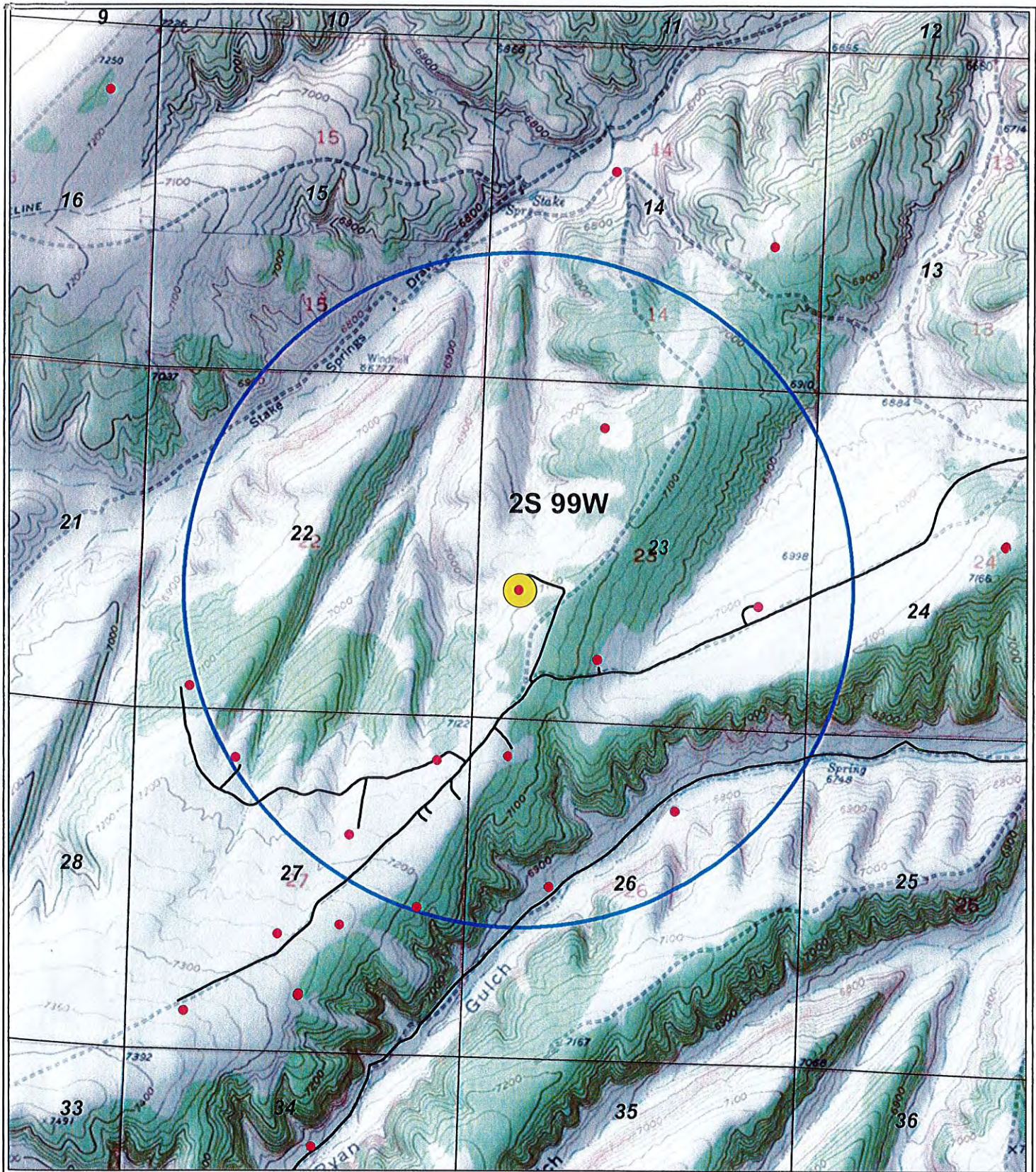


**BOOKCLIFF**  
Survey Services, Inc.

SCALE: 1" = 60'  
DATE: 7/02/18  
PLAT: 7 of 7  
PROJECT: Highlands  
DFT: cs

REPLACES  
JUL 28 2020





# **Legend**

- Known Well Locations
- Proposed Drilling Location
- Existing Road
- One Mile Radius

TEP Rocky Mountain LLC

**Plat 5B**  
**Federal 299-23-3 Injection Pad**  
**Existing Well Locations within One-Mile-Radius**

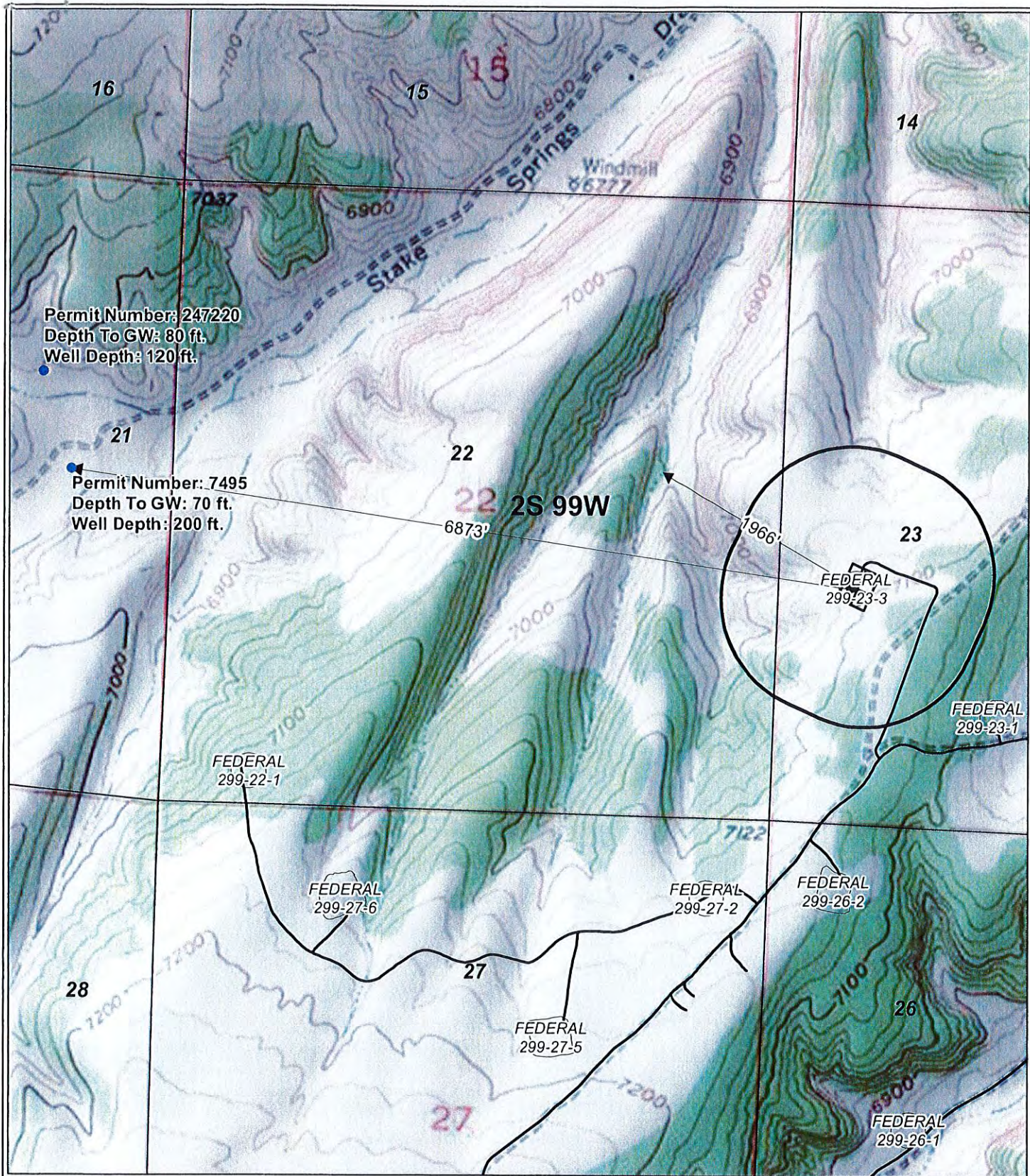
June 26, 2018



0 1,000 2,000 4,000  
 Feet

REPLACED  
 JUL 28 2021





### Legend

- Water Well
- Pad
- Existing Road
- 1000' Buffer (from edge of pad)

TEP Rocky Mountain LLC

Plat 5C  
Federal 299-23-3 Injection Pad  
Hydrology Map

June 26, 2018

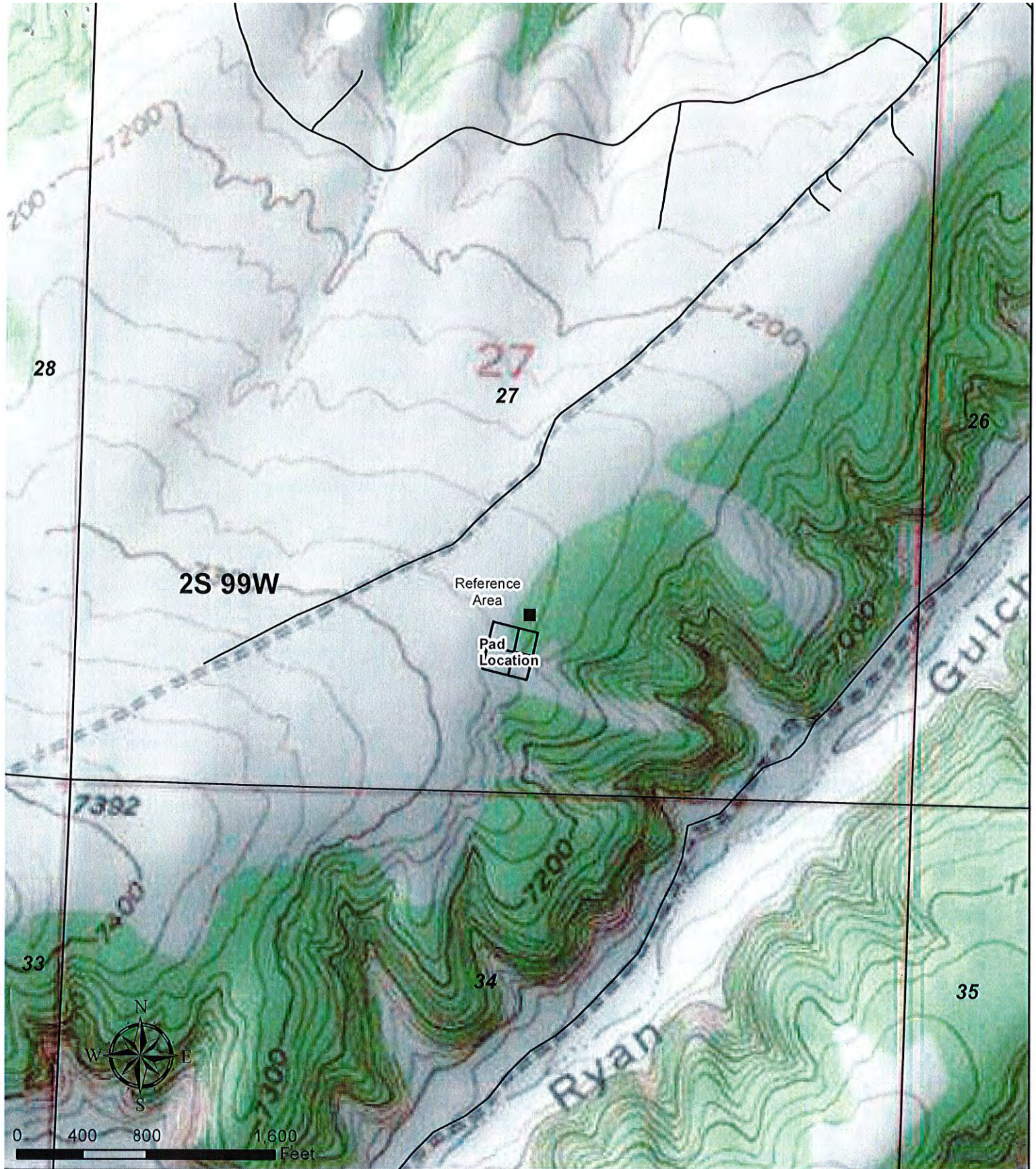


0 550 1,100 2,200 Feet

**TERRA**  
ENERGY PARTNERS

REPLACED  
JUL 28 2020





## Legend

- Pad
- Existing Road

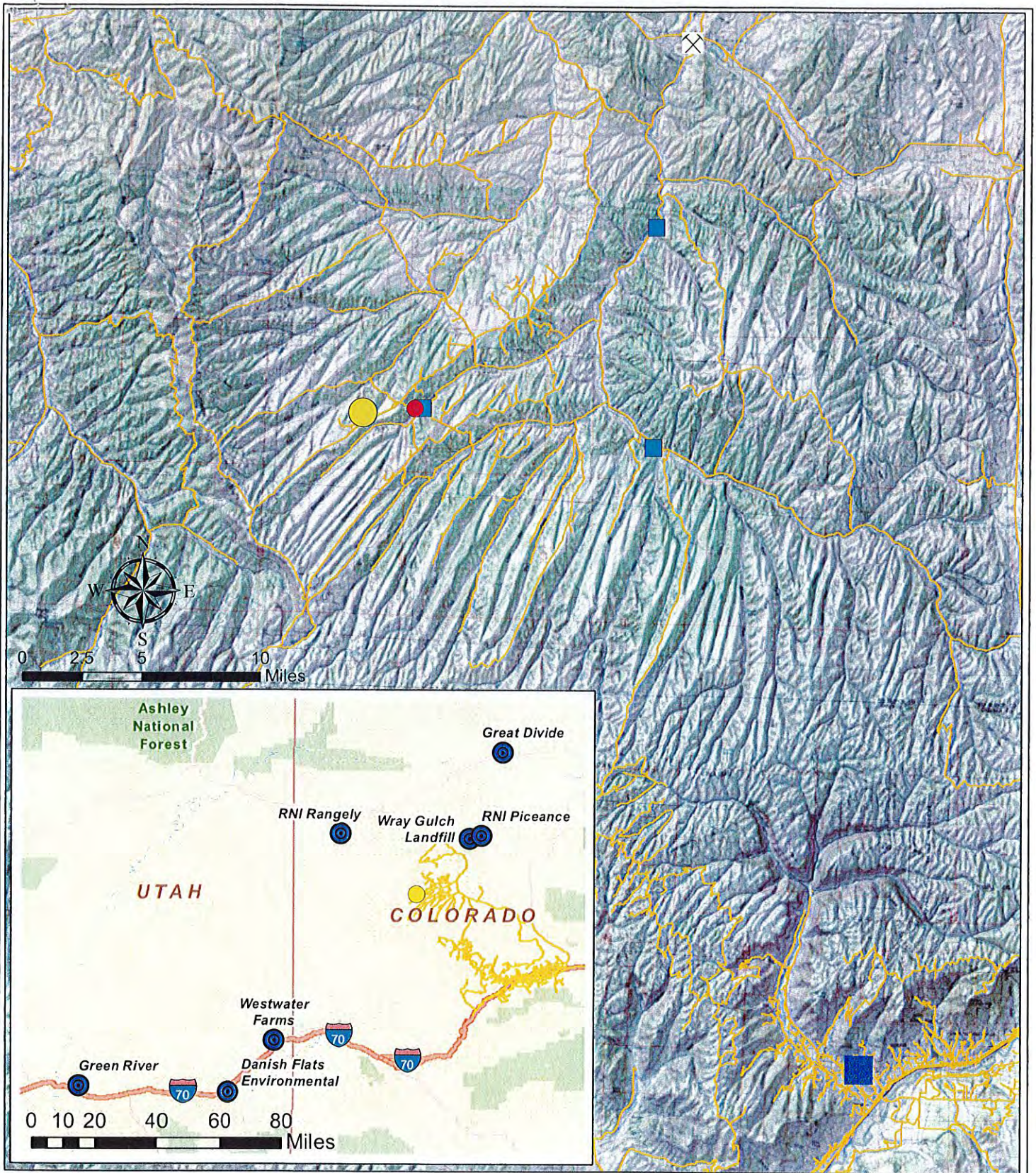
WPX Energy Rocky Mountain, LLC

Plat 5D








RG 34-27-299 Pad  
Reference Area Map







### Legend

- |  |                           |   |                              |
|--|---------------------------|---|------------------------------|
|  | Proposed Pad Location     |  | Gravel Pits                  |
|  | Multi-Well Pit            |  | Fresh Water Supply           |
|  | Water Disposal Facilities |  | Centralized Evaporation Pond |
|  |                           |  | Existing Road                |

TEP Rocky Mountain LLC

Plat 5E  
Federal 299-23-3 Injection Pad  
Ancillary Facilities Map

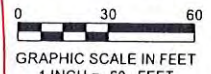
July 16, 2018



REPLACED  
JUL 28 2020

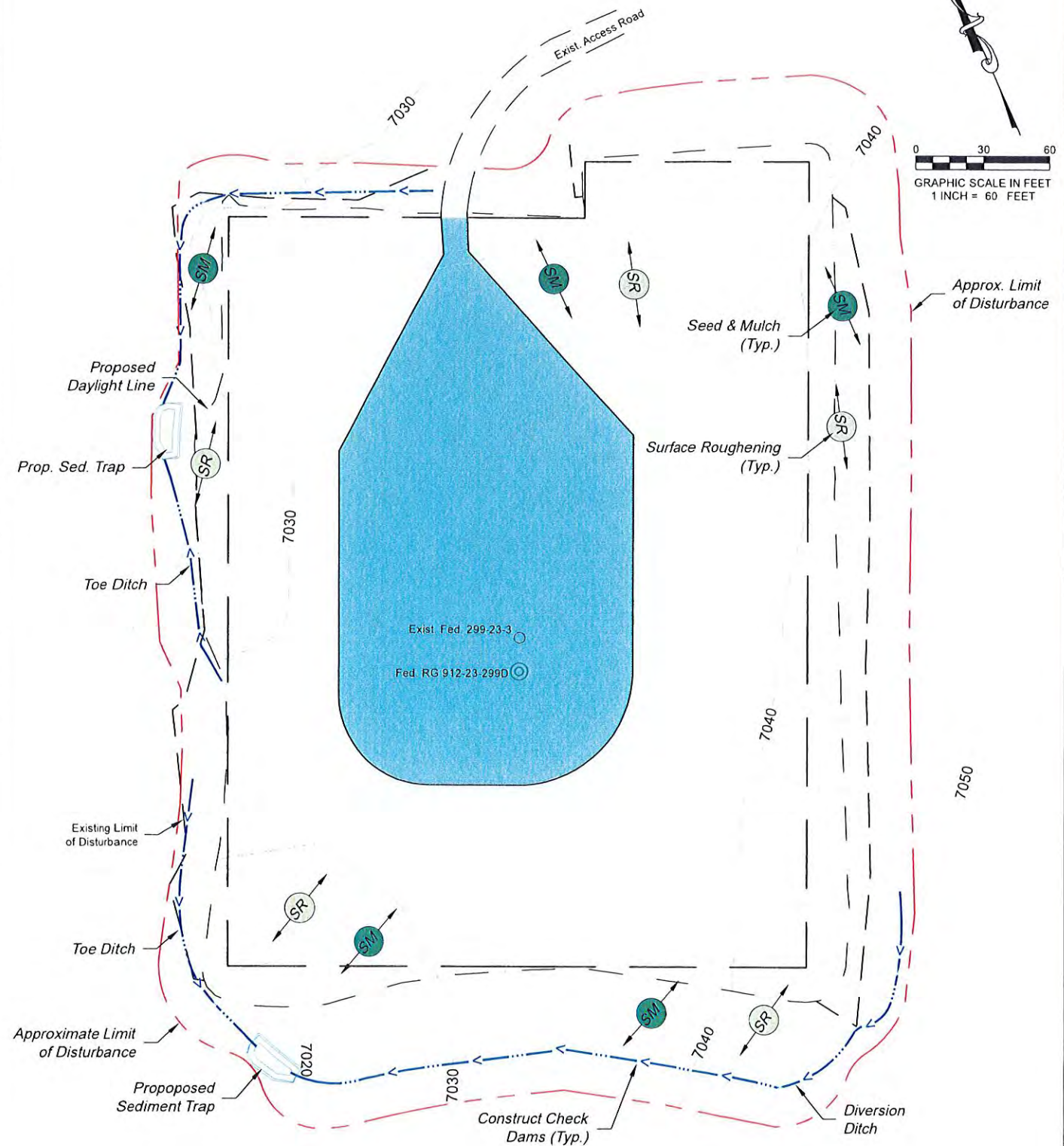


Received: 27 May 2015; Accepted: 27 July 2015; Published: 1 August 2015



Drill Pad  
DRILLING

Section 23  
T. 2 S., R. 99 W.  
6th. P.M.



REVISED: 6/17/20

Construction Plan Prepared for:



TEP Rocky Mountain LLC

Federal 299-23-3 Drill Pad

SWMP Exhibit - INTERIM RECLAIM

136 East Third Street  
Rifle, Colorado 81650  
Ph. (970) 625-2720  
Fax (970) 625-2773



**BOOKCLIFF**  
Survey Services, Inc.

SCALE: 1" = 60'  
DATE: 7/02/18  
PLAT: 2 of 2  
PROJECT: Highlands  
DFT: cs

REPLACED  
JUL 28 2020

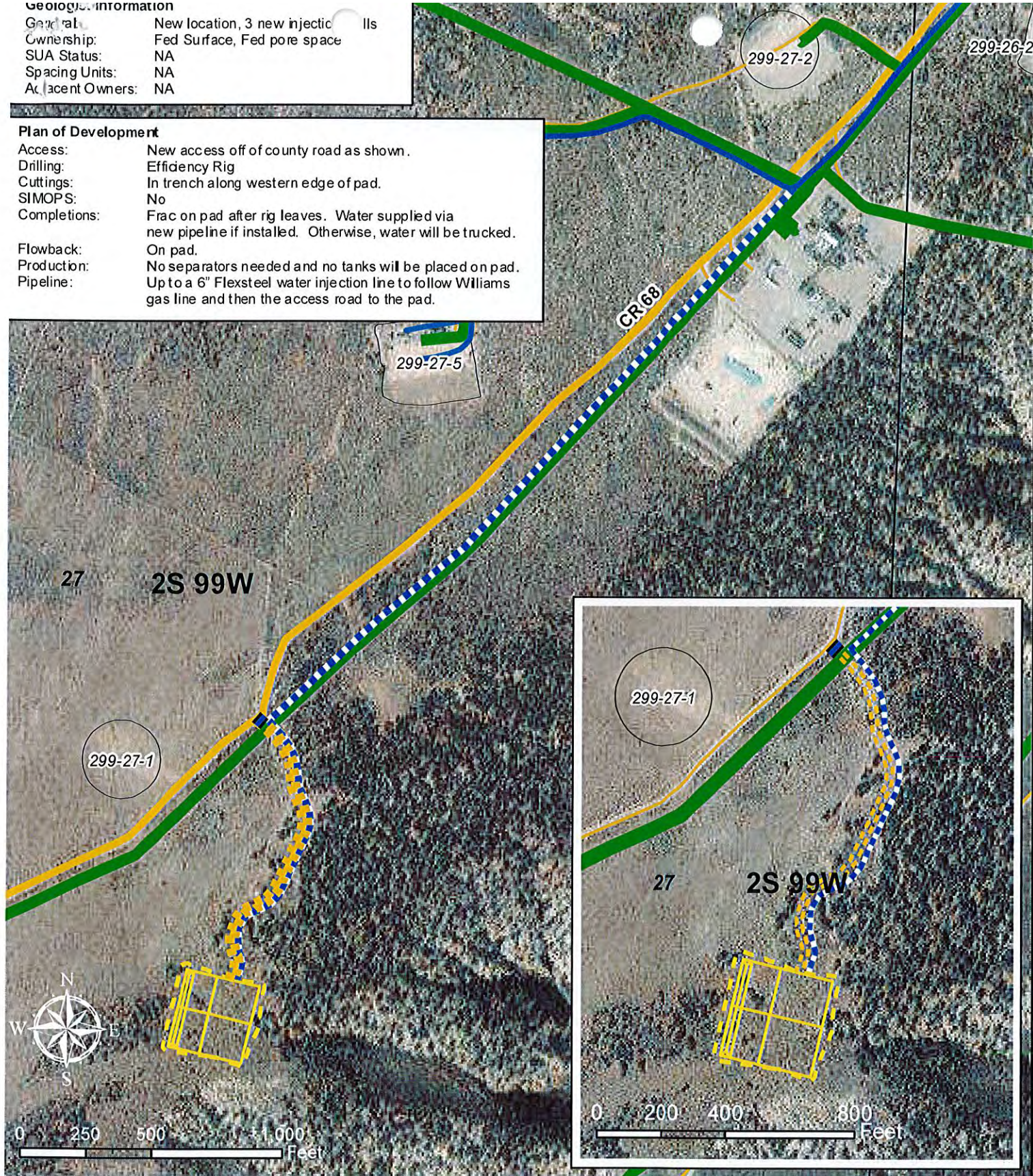


# Geological Information

General: New location, 3 new injectors  
 Ownership: Fed Surface, Fed pore space  
 SUA Status: NA  
 Spacing Units: NA  
 Adjacent Owners: NA

## Plan of Development

Access: New access off of county road as shown.  
 Drilling: Efficiency Rig  
 Cuttings: In trench along western edge of pad.  
 SIMOPS: No  
 Completions: Frac on pad after rig leaves. Water supplied via new pipeline if installed. Otherwise, water will be trucked.  
 Flowback: On pad.  
 Production: No separators needed and no tanks will be placed on pad.  
 Pipeline: Up to a 6" Flexsteel water injection line to follow Williams gas line and then the access road to the pad.



## Legend

- Proposed Daylight Line
- Proposed Pad or Pit
- Proposed Access Road
- Proposed Culvert (18" CMP)
- Waterlines - Pipeline\_WPX\_Water
- Proposed Water Injection Line (Up to 6" Flexsteel, 4,020 feet)
- Existing Gas Pipeline - Williams Midstream
- County Road
- Other Existing Road
- Existing Pad

WPX Energy Rocky Mountain, LLC

RG 34-27-299 Pad  
 T2S R99W, Section 27

March 5, 2014

